



The architecture of the early 20th century in the cities of Harbin (China) and Castelló (Spain)

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Abstract

This research focuses on the historical and architectural analysis of Harbin City, especially on the interpretation of this urban space through historical traces, taking Lao Ding Feng architecture as an example. Much of the history of the city focuses on the Russian and Japanese invasions, so such aspects as architectural styles and the construction of the railway are attributed to the occupation of these countries, more especially to the Russian occupation. The research presents a qualitative methodology and bibliographic review of the baroque-style buildings found in Harbin, which reveals that many buildings today have endured over time and become one of the historical monuments of the city.

Keywords: Culture, China, Europe, Neo-baroque, Architecture, 3D models.

1. Introduction

1.1. Harbin city, China

China has many ancient Eastern villages, landscapes, customs, and cultures. However, in the late 19th century, in the northernmost part of the country, specifically in the city of Harbin, traditions and styles from nearby Russia were imported. This change was driven by the rapid growth of the city with the arrival of Russian engineers who built the eastern section of the Trans-Siberian Railway (Liang, 2001). During this period, China was in a society that was half colonial and half feudal, with an imbalance between political, economic, and cultural development (Huang, 1994).



Figure 1. Map of China, Author (2020)

Harbin is the capital of Heilongjiang province, located in northern China at a longitude of 125° East and a latitude of 44° North (Figure 1). The Songhua River passes through Harbin and the Xiaoxing Anling mountain range is located. The city has a population of 5,071,932 inhabitants (Liu, 2021) and the municipal area has an area of 493.77 km². Situated between the Songhua River and the Xiaoxing'an Mountains, Harbin is often called "Eastern Moscow" or the "Little Paris of the Far East". In the early 20th century, it was once considered China's fashionable capital, which attracted Russian settlers seeking refuge from European wars (Feng, 2017).

The city boasts a unique and exotic architectural and urban style that draws visitors from around the world. Within Harbin, one can find century-old buildings with architectural elements representing both Eastern and Western influences, reflecting the social, economic, cultural, and artistic characteristics of the early 20th century.

Various Western architectural styles have influenced Harbin's architectural history. Each building bears witness to its own story (Li, 1987). Many of these century-old Russian-style buildings still stand in the city centres, such as hotels, restaurants, banks, bookstores, and entertainment venues, enriching local public life (Jin & Wang, 2006). There is a strong local initiative to preserve these European-style buildings due to their historical and social significance for the city.

While some buildings fell victim to wars and revolutionary movements in the first half of the 20th century, several have been reconstructed as part of recent urban regeneration efforts.

1.2 Castelló city, Spain

Spain is a transcontinental country in Europe and Africa. The Canary Islands and the Balearic Islands are both archipelagos and autonomous communities of Spain, respectively. There were many ethnic groups living in this land, so the buildings are also diverse.

Castelló de la Plana is a city located in eastern Spain and serves as the capital of the province of Castelló. It borders the Mediterranean Sea to the east. It is situated in the northernmost part of the Valencian Community.



Figure 2. Map of Spain, Author (2020)

The city's geography is mostly flat compared to the surrounding region's mountainous areas. It enjoys about ten kilometres of coastline along the Mediterranean. The main urban area sits about thirty meters above sea level and is approximately four kilometres from the coast. Within its municipal boundaries lies the confluence of the 40th parallel and the prime meridian, known as the Greenwich meridian (Figure 2).

According to data from the National Institute of Statistics, the population of Castelló is approximately 176,238 inhabitants (INE, 2023). Its metropolitan area, comprised of two urban centres (Castelló city and the maritime district of Grau) and various dispersed population groups within its 107,50 km² municipal area, is estimated to be around 300,000 inhabitants. These figures make Castelló de la Plana the fourth largest city in the Valencian Community by population.

The Puerta del Sol (Sun Gate) of Castelló de la Plana is the city's heart, connecting its main commercial and important avenues. Since the early 20th century, this square has been the economic and social centre of Castelló, linking key commercial avenues such as Trinidad, Enmedio, Gasset, Ruiz Zorilla, and Plaza Real.

Over time, the Puerta del Sol has been known by many names, including Plaza de Isaac Peral, Plaza de la Unión, Plaza de la Salina, Plaza de Castelar, and finally, Puerta del Sol.

