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HOUSES, COURTYARD TENEMENT HOUSING, INNS AND SHOPS IN 16TH SEVILLE. ARCHITECTURE, DRAWING AND GLOSSARY OF MASTER BUILDERS Núñez González, María

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Abstract: This doctoral thesis is based on 1700 barely known 16th century documents and surveys (books of written records of houses called 'apeos') which describe all kinds of buildings in the city of Seville belonging to the Cathedral and the charitable hospitals of Amor de Dios, Bubas, Cinco Llagas, El Cardenal and Espíritu Santo. After locating, identifying and evaluating the documentation, a special method of analysis has been developed to deal with the enormous amount of information provided by these sources. These texts describing the buildings have been transcribed and entered into a database and, from these, about 320 drawings have been made (including hypothetical distribution, elevation and volume plans) to facilitate the understanding of their original architecture. Then they have been grouped into four sections according to their use: houses, courtyard tenement housing, inns and shops. This has allowed us to deduce their main variants or typological features, based on the analyzed sources. In addition, almost all the studied properties have been identified and inserted in the current plans of the city to reconstruct a hypothetical plan of 16th century Seville that will facilitate an overall view of the time. Finally, a glossary of more than 600 specific terms of the alarifes (master builders) used in the analyzed surveys has been provided.

Keywords: 16th century, Seville, Architecture, Drawing, Glossary.

1. Introduction and objetives

This doctoral thesis, directed by Dr. Ricardo Sierra and Dr. Antonio Gámiz (June 2017), began in 2005 as a fellowship at the Department of Architectural Graphic Expression and was developed as Final Project of the Master in Architecture and Historical Heritage (2010), directed by Dr. R. Sierra and published later by the University of Seville in 2012¹. This includes an architectural analysis of 46 houses based on the descriptions of 16th century surveys owned by the Cabildo of the Cathedral at San Salvador area. Lately, the thesis has been enriched by two articles², one international congress paper³ and the collaboration with the R+D Project "Behind closed doors: life and distribution of space in domestic architecture (15th-16th centuries)"⁴.

Apart from the work itself, in the state of the matter not only has the research on the Sevillian house been taken into account, but methodological approaches are also important through historical sources. The work of A. Collantes on Seville in the Late Middle Ages (1984) as well as the works of T. Falcón (2003, 2012) and R. Manzano (1995, 1996), centered mainly in palaces and main houses in the Modern Age, should be highlighted. The work of J. R. Sierra (1980, 1989, 1996), who at the time analyzed about 500 Sevillian houses in his doctoral thesis, must be highlighted too.

Other methodological precedents and related works are: on the one hand, those studies based on the analysis of documentary sources, such as those developed by A. Orihuela (1996, 2007, 2015) and M. E. Díez (2011, 2015) in Granada and the by J. Passini (2004, 2014) in Toledo. And, on the other hand, the works based on the processes of representation and planimetric restitution of cities such as: F.

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Núñez-González, M. (2012) La casa sevillana del siglo XVI en la collación de San Salvador. Dibujo y estudio de tipologías. Sevilla, Universidad de Sevilla.

Núñez-González, M. (2016) "La arquitectura del hospedaje en la Sevilla del siglo XVI" *Archivo Hispalense*, vol. 99, 300-302: 227-260; (2016) "Metodología para el estudio, dibujo y localización de casas sevillanas de los siglos XVI y XVII". *Atrio, Revista de Historia del Arte*.

Núñez-González, M. (2016) "El agua en la casa sevillana del siglo XVI: abastecimiento, almacén y saneamiento domésticos". *Coloquio Internacional El agua en Toledo y en su entorno*. Toledo-Madrid, University of Castilla-La Mancha and Casa de Velázquez, 29-30 september 2016.

⁴ R+D Project Spanish Ministry of Economy and Competitiveness. HAR2014-52248-P (2015-2018) VIDARQ (life and architecture) Behind closed doors: life and the distribution of space in domestic architecture (15th-16th centuries). Principal investigator: Dra. M^a Elena Díez Jorge, University of Granada.

Arévalo (2003) and I. Algarín (1998) in Seville, E. Carazo (2010) in Valladolid or J. Ortega (2007) in Madrid.

The objectives were:

- 1) Locate, identify and compile the information contained in historical sources.
- 2) Develop a method to treat these sources, considering the role of the *alarifes* (master builders) in their elaboration.
- 3) Transcribe the surveys and create a database.
- 4) Draw the buildings and place them in a hypothetical plan of the city in the sixteenth century.
- 5) Analyze the four large typological groups (houses, courtyards, inns and shops).
- 6) Extract the proper terms used by the *alarifes* by arranging them in a glossary.

