ANALYSIS PROCEDURE OF A PREVIOUS PLANNING ORGANIZATION. THE AREA OF THE SEMINARY-SCHOOL OF CORPUS CHRISTI IN VALENCIA (SPAIN)

ABSTRACT

The Seminary-School of Corpus Christi is one of the most important buildings in the city of Valencia (Spain). The building has contributed with the University of Valencia to the urban transformation of the neighborhood in which they are located throughout its four hundred-year history. We propose a five-phase methodology for the study of urban organization before its construction. We achieved to develop an original hypothesis of how Seminary-School block plots were organized through the study and analysis of their purchase contracts, which are dated between 1586 and 1601. It is interesting to note the plots acquisition sequence and its influence in building construction process.

Key Words:

Architecture, Heritage, Construction, Urban design, Valencia
1. Introduction

A lot of religious buildings were built inside and outside of the walled city of Valencia during the Renaissance. The bishop and Patriarch of Antioch Juan de Ribera decided to build a Seminary-School next to the University (also called General Study) in the sixteenth century. A few years before, the city of Valencia had bought some houses to proceed with the opening of the General Study square. Patriarch exercised control tasks to improve the University between 1569 and 1572, also getting to build eighteen churches of different religious congregations during this decade. In this period, the Patriarch conceived the idea of building his own religious institution, especially influenced by Charles Borromeo’s publication Instructionum Fabricae et Suppellectilis Ecclesiasticae in 1577.

Valencia was conquered by Jaume I in 1238. Then, a distribution of the properties of the defeated was carried out, generating its neighborhoods. The city was repopulated with people from other areas, establishing a Jewish community in the east (6.5% of the population) and a Muslim community in the west outside the city. From a planning point of view, Christians did not like the streets layout of these neighborhoods and they tried to straighten its alignment. The late fifteenth century corresponds with a period of splendor, the University was created in the southeastern corner of the old Jewish quarter (1498), as well as the Lonja (1482-1548) or the Palace of the Generalitat (1422-1480).

Monastic buildings are now joined to early parishes and mendicant orders that altered urban morphology for a conventual city (Llopis, Perdigón and Taberner, 2004). Examples of this are St. Sebastian (1536), St. Fulgencio y la Corona (1563), St. Joaquín y St. Ana (1564), St. Juan de Ribera (1587), la Sangre (1596), Pie de la Cruz (1597), St. Gregorio (1600) or St. Mónica (1603).

In Seminary-School of Corpus Christi’s archive is a book that shows the buying process that occupied the place where now stands the Seminary-School. This book is titled Libro de Compras de casas en incorporadas en el Collgio y Seminario fundado por el Ill.mo señor DON JVAN DE
**2. Description of the studied building**

The Seminary-School of Corpus Christi is located in Valencia’s historic center (Spain) (latitude 39.472671, length -0.373098) and occupies an irregular block of 3850 m². Its founder the Patriarch Juan de Ribera (1532-1611) invested his fortune in the construction and maintenance of the Seminary-School with the aim of educating priests. The building still keeps this function nowadays.

The building’s exterior walls are austere and simple according to its religious function. Thick walls (around 80 cm) of rammed earth wall are raised over a stone plinth. The bell tower, which stands in the southwest corner, and also the top of the south and east façades are built of brick. The Renaissance cloister is composed of two levels. It was built in white marble from Genova based on Doric order in the ground floor and Ionic order in the first floor. The church was designed with stone arches and columns and is decorated with fresco paintings by Bartolomé Matarana. It is worth noting its brick dome of 9.1 m in diameter with a lantern.

Figure 1 shows a partial view of the building from the Seminary-School of Patriarch’s Square, the Renaissance cloister and an interior view of the church. Figure 2 shows the ground plan configuration in which we can notice a church and a chapel. The rest of the area includes a library, a museum, the students’ cells and other service dependencies. All spaces are organized around the cloister.
The building has not been restored since it was built four centuries ago. This allows us to observe the materials’ current state and construction techniques used.