2. Objectives

The main objective of this study is to analyse the buildings constructed in the late 19th and early 20th centuries in Harbin, China, and those built in Castelló de la Plana, Spain, to establish relationships and connections between their architectural styles.

Therefore, this research compares the buildings of Harbin and Castelló de la Plana to identify any relationships between them. It also seeks to analyse the characteristics and evolution of the architectural style of both cities.

3. Methodology

To carry out this research, different activities related to heritage study and architectural surveys have been conducted. First and foremost, extensive research was conducted to gather historical, graphic, social, cultural, and artistic information. Second, an extensive on-site data collection of the studied buildings was performed for subsequent graphic representation. Third, the obtained digital information was classified, and digital models were

generated using software such as Autodesk AutoCAD, Sketchup, and 3DS Max, which objectively represent the buildings.

4. Research buildings

To understand the evolution of architectural structures during the study period, several buildings in both the city centre of Harbin and Castelló were investigated. Notably, the type of buildings studied is similar to those constructed in other parts of Europe during the same period.

In Harbin, the Song Pu building and the Lao Ding Feng building were selected for study (Table 1).

On the other hand, in the city of Castelló de la Plana, the buildings chosen for study were those located in the current Puerta del Sol and the building of the former Savings Bank of Castelló (Table 1).

Table 1. Research buildings

Harbin	Castellón de la plana
Songpu Foreign Firm (松浦洋行)	Bank of Castellón
Harbin Laodingfeng (哈尔滨老鼎丰)	The commercial and industrial circle of Castellón

4.1 The Songpu Foreign Firm (松浦洋行)

The Song Pu company building is located at 120 Zhong Yang Street in the Dao Li neighbourhood of Harbin, China. It faces Hongzhuan Street, which is completely symmetrical in terms of the bisector formed by both streets. Construction began in 1906 and was completed in 1909. The architect responsible for the project's design was the Russian A.A. Myakoko (Yang, 1993). The specific information is as follows Table 2.

Table 2. Information about the building Song Pu

Name	Song Pu or Matsuura Hiroyuki
Chronology	1906-1909
Architect	A.A. Myakoko (Russia) (Wu & Zhao 2016)
Architectural Typology	Commercial building. Ground floor plus 4 floors
Architectural Elements	Neobaroque elements on its facade
Construction Typology	Brick facade. Mansard roof covered in copper. Spherical dome.
Materials	Brick, mortar plaster, cast iron railing, and metal roof (Xie & Tan 2019)
Colors	Gray and red

The Song Pu building on Zhong Yang Avenue can be considered the classic architecture of Harbin, regardless of the time of its construction or the artistic style in which it is framed. Built between 1906 and 1909, the 'Song Pu' building is a representative work of neo-baroque architecture, characterised by its beautiful appearance, vivid modelling, complex decoration, and rich contours. The crimson attic, Bangsar-style roof, and semicircular dome resemble a beautiful horizon. The use of brick and concrete reflects Harbin's architectural art style "baroque." The entire building is designed to create a dynamic and ascending form, representing early Harbin architecture (Figure 3).



Figure 3. The building of Song Pu in 1909 (Plataforma 2019) and 2019 (Author).

The ground and first floors of the Song Pu building are simple. Specifically, the ground floor has lintel windows, and the first floor has depressed straight arches, except at the corner, where they are semi-circular. The openings are framed by rectilinear pilasters, except in the corner area, which is framed by two Tuscan order columns on the ground floor. On the first floor, these columns transform into a caryatid and an atlas emerging from volutes, framing the main entrance of the building. These sculptural figures, with great plasticity, have inclined heads resembling a praying position, which may be due to the religious origin of this architectural style, reflecting some myths. On the first floor, corbels or brackets emerge to support the columns of the upper levels, each featuring a sculpted lion's head, the most common zoomorphic pattern in Baroque buildings (Figure 4). What should be noted is that the lion in China signifies dignity and majesty. In ancient China, lion statues were placed in front of important places or homes to symbolise power and nobility. In this way, this incorporation indicates a connection between Western and Eastern cultures in this building.