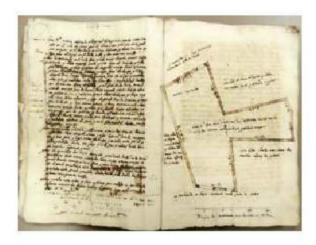


Fig. 1 Survey of a house in Jimios street. ADPSE, Espíritu Santo, leg.15, survey number 30. Type A graphic survey

2. Sources and methodology

2.1. Documentary sources

This thesis would not be understood without the analysis of the documentary sources and the proposed methodology. The main archives consulted were: the Seville Cathedral Archive (ACS), the Provincial Council of Seville (ADPSE) and the Provincial Historical Archive of Seville, specifically the Notarial Protocols (AHPSPN).

The main types of sources which can be found in these archives are three: books of houses surveys, notary documents and plans of plots or buildings. More than 2,461 documents have been found concerning the Sevillian houses of the sixteenth century in the three archives mentioned. However, for the development of the thesis, 1,694 were used, distributed as follows: 772 of the Cathedral (1542-1543), 61 of the hospital of the Bubas (1585), 161 of the Cardenal, 146 of book 1 of the Cinco Llagas, 395 of the Amor de Dios and 159 of the Espíritu Santo; and they have been classified in literary and graphical types.

There have been 554 graphic surveys, all of the first half of the 17th century, distributed throughout the city, and organized into two types:

- type A (fig.1), which includes information about the street, collation, use (if it was a house, a shop, a yard or a plot of land), boundaries, orientations (towards the middle of the day, north, towards east or west) and dimensions in feet;
- type B, attributed to Vermondo Resta, which provides less information, especially with regard to boundaries and orientation, and whose dimensions are taken in castilian yardsticks.

On the other hand, 1,140 literary surveys have been used, most of them belonging to the books of the Cathedral, in most of the collations, especially in Santa María la Mayor and San Salvador, and of many different uses: 890 houses, 7 courtyards tenement housing, 16 inns and 227 buildings between stores and other non-residential ones. The literary surveys offer much more information than the graphics (fig 2), classified in two types:

- *identification*; with the collation, the owner, the use of the property, the street and the details of the situation, the boundaries, and the name of the tenant.
- description; of each of the spaces, generally organized in paragraphs, which describe the doors, windows, dimensions in Castilian yardsticks, the type of roof (if it was bent, or covered with a roof or inclined roof), structural details (such as the number of beams, detail which was only contributed

by the books of the Cathedral) and other constructive elements, finishes and endowments/equipment.

2.2. Methodology

Regarding the methodology used, the steps followed began with the search of historical sources, their selection and classification. Later, the literary and graphic surveys were transcribed, and the plans were photographed. Finally, all the information was rolled over and organized into tables and in a database, which allowed: the drawing of the buildings, the architectural analysis, the drawing up of the map and the selection and formation of the glossary.

2.2.1. Rolled over information

Due to the large amount of information collected, a system of identification of the surveys using codes was necessary. This system not only allows you to locate the building in question, but also to link the different tables on which the data has been dumped.

The codes are composed of:

- a letter, referring to the source from which it comes, ie: **c** for Cabildo, **f** for Fábrica, **k** for Cardenal, **b** of Bubas and **p** of Cinco Llagas; and,
- a number, to identify the folio number of the corresponding book or the access number. Usually the folio numbers are indicated in the upper right corner of the page, and sometimes the number of surveys, aside from the text to the left.

The same way that the surveys are organized, their information has been turned into two tables linked by means of the surveys code, one with the identification data, and another with descriptive data of the rooms.

2.2.2. Database

With the two tables mentioned above, a database has been set up to analyze real estate in depth: useful and plot surfaces, use and distribution of spaces, functional and volumetric analysis, construction systems, installations, finishes, carpentry and other details and endowments, and the situation or not in the city plan;



Fig. 2 Literary survey of a house in Cementery Square. ACS, MC, lib. 9163, fol. 261 r²

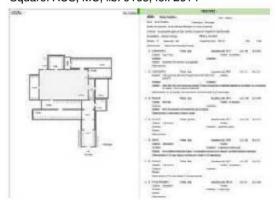


Fig. 3 Data sheet of an inn on Alhóndiga street (left: drawing, right: data). Autor: M. Nuñez

completing with the information regarding the possible drawing and situation of the buildings.