3. Material and methods

To prepare this work we have analyzed the documentary sources that we found in the Seminary-School’s Archive. All the information we have worked with comes from two books, which are part of the building’s documentary sources. First we consulted the Houses’ Purchases Book, which featured two notaries of Valencia (Francisco H. Metaller and Gaspar J. Micon). They reflect the purchases’ processes of the properties acquired by Patriarch Ribera. Besides, the Book of Seminary-School Building Expenses recorded the building’s construction costs between 1586 and 1610. This book was written after the plots’ purchase, but it has helped us to corroborate the information found in the first book. In the Archive there are other modern texts (Pérez, 2007) which have also helped us to check the plots’ information.

In this article we have synthesized and ordered the experimental procedure followed by the authors. Specially, we have collected historical documents and references about the building. After reading and analyzing the information, we have worked on the transcription of the data into a spreadsheet to filter and separate them by categories. Then we have prepared some figures and tables that help us to understand the construction process followed. During our research we have consulted other documentary sources to understand what happened in other parts of the city. We have also studied other authors who have done similar studies or procedures.

4. Results
Valuable information about general urban organization in medieval cities can be obtained from aerial images and maps of the sixteenth, seventeenth and following centuries. Urban design has three interrelated scales (city, neighborhood and street) whose cohesion is based on connection, collaboration and design (Radford, 2010). However, if we focus on a specific area of the city as a block, it is harder to find out how the plots were prepared.

The study and inventory of the built-up areas in historic districts has improved building’s understanding and their conservation (Morrish, 2010). The methodology proposed below takes into account that the information conserved of these centuries is scarce, but it would be very interesting to obtain the detailed urban mapping. Furthermore, the share of obtained information should be allowed both among specialists and general public (Lourenço, 2011).

Table 1 (following Fuentes, 2009) provides a method for the study of a previous urban organization in the area of an important building, considering the information found in the preserved documents.

### 4.1. Phase 1: Preliminary Studies

An evolution study of the public spaces and the streets and squares names of the surrounding block of the Seminary-School can reflect the building’s importance. To do so, we analyze existing literature and the Houses’ Purchases Book, which completes and ratifies most of the sources cited by Boix and others regarding the streets that concern us. Besides, we have studied the Book of Seminary-School Building expenses, which includes various items of building work.

Evolution experienced by neighborhood’s surroundings of University reflects simultaneously a social, urban and cultural change (Roselló, 2001). This is how a neighborhood without much
interest from citizens acquired great importance in cultural and educational field. Later, commercial sector was enhanced with the opening of Paz Street. However, the district had always had financial activity since the **Taula de Canvis** (Money Exchange) and some private or personal banks were there between 1408 and 1719 (Roselló, 2001).

The Nave Street (Calle de la Nave, in Spanish), that is located in the South of the block (Figure 3), had already this name when the Patriarch Ribera arrived to Valencia, and it has kept its name over the centuries. This street is cited as *Nave Street or Na Palaua* baker’s in Houses’ Purchases Book. It also had been known as *Jocme March or Na Palaua* Baths Street, since the public thermals baths were there before the hostel of *Na Palaua*, occupying part of Patriarch’s Square (Carboneres, 1873) (Azulay, 2009).

The Seminary-School of Patriarch’s Square (**Plaza Colegio del Patriarca**) took this name since the Seminary was built. It was known previously as the *General Study* Square in relation to the University. It was often named as the City’s Schools Square (**Plaza de las Escuelas de la Ciudad**) in the Houses’ Purchases Book. In the Seminary-School Building Book is quoted as the Seminary-School’s Church Square in 1608: *To carpenter Miguel Campos for cabinets with doors that have been trimmed for the Seminary-School’s Church Square* (1608/04/10). An air-raid shelter was located in this square during the Spanish Civil War (1936-39) with capacity for 330 people (Aragó, Azkárraga and Salazar, 2007).