Figure 4. Side façade. First floor and Corbel with lion and caryatid head design (Author, 2019)

4.2 The Lao Ding Feng Building

The Lao Ding Feng Food Company was founded by Wang Ada and Xu in Harbin, China. This neo-baroque-style building is known for its distinctive façade pattern and is situated in the Dao Wai neighbourhood at 392 JingYu Street, Harbin.

Lao Ding Feng became famous because Emperor Qianlong enjoyed desserts from this brand. It was constructed in 1911 and remains popular even after 110 years (Figure 5).



Figure 5. Exterior image of the Laodingfeng building in the year 2000 (Zhou, 2018) and 2019 (Author)

This building features two floors but is quite long, so there are two doors on the ground floor. The main entrance is located on the façade of the building and has a semicircular shape, a characteristic often repeated in many Baroque-style buildings. In addition, the side door is on the right side of the building, and the wall is straight overall. At the top of the building is a unique pattern and shape known as a "parapet wall," which features designs based on grapes and vines (Figure 6). The round grapes symbolise a full life and abundant offspring. This pattern also uses the most common symmetric technique in the Baroque style (Lan, 2018).



Figure 6. Pattern on the parapet wall and drawing pattern (Author, 2019)

On the façade of the building's wall, you can see a lot of plant patterns (Figure 6), typical of the Baroque style. Semicircular decorations will be on each second floor window, along with a small post dividing the window into two sections, reflecting the building's aesthetic. The ground-floor windows are different from those on the first floor; these full windows have lintels, and the pattern is composed of semicircles and symmetrical cloud shapes. In Chinese culture, cloud patterns like these symbolise luck (Figure 7). Below each window on the ground floor is a complete flower pattern, and four symmetrical columns adorn the ensemble. Overall, every detail of the Lao Ding Feng building's façade contributes to its ornate design.

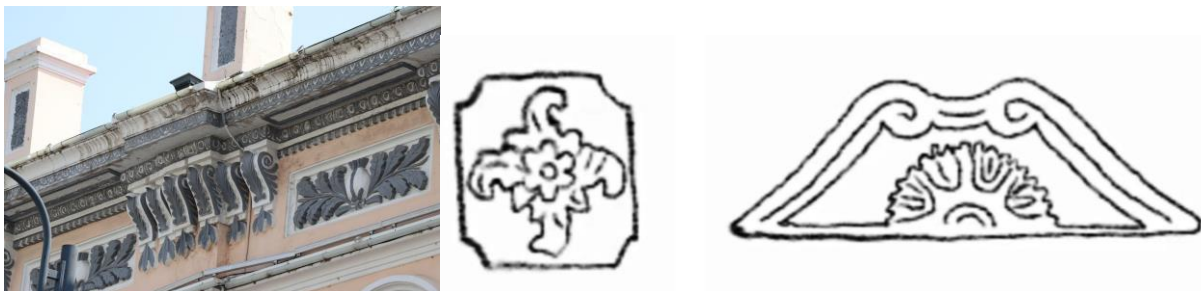


Figure 7. The pattern on the corbel and drawing pattern (Author, 2019)

4.3. The bank of castellón building

The building of the Bank of Castellón, located on Trinidad Street, is a bank headquarters built in 1923 by the architect Francisco Tomás Traver (ACTC, 2023). It currently belongs to Caixabank. The original façade was flanked by two Corinthian order columns, which were unfortunately lost during a renovation. In addition to the columns, the work of the sculptor from Castellón, Juan Bautista Fola, included two classical sculptures. In 1960, the architect Mr. Vicente Traver Espresati would remodel the ground floor (Figure 8).

