

Vernacular Features in Eclectic Architecture from the Tropics. An Analysis by means of Architectural Survey

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Abstract

This study is focused on vernacular features from eclectic architecture from the Colombian tropics, particularly on the San Jeronimo de Montería Cathedral, one of the most important architectural symbols from this Colombian city. During the 19th and early 20th centuries, architecture in Europe and America was characterized by a resumption of historical styles, generally called 'revivals', and the blend of these, 'eclecticism'. Montería was no stranger to this situation, also assisted by national and international migrations into the territory and the adaptation of local vernacular techniques. This cathedral is explored as an example where elements from vernacular tradition are recognized, which guaranteed the operation of forcing models, especially in the bioclimatic functioning of this tropical region.

Keywords: history; culture; vernacular architecture; eclecticism; cathedral.

1. Introduction

An architectural renovation process began in Colombia at the end of the 19th century, a movement that obeyed a general trend in Europe, used by Latin American countries after their independence as a way to break up with everything that had to do with the Spanish (Angulo, 2008).

Someone (Saldarriaga, 1997) points out that the newly constituted republican country would need to plant its presence in Colombian regions and cities, also change its traditional image and stand out with a dominant presence in the national landscape. New architecture should be responsible for proposing the desirable image. This is how two European models -Gothic and Classic- marked the emergence of the Colombian architectural image, influenced in turn, by vernacular architecture from religious monuments. Nonetheless, continuous disputes to develop public

buildings with a classical style and temples with a Gothic style, generated a particular blend that then was adopted by many Colombian cities.

Throughout the Caribbean region, a considerable amount of these architectural blends can be seen, adapting them as syncretic models (Segre, 2003) with vernacular features, not only in political or religious entities but also in the entire urban image transformed during this period. The city of Montería is one of these cases that at the early 20th century would be transformed, evidenced with many of the mansions of prominent personalities influenced by the architecture brought from the city of Loricá. Later, the lower social class would use it, calling it popular republicanism.

The department of Córdoba was segregated from the department of Bolívar in 1951, a fact that had a direct influence on the region dynamics, includ-

ing its architecture. Historical eclecticism became a general rule, slowly adapting the style to a new concept. A more modern and independent era, but with a particular way of building, since vernacular techniques were used to a great extent. These arises as a response to the elementary needs of the human being, solving basic problems, leaving aside aesthetics or modernization. It develops with man's own evolution, not representing eras or styles and therefore not requiring architects to conceive it (Tillería, 2010). Thus, diverse contrasts are found in the city, coexisting the indigenous tradition and imported architectures in a single space.



Fig 1. Montería at the early 20th century. Vernacular architecture can be seen as an urbanism structural element. All buildings are generally read with the same language. (Source: Justo Tribiño, early 20th century)

An inspiration source was sought in the country, first in England and then in France. Materials, techniques, and architects that marked the Republican era architecture would also come along with French products. North American (Rudolfsky, 1964) influences would come later since the United States seized a considerable number of Caribbean islands and populated these territories with a tropical architecture based on the British Empire (Samudio Trallero, 2001).

This type of architecture is known as '*Antillana*', the Creole interpretation of Victorian architecture, blended with local techniques, generating interesting eclectic results. This style reached the coastal plazas in Colombia such as in Cartagena de Indias, influencing nearby territories, characterized by use of plinths, doors, and planked walls, structural elements in wood, shutters, dividing screens and openwork in carpentry elements. All linked to a large selection of colors characterizing the coastal area (Fig. 1).

In this wise, vernacular architecture is presented as a crucial part in the constitution of the urban image, including temples. Great use of these elements can be seen in the city of Montería. Particular components are the large roofed terraces and porticoes to obtain shaded and cool places, as well as the dominant heights and sloping roofs from the houses for proper ventilation (Fig. 2, 3)

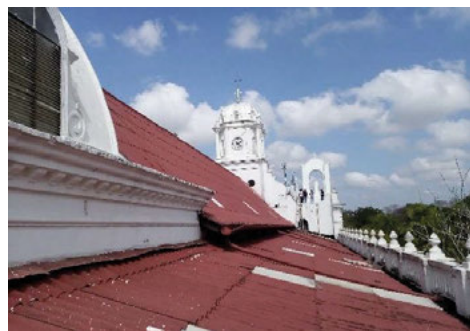


Fig. 2. Cordoban vernacular house, lattices in upper spans and roof expansion for free air circulation. (Source: Authors, 2021)



Fig. 3. Roof expansion over the wall, space for exit of hot air. (Source: Authors, 2021)

2. Methodology

An exhaustive exploration of the Monería cathedral was conducted both inside and outside. It was selected as a study specimen due to its particular architectural composition and importance at the sociocultural level. The analysis and subsequent three-dimensional development were carried out with all the mechanisms available for data collection, including general observation of volume, photographic tour and taking scans at different points to carry out the indirect survey (Leserri & Rossi, 2020).