The Blessed Juan de Ribera Street (**Calle del Beato Juan de Ribera**) was formerly known as the Beef and Cabbage Street and lies in the east of Seminary-School. According to Boix, this name is attributed to a game in which boys thrown up pieces of meat and cabbage. It may also be due to the meat sold in the vicinity and the cabbage or vegetables sold in the **Cabrerots** or the **San Mauro** Square (Boix, 1862). Houses’ Purchases Book refers to this street as the one that goes from Na Palaua baker’s to the Cabrerots Square.
The New Cross Street (Calle Cruz Nueva) is located in the west of the Seminary-School and it owes its name to a former existence of a same-named chapel (Orellana, 1923). It is also known as St. Carlos and the Seminary-School Street. Despite this last name is easy to identify, it strangely fell into disuse in favor of New Cross Street (Boix, 1862). New Cross is cited up to fifteen times in houses’ purchase process in the Seminary area.

The Cabrerots Square (Plaza de los Cabrerots) is located on the northwest corner of the block. Cabrerots means later, small and dismembered grapes in Valencian language. This square was used for grapes sale for Jewish people. Today it does not exist, due to the Seminary-School’s presence, it was located at the confluence between New Cross and Cardinal Paya Streets. It was mentioned by father Tosca in 1704; it is also documented in a proposal of the City’s General Council in 1390 (Azulay, 2009). In Houses’ Purchases Book it is quoted multiple times, up to twenty occasions. It is commonly named as Cabrerots or New Cross Square.

The Cardinal Paya Street (Calle del Cardenal Paya). Miguel Payá Rico (1811-1891) was an important catholic church’s ecclesiastic who was given a scholarship of the Seminary-School of Corpus Christi. He has two Bachelors in Philosophy and Theology from the University of Valencia. He was a priest (1836), pastor in Benjama (1841), professor at the University of Valencia, Cuenca’s Bishop and archbishop of Santiago (1874) (Añón, 1973). Formerly this street was called Jewish Quarter, as we can infer from houses purchase processes in the Patriarch’s Seminary-School.

The Damas Street (Calle Damas) is already referenced in 1712. The origin of the name could correspond to the existence of a family whose name was Damas (Boix, 1868), especially the figure of a priest of St. Thomas’ parish, archivist of the Patriarch’s School (1661-1673) and professor of Mathematics at the University. He could live on this street located near his workplaces (Orellana, 1923).
**The Alguaziria Street (Calle del Alguaziria),** hardly mentioned, is apparently located in the Saint Andrew parish according to documents of 1651 (Boix, 1862). Studying Houses’ Purchases Book we think there were two dead ends in the Seminary-School area. The most important was known as *Alguaziria* or Marshals’ Street. It is also mentioned in Houses’ Purchases Book up to eleven times. Both streets had their access through New Cross Street.

The *Argenteria Street (Calle Argentería).* Some authors (Taberner, 2001; Benito, 1999) claim that it was a street ended in the *Cabreros* square and disappeared with the Seminary-School of Corpus Christi’s construction. It would be precisely a dead end at an angle. Houses’ Purchases Book constantly alludes to the other alley called *Alguaziria,* but this *Argenteria* alley is never mentioned.

The Peace Street Project (proyecto de la *Calle de la Paz*). The Peace Street opening (Figure 4) and an ambitious but frustrated project of Luis Ferreres were understood in the international context of a time in which there was a need to adapt old cities to new functional requirements, essentially following Haussmann’s model. Some examples are the *Molina Larios* Street’s opening in Malaga (1878), proposed opening of the *Colón* Avenue (*Gran Vía de Colón*) in Granada (1891), *The Avenue* (la Gran Vía) in Madrid (1901-1950) or the *Laietana Avenue* (*Via Laietana*) in Barcelona (1908-1958) (Taberner, 2004).

All buildings considered now in a position out of alignment were confiscated and demolished, except *Santa Tecla* and *San Cristobal* convents, which were ceded by the government coming from the confiscation process. Regarding this issue, it is worth pointing to that the adjacent block to Patriarch’s School situated in the north was removed, but there was no need of more land in the south, so that the School was not affected by this project. However, the layout of New Cross and the Blessed *Juan de Ribera* Streets was modified.