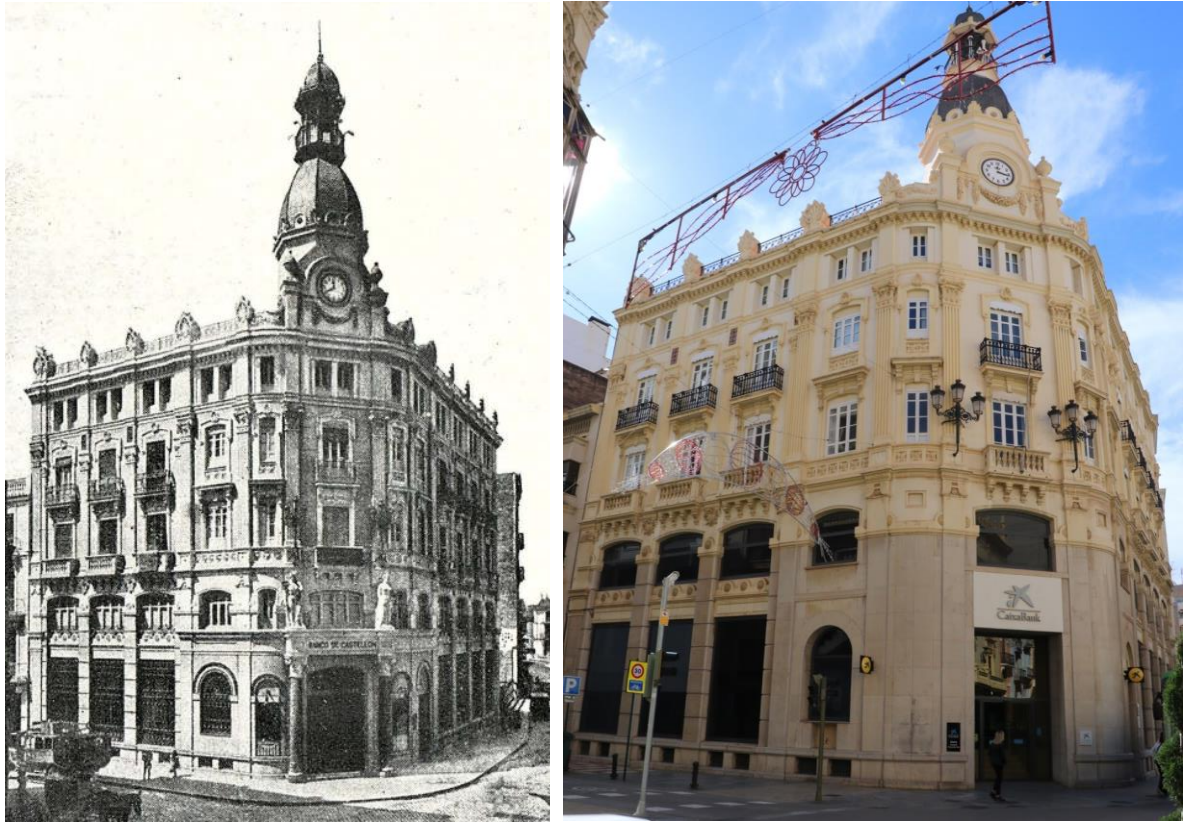


Figure 8. The Bank of Castellón building in the past (Pastor 1931) and now (Auhtor, 2020)

The building is distinguished by three levels: the first level consists of the ground floor and the mezzanine, with continuous decoration based on pilasters between each partition; the second level consists of the first, second, and third floors, which have fluted shafts. The capital connections between the pilasters and the openings; the third level corresponds to the upper level, which features cornice decorations, a balustrade, and an octagonal clock tower with lanterns on the corners. Most of the decorative elements reflect classicism and eclecticism, but modernist elements and botanical motifs were also incorporated into the design.

It is also worth mentioning the majestic wrought iron gate on the first floor of the bank, so delicate and incomprehensible. They were replaced by glass, which removed all the stately packaging that the bar gave to the side façades of Puerta del Sol and Trinidad Street.

4.4. The casino of the mercantile circle of Castelló

1897 the Circle of Artisans and the New Casino merged, with Miguel Armengot Rubio as its first president. Later, the Mercantile and Industrial Circle was located at 109 González Cherma Street (now Enmedio Street), and in 1909, they moved to Falco Street and Gasset Street in Puerta del Sol. The façade featured exterior terraces on both sides and two Solomonic columns on the corners, from the first to the second floor. Unfortunately, it was torn down in 1970 (Figure 9).

The Mercantile was once the headquarters of bands and music schools. From 1910 to 1924, it was home to the Band of the Firefighters Company, whose members then formed the Municipal Band in 1925. Also, in the 1930s, chess tests were held here in Castelló. By 1955, it became the Red Cross (Breve, 2019).