The restored planimetry is presented in views with orthogonal projection, making it possible to reliably express this architectural space and understand its operation, creating in turn, the basic documentation to recognize the elements from the vernacular tradition (Parrinello & Picchio, 2017). This also approaches the original monument conception originally given by the author in his day. The architectural element did not present plans or documentary records at the beginning of the research, reason why it was restored for its conservation and valorization.

From the resulting images by the laser scanner, the scope of the general plans and details was defined, as well as a digitization methodology. We began with the identification of the Cathedral orientation and with the areas that are part of it, such as naves, choir, sacristies, clock tower, stairs, terrace, and dome. At the same time we analyzed materials, detailing what techniques were used and how tradition and modernity were blended, delving into the sociocultural determinants of the population in which it was established and the influences received in its space conception process. All this was done during the architectural survey process by means of laser scanning technology. With the use of the Faro device, the monument was scanned inside and outside, generating a 3D model (Fig. 4). It was developed in several stages where metric data play a predominant role, so much so that the process of acquiring this metric information is carried out through

46 scans (Fig. 4), determining its three-dimensional model in a SCENE application vector environment. The recording process is done so that each scan can be linked to the others through waypoints (Catuogno et al., 2021).

After scanning the monument, a laser recording was made towards the interior in order to comply with a serial type record (Fiorillo et al., 2013).

The stages were developed from the main nave to the sides and up to the choir level, ending with the roof where the clock tower is located, which has two levels.



Fig. 4. Three-dimensional model by laser scanning. (Source: elaboration by Gómez Mejía, 2020).

In order to establish a relationship through the reference points between the exterior and interior scans, the laser-scanner device was parked near openings such as windows, doors or openings for the collimation of the external points previously purchased.

After the digital process was carried out, the assembled three-dimensional model emerged with a contained error of less than 8 mm, and the extraction of orthogonal views necessary for the two-dimensional restitution was determined. (Ferreya et al., 2021).

The orthogonal views determined by the laser serve to restore, as a tracing, the entire cathedral planimetry, contained in floors, sections, and facades, carefully observing each construction detail, thus delivering a product that serves to analyze its morphology and specific areas of difficult access (Fig. 5, 6).

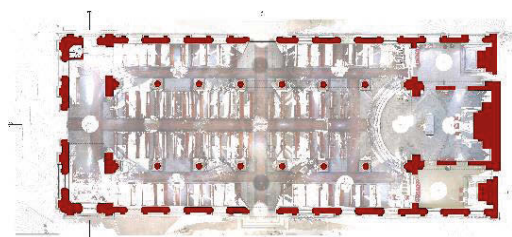


Fig. 5. Planimetry restituted with orthothography Source: elaboration by Gómez Mejía, 2020)

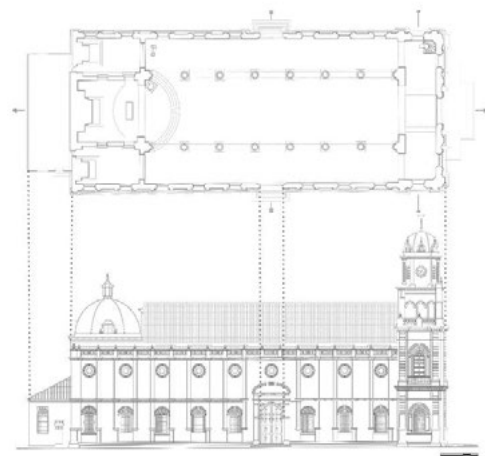


Fig. 6. 2D graphic restitution, architectural floor plan, and lateral façade. Source: elaboration by Sergio Gómez Mejía, 2020)

3. Vernacular lesson in religious buildings. The Montería case.

Religious monuments in this specific area have evolved all along the years (Fig. 7), finding that the San Jerónimo de Buenavista village, initial name of Montería (Exbrayat, 1996) had its first hermitage in 1759. This was made up of bahareque and mud fibers, prominently palm-covered, an austere and functional construction for the evangelization of that time. It was destroyed at the end of the 18th century and then replaced. Tagged as a church, it occupied the space where the cathedral is today. This was a straw-roofed with board walls, completed in 1774 and consecutively demolished due to its great deterioration (Exbrayat, 1996).

Based on the chronicles from Jaime Exbrayat, the third and last church prior to the current one was inaugurated in 1872, and quickly demolished due to the great progress from the sector, it was not very aesthetic. The first stone of the cathedral was laid in 1903, which started the construction process. Work resumed in 1906, and in 1909 a new plan was received, drawn up by Luis Felipe Jaspe from Cartagena de Indias, who concluded the work at the beginning of 1916. The Cathedral was inaugurated in 1917.