*The Luis Ferreres’ Project (Figure 5)* about the Large Avenues (1891-1893) was never executed, but would had been an important change in the urban grid of the historic city of Valencia. Leg-
islation had to be reformed approving a new Expropriation Act in 1879 which allowed council to acquire not only properties directly affected by new roads, but also those covered by a strip twenty meters wide on each side (Garcia and Casao, 2009). Fortunately, Patriarch’s Seminary was not in the action area of this internal reform plan.

4.2. Phase 2: Inventory

Houses’ Purchases Book has up to thirty-six purchases recorded as we have said, although we have found documents about two more houses in Patriarch’s School Archives’ inventory which has been done recently (Pérez, 2007). This makes a total of thirty-eight contracts. Pascual Madoz (1849) indicates that forty-nine houses were purchased, although he must refer to properties, because we have accounted forty-three houses, three gardens, two corrals and one yard for purchase, which corresponds to forty-nine properties. On the other hand, Madoz explained that these operations’ cost was 18916 pounds and 5 salaries while we have accounted for 9726 pounds. The difference in capital of 9190 pounds could have been used to demolish houses and subsequent removal of debris, but it seems a very high cost. Meanwhile, Cruilles (1876) provides the amount of 278 824.94 reals (Marrien, 1789) which are equivalent to 20912 pounds, a slightly higher amount than Madoz’s.

The purchase process lasts from 1580 to 1601. It is important to emphasize that Seminary-School construction began in 1586 when most of the planned area for construction was available (about 70% of the area).

A book with these characteristics (Figure 6) presents a lot of information, but we focus on the most relevant features. These features are: the date the Patriarch Ribera purchased it, transaction price, current owners, location and neighbors. This book also shows previous owners, rent or taxes they had to pay, but these questions are not so interesting. Table 2 shows three examples.
4.3. **Phase 3: Data analysis**

Two notaries are cited in the thirty-six houses acquired by the Seminary. Francisco Hieronimo Metaller is always referenced from 1580 to 1586 as a public notary in this city and kingdom of Valencia, while the notary Joan Gaspar Micon is mentioned from 1587 to 1601.

Figure 7 depicts both the percentage of houses bought each year and the investment in pounds by the Patriarch to buy them. Thus, we see the Patriarch had a large financial outlay to purchase a few properties, as in 1581 and 1587, therefore, they must be large properties. On the contrary, those years with little money invested would correspond to smaller properties, as it happens in 1583 and 1586. We have also indicated the start date of the works in the Seminary-School (1586) to highlight the fact that the construction began without all block’s properties acquired.

The numbers we have assigned to the properties always begin with the letter C, corresponding to the chronological order of acquisition, to differentiate from the order in which they appear in the mentioned documentation. Figure 8 shows the cost of acquiring each property.

The thirty-eight properties cost 9726 pounds, which compared to work’s real cost (approximately 165 500 pounds) is a very small amount, close to the 6% of the total amount.

Figure 9 is based on documentation analysis. To design it we have considered properties situation which in notaries’ documentation is highly specified. In general, the residents are cited correctly, although in some cases some neighbor’s name are left out, or if adjacent properties belong to the Patriarch it is only mentioned that the houses bordered with Your Grace’s houses.

It is difficult to determine plots’ exact geometry. However, noting Manceli’s map (1608), which is the closest to the School building, we notice that blocks used to be irregular. Their perimeters were filled up by the buildings, which occupied space inside the block as long as the access
to the building was possible. As an example, taking Figure 10, we can count up to eight doors on one side of a particular block, where many houses had their own inner courtyard inside the block.

4.4. Phase 4: Assessment of Results

With the diagram in Figure 9 and the information provided by the mentioned documentation, we have developed the hypothesis drawn in Figure 11. It reflects how it could be the disposition of the properties acquired by the Patriarch.