Figure 9. The Casino of the mercantile circle of Castelló in the past (Mon, 2018) and now (Author, 2020)

This building was primarily used as a major trade industry by the Republicans as a centre for leisure and entertainment during the Second World War. At the outbreak of the war, the Popular Front took over the building, installing offices and warehouses for their activities. In 1953, due to the presidency of Ricardo Gómez, the society was reorganised, and various buildings in Puerta del Sol in Castelló resumed operations (Mon, 2018).

5. Graphic documentation

Based on the graphic survey conducted, plans of the building façades have been developed using the Autodesk AutoCAD tool, which provides clear orthogonal views. These plans will allow for the subsequent analysis of the building from a metric and geometric perspective.

Then, starting from the building's floor plans and elevations, building modelling was carried out using Sketchup software and subsequently exported to 3D Max software for rendering. As shown in the following next Figures.

5.1 The Songpu Foreign Firm (松浦洋行)

According to the data provided by the building administrator and the measurements of the building, plans of the building's facades have been prepared using the AutoCAD tool and orthogonal views of them have been obtained. These plans allow an analysis of the building to be developed from a metric and geometric point of view (Figure 10).

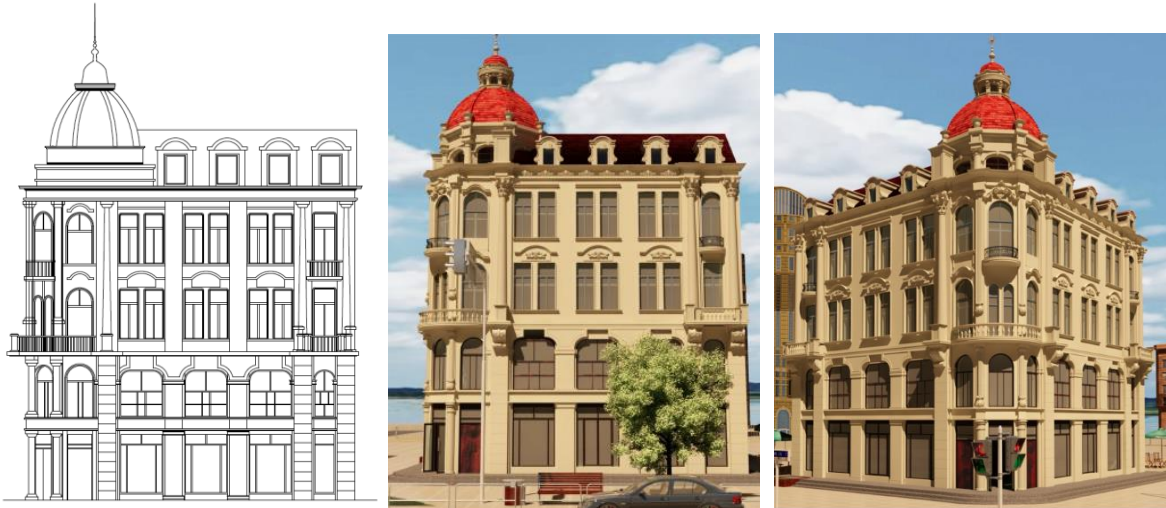


Figure 10. Façade plan and rendered. 3D view of the building (Own elaboration)

5.2 The Lao Ding Feng Building

From the graphic and measured survey carried out, plans of the building's facades have been prepared and the AutoCAD tool has been used to do so, through which orthogonal views of them have been obtained (Figure 11). These plans allow an analysis of the building to be developed from a metric and geometric point of view.



Figure 11. Façade plan of the building (Own elaboration)



Figure 12. Rendered. 3D view of the building (Own elaboration)

5.3. The bank of Castelló building

Documentation of the floor plans has been found in the UJI repository. The data have been organized to prepare a graphic survey of the Banco de Castelló building using AutoCAD and SketchUp software (Figure 13).