Contributions received from the pre-Hispanic indigenous buildings have left as a legacy the use of different materials from the immediate environment such as raw wood, stones, and plant tissues along with palms to form the roofs, which are gabled or hipped depending on whether the building is squared or rectangular. That was the case of the 3 buildings prior to the current monument that, along with the Antillean influences, characterized the society back then because of the way these ancestral techniques were used on the building, with materials endemic to the region and functional at the bioclimatic level, serving as reference in some aspects of the building that is found today, such as: notable use of wooden lattices at the high of windows, balustrades that give way to false balconies, gabled roofs with quite prominent angles, and use of wood at different points as a solution for structural load. All these aspects help to reveal the remarkable relationship of the structure with the environment, the awareness of generating a defined architectural space with a bioclimatic study that precedes it. This is also seen in the monument location since its shorter faces are arranged towards the sun, allowing it not to heat up inside.

Compared to the typology of traditional housing developed in Cordoba, a direct relationship can be made with the assessed element, finding the marked use of lattices (Fig. 2), roof separated from the walls, and the characteristic sloping roof slopes (Fig. 3).

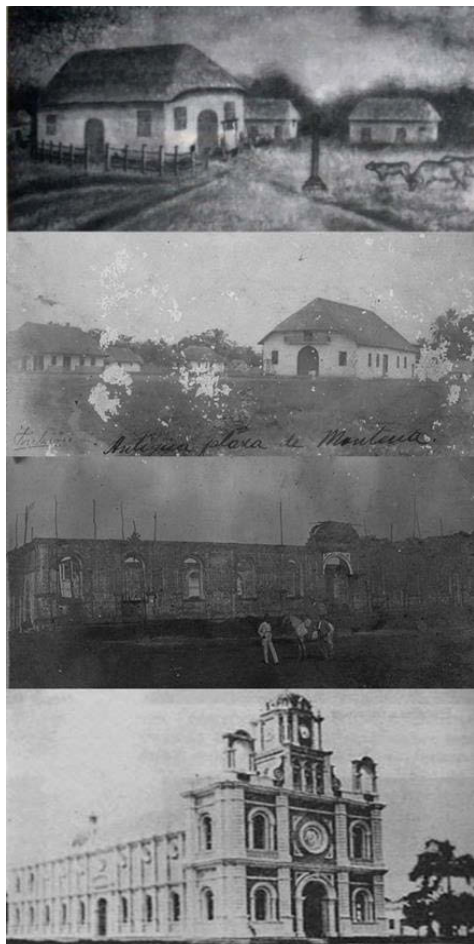


Fig. 7. Evolutionary process of religious monuments in Montería city. First structures of a very marked vernacular feature. Note the poorly marked or defined location; imported styles contributed to an urban harmonization. (Source: Justo Tribiño, early 20th century)

In this way the close relationship between popular architecture and high-level constructions can be seen.

4. Conclusions

Vernacular architecture is greatly important as a cultural structural element. Its essence has always existed and adapts to the needs.

This also applies when it merges with specific architectural styles that form eclecticism and a punctual identity in turn. The Caribbean region highly influenced by Antillean techniques can es-

tablish a series of typologies or common architectural elements, since they are the evidence of a certain social behavior, framed in a time of change.

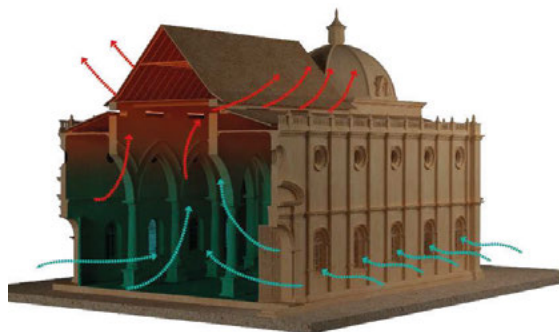


Fig. 8. Three-dimensional model, convection current inside the monument, rectangular openings in the upper part of the walls for hot air evacuation. Notice the slopes on the roof, a vestige of the Antillean Creole architecture for rapid evacuations of rain and heat. (Source: Authors, 2021)

Also, the urban dynamics of the early 20th century can be seen. The permanent exploration of new ways of building that would use the appropriate resources and materials found in the area is evident. As well as the strong references such as religious buildings used to inspire nearby constructions and later, the city image.

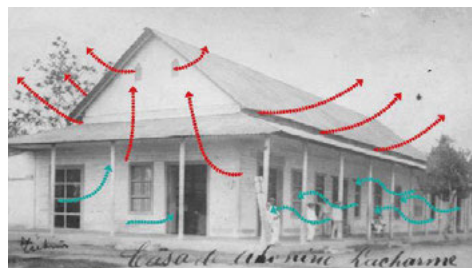


Fig. 9. Lacharme House, Montería. Convection current ventilation, upper blinds for air renewal. Use of internal terraces to generate microclimates. (Source: Authors, 2021)

Although European models were definitively established in the daily image of all over Latin America and in the Caribbean region specifically where this case study is located, in constructive and bioclimatic terms, these traditional aspects of local architecture can always be easily observed (Fig. 8, Fig. 9). The significance of

building spaces that interpret the tropical climate needs are implicit in the monument design. The exterior and interior proportionally dialogue as vernacular architecture does, interpreting from a European stylistic vision, the most important aspects of the local tradition.

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