The Patriarch wanted to buy all the properties in a block in order to demolish the houses and build his Seminary-School. The Houses’ Purchases Book does not describe the properties, there is neither a valuation nor a previous estimate before the purchase so we can not guess the house area inside the block. We only have data about the cost of the properties and the surface of the entire block. Since all houses belonged to ordinary workers (carpenters, stone-workers, merchants...) and consequently with no luxurious characteristics, we assume that the properties valuation must be based on their surface. As we know the whole block area, we have assigned the proportional part of land to each property depending on the cost that is documented. The higher the cost, the bigger surface area corresponds to the property. This idea is reflected in the following formula:

\[ S_i = C_i \times \frac{S_T}{C_T}; \ i \in [1-38] \]

\( S_i \): surface, \( C_i \): cost, \( S_T \): Total surface, \( C_T \): Total cost, \( i \): plot

We have considered the same cost per unit of area as a starting hypothesis. This has led to a model that fits very well Purchases Book descriptions about neighbours and adjacent streets.
We have divided in regular modules the entire area and plots have been fitted as if they were puzzle pieces. We have designed manually the geometry of each plot, setting it in the most appropriate place of the block to respond correctly to the contracts description. Surely, the real disposition of the properties in 1580 would not exactly correspond to this model, but we have developed this particular hypothesis according to neighborhood conditions described by notaries in the available data. Note that there is no exhaustive textual or graphic description of the boundaries in the documentation, just some references when the Patriarch was not the owner of the parcels.

If we apply the method described in this article in another building, shape, size and position of the plots should be studied and discussed according to existing documentation. If there is not a plan, as in our case, plots’ relative position can be inferred by the contracts of surrounding residents. Plots’ shape regularity can be assumed comparing with images of neighboring parcels in the same period. Exact plots’ size is difficult to assure if this information does not appear in existing documentation. If plot’s description indicates some data such as number of doors, building height or price, this information must be considered to determine plot’s shape.

Figure 9 shows the most suitable location of the houses on the block’s perimeter in grey. The access to each house is fixed to a particular street according to the studied documents. The buildings were situated in the block’s perimeter and the interior of the block had an open space with private orchards, courtyards and farmyards, owned by some neighbours. In Figure 8 we can appreciate this distribution in another block of the city since the Seminary-School was just built.

We neither knew the two dead ends exact position, but they have been fitted where parcels assembled correctly. Alguaziria Street is quoted several times in the documentation, but the other Argenteria Street is not even mentioned and it has been more difficult to establish its path.
4.5. Phase 5: Influences on Construction

Figure 12 shows the evolution of the houses’ purchase process on the current parcellary. We can relate this evolution to the construction start of the Seminary-School, since in the moment the Patriarch laid the work’s foundation stone in 1586 he possessed all the properties situated in the north, west and south of the block.

Benito (1982) states that School’s plan must be conditioned by houses’ purchase and the church must be located on cloister’s left side because when construction began, they had purchased houses in New Cross Street. But if we look at Figure 12 it is clear that in 1586, date in which the School construction started, the Patriarch had already acquired most of the properties in the Seminary scope, except the east side. This makes us think that traces were not modified, the position of each element was previously known indeed and therefore the entire block was acquired. There is no reason to believe that traces must be modified because not all the properties were acquired yet. Thus, an overall general design must been developed before 1580, which implies an earlier design than it was considered, also being closer in time to the trace of Salvador de Cocentaina’s church made by Gregori for the Patriarch Ribera in 1576 (Llopis, 2002).

Houses’ purchase themselves must influenced the construction process. In absence of all properties, parcel’s entire perimeter could not been built since the work’s start in 1586, moment in which the foundation stone was laid. We know that the church, chapel, cloister library and cells were built after 1590 because it is documented in the correspondent contracts. Regarding the service northern area of the Seminary no document has been found proving its building or the master builder who was assigned to their construction. However, there are other work records between 1586 and 1589 which must correspond to this service area but
have not been mentioned as such. Anyway, the block's perimeter walls foundation execution occurs at this time.