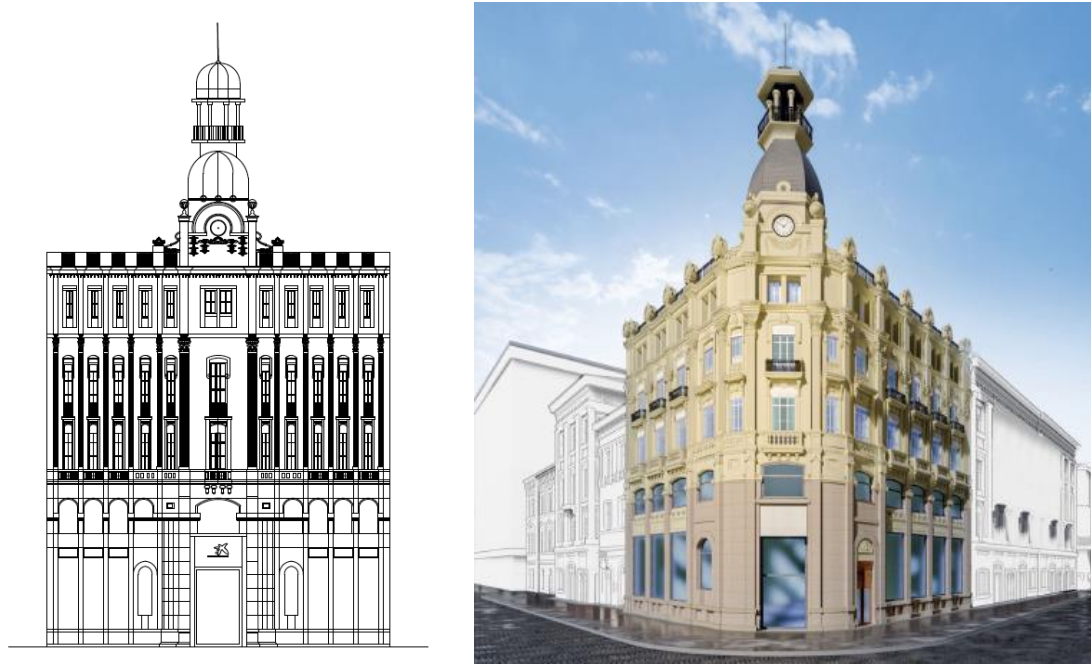


Figure 13. Façade plan and rendered. 3D view of the building (Own elaboration)

5.4. The Casino of the mercantile circle of Castelló

Although the building no longer exists, it will still be remembered for the Solomonic columns on the main façade. To create the virtual model of the building, AutoCAD and SketchUP software have been used to simulate and generate a virtual model of the building from the floor plan obtained from the cadastre cartography and by studying the historical images as can be seen in the Figure 14.

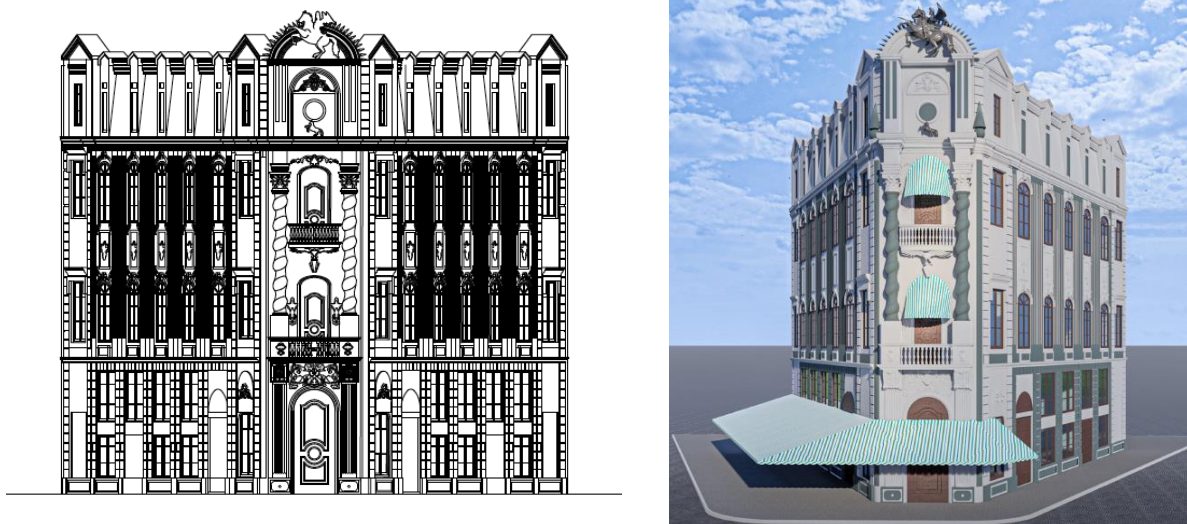


Figure 14. Façade plan and rendered. 3D view of the building (Own elaboration)

6. Conclusions

The architecture of the early 20th century in the cities of Harbin (China) and Castelló (Spain) comes with both similarities and differences. Both cities have European-style buildings, and Harbin's architecture is heavily influenced by Russian architecture. The historical buildings in Harbin uniquely blend Chinese and Western elements, while the architecture of Castelló focuses more on neoclassical and modernist styles. In addition, both cities have made efforts to preserve their historical buildings, although some have suffered damage from wars or

neglect. Overall, the early 20th-century architecture in these cities represents a blend of cultures and architectural styles that reflect each region's history and cultural influences.

Harbin has undergone several events to become what it is today. In 1898, engineers and workers from the Qing Dynasty and Russia began building the Middle East Railway. Subsequently, a large number of Russian Jews fleeing domestic persecution, Russian nobles forced to leave due to the Russian Revolution, and White Russian troops seeking refuge after the defeat of the Civil War settled successively in Harbin.

The historical buildings in Harbin showcase strong Western influences, mostly designed by foreign architects of Russian nationality. The shapes are novel and romantic, solemn, fresh, elegant, or uniquely innovative. The façades and roofs of the buildings are unique to Baroque architecture. The contrast of stones, strong light, and shadow effects, as well as the colours of the buildings, are in Laodongfeng architecture, which is found in eclectic buildings. Besides, the architectural style combines Western Baroque, classicism, Renaissance, Art Nouveau, eclecticism, and Jewish style, where we also find Chinese architecture and modern Japanese architecture. Harbin has several mixes and important features of European cities and colonial cultural characteristics.

Most of the European-style public buildings have domes, especially churches designed in Russian and Byzantine styles. These buildings are characterised by towering domes, bell-shaped roofs, or tent roofs, forming a symbolic cityscape filled with domes. For example, Lao Daowai, known as a historic area, has more than 70 European-style buildings and imitation Baroque-style buildings. The four most influential architectural genres in the history of Western architecture are fully displayed, spanning almost 300 years of European cultural development.

Hundreds of neo-baroque buildings off the road are typical representations of the integration of Chinese and Western cultures for a century, reflecting deep Eastern cultural connotations and cultural characteristics of the combination of Chinese and Western cultures.

These buildings not only show the characteristics of the integration of Chinese and Western architectural cultures but also demonstrate a strong taste for "folklore." This is because most of the construction of these buildings is done by popular craftsmen. These people have been deeply influenced by the folklore and culture of both countries, especially traditional Chinese.

According to the research questions mentioned above we have found answers to both research questions. As for the first question about the condition of the buildings, it appears that some structures are well-maintained and in optimal condition. This is because the State Administration of Cultural Heritage has designated several buildings as a national unit for the protection of key cultural relics. However, during the wars, some buildings did not survive over the years.

Regarding the second research question regarding the use of the buildings, they are currently used by the local population. Some of these historic buildings are used as shops, restaurants, and hotels, among others. There are many shops on the street, and tourists are sitting in the outdoor cafe of the cafeteria, which was once a building built by the Russians for other purposes.

The architecture of Castelló, Spain, is diverse and rich in styles, ranging from Gothic and Renaissance to modernism and rationalism. Specifically, it is characterised by a greater influence of the Baroque and Neoclassical styles, with a less pronounced presence of foreign cultural influences. Castelló boasts numerous historical buildings and monuments, such as the Cathedral of Santa María, the Town Hall, and the Co-Cathedral of Santa María. In addition, modern and contemporary architecture has also developed in the city, with examples such as the Auditorium and Congress Palace or the Coastal Park. The city has managed to preserve its architectural heritage and adapt to society's changing needs and preferences. In this way, it has become an appealing destination for visitors and serves as a testament to Spain's rich cultural and architectural diversity.

In addition, all the digital models used in this article are for better visual observation. In particular, some buildings have disappeared, and we use digital models to give forms to the buildings and prevent people from forgetting.

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