We found no evidence linking the previous organization of the block's properties before the construction of the Seminary and the current plant of the building. The Patriarch Ribera bought all the properties of the block with the purpose of demolishing everything in order to build a single building, independent of all preexisting constructions.

Studying Seminary-School Building Book we have deduced that workers carried out first some perimeter walls and the building's corners. The order in which corners were built is, therefore, the work's initial sequence.

The procedure to form façade walls is to open a trench, to place the foundations, complete the trench with pieces of gravel and finally to build a corner on every angle.

According to the Seminary-School Building Book, some costs examples related to the corners are:

To the stoneworker Pedro Bertomeu: 6 real owed settled corners' stone (1587/09/03).

To the cart driver and master builder Pedro, who finish off two corners (1587/06/08).

To the master builder Leonardo by New Cross Street's corners (1588/03/31).

Eight stone cartloads for houses corners (1595/08/13).

They have cut stone for the kitchen corner (1599/02/20).

Therefore, workers must started north face’s foundation building and two corners (between first and second quarter of 1587). First corner was made by the master builder and stoneworker Pedro Bertomeu. Later, Leonardo and Juan de Ambrosio were the masters builder responsible for second corner. Juan de Ambrosio continued with third corner, called the thin corner, which must refer to northwest corner that is concave (February 1588). New Cross Street (west) corners are cited by stoneworkers Leonardo and Juan de Ambrosio again in March and June
Finally, Seminary’s last corner is mentioned, carried out by Leonardo in October 1588. Figure 13 shows described process.

In addition, some houses located in the area now occupied by the cloister were not purchased until 1595, so the cloister construction would be relegated to the end of 1599. We know that façade works of Nave Street (south) and Saint Juan de Ribera Street (east) began in 1593 and ended in 1595, year in which the last houses purchases in that street took place.

5. Conclusion

This paper presents a methodology to study the previous urban organization in such a unique building as the Seminary-School of Corpus Christi in Valencia. The Seminary construction is framed in the historical period of the Renaissance. At that time many religious buildings were constructed inside and outside the walled city. The Patriarch Ribera decided to build the Seminary-School a few years after the publication of Instructionum Fabricae et Suppellectilis Ecclesiasticae by Charles Borromeo in 1577, which regulates several aspects of the construction of a church.

The methodology we propose takes into account that the information of XVI and XVII centuries that has survived is scarce. Taking the area of an important building we establish a hypothesis about the previous urban organization according to the information found in the preserved documents.

Our five-step method is: i) A preliminary study of the area and available documentation, ii) An inventory of the relevant information that has been extracted and their entry into a spreadsheet, iii) A data analysis looking for the relationships between the plots and their complex framework, filtering and organizing information according to different themes, iv) To elaborate graphical results and v) To study the plots’ acquisition sequence and their possible influence in the building construction process.
First, we have studied the related literature, including two books found in the Seminary’s archives: Houses’ Purchases Book and Seminary-School Building Book. Then, we have analyzed the evolution of the streets surrounding the building to study its significance and situation.

In Houses’ Purchases Book are described the purchase contracts of the houses in the block now occupied by the Seminary. Relevant information has been extracted to make an original hypothesis of how plots and streets were organized.

Interestingly enough is the parcels’ acquisition sequence and their influence in the building construction process. Now we realize that Seminary’s size was planned from the beginning, including parcels that had not yet been purchased when the building works started. Houses’ purchase order matches with counterclockwise construction of building’s first walls and corners, which is documented in Seminary-School Building Book.

6. Acknowledgements

We appreciate the cooperation of Miguel Navarro Sorní, the Director of the Seminary-School of Corpus Christi in Valencia, and Professor Pablo Perez who provided me the access to the building’s files.

7. References


Marrien Arróspiede, T. A. 1789. Tratado general de monedas, pesas, medidas y cambios de todas las naciones, reducidas a las que se usan en España. Madrid: B. Cano’s printer’s.