One of the results of the database is the tabs like the one we see in the image (fig. 3), along with the drawing of the property, in this case an inn on Alhóndiga Street.

2.2.3. Drawing and locating buildings or plots from the surveys

In order to be able to draw and place the buildings described in the surveys in the city plan and taking into account the nature of the source (whether graphic or literary), this method has been followed: a previous step in the graphic surveys has been to photograph, download and scale the photos of the plots in a CAD program. Then, in both cases, the plot was identified in the current city plan according to the form, the details of its situation (that appear in the surveys) or the orientation (only in some graphic surveys).

If the identification is not possible only with the form of the plot or some details of the situation, the Plot Registration of 1795 is used (Hernández, F-J., 2006), which provides data on the number of government and the name of the owners of the plots ordered by blocks.

Once identified, the contour of the 16th century plot in the city plan is drawn and identified with the corresponding code and, finally, the location data is entered in the database.

In the case of literary surveys, the identification of the plot is very important, since it is an aid in the drawing of the buildings because if the plot is known, the drawing is bounded in a certain way, as with the example of the house c53r, in Jimios street (fig.4). In cases where it has been possible to identify the plot, the hypothesis of the house has first been drawn, and the plot in question has subsequently been searched.

2.2.3. Elaboration of the plan of 16th century Seville

Understood as a result of the work process, and not as an end in itself, a plan of 16th century Seville has been drawn up. It contains all the data on internal reforms and alignments produced in the city in order to facilitate the location of the plots and analyzed buildings to have an overview of the work.

For its elaboration, historical topographic maps and maps of the 19th century (which are very reliable), some graphic landmarks and localized hypotheses of plant, and, to a lesser extent, other publications on urbanism and representative buildings, such as the

Historic Dictionary of the Streets of Seville (Collantes, A. et al., 1993), as well as plans, prints and historical photographs, have been used.

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Fig. 4 Drawing of the ground floor of the house c53r. Red line: current plot. Author: M. Núñez

2.2.4. Elaboration of the glossary of terms

Finally, the methodology for the glossary of terms is based on the search for words in different dictionaries, both current and historical: Spanish Royal Academy (New lexicographic treasure, Authorities, Covarrubias, etc.), Lexicon of alarifes of the Golden Age (Garcia Salinero, F., 1968), Dictionary of Civil Architecture (Bails, B., 1802), Dictionary of the Noble Arts (Rejón De Silva, DA., 1788), Brief Compendium of White Carpentry and treaty of alarifes (Lopez de Arenas, D., 1633), etc. In addition, Internet platforms such as DICTER 2.0, from the University of Salamanca and other sources have also been consulted.

3. Houses, courtyard tenement housing, inns and shops

3.1. Property and building processes towards the 16th century

This work takes place in a very important century for the city, from an economic and urban point of view. The property of the majority of the Sevillian village fell to the large landowners, who were religious institutions (parishes, convents and, above all, the Cathedral), charity hospitals and, to a lesser extent, noble families and minor ownersAccording to consulted sources, including 1,914 properties, it has been verified that the areas where these institutions had more properties were the collations of Santa Maria la Mayor, San Salvador, La Magdalena and Omnium Sanctorum.

The number of properties belonging to these institutions increased throughout the sixteenth century, which led to the need of keeping a detailed accounting record of information on their properties, giving rise to the books of surveys. This process of accumulation of information began at the beginning of the century (1502), with those of the Cathedral, perfecting itself in those collected in the middle of the century, and ending in the 19th century with those of the Disentailment.

Each institution sent the execution of the data collection to a master builder, the *alarife*, who was sometimes accompanied by a master carpenter and, always, a scribe who kept records of everything the other two were saying.

These *alarifes* are the architects of the books of surveys that have been used for the thesis and that is why they have been studied in depth, having documented 29 names between 1541 and 1608. The degree of *alarife* did not exist as a professional level on the official scale, however, this position was held by masters of different guilds -among them carpenters and masons fundamentally- who had a high level of mastery of the constructive practice and geometry. To be an *alarife* presupposed a

superiority above the rest of masters of the different guilds. For this reason, the fact that they were the ones who developed the surveys guarantees a high reliability of the sources used in the thesis. When they visited the possessions of institutions they were called *visiting masters* and had their own method for taking data.

3.2. Houses

3.2.1. Plots and volumes

Firstly, the reliability of graphic landmarks for the study of urban plots was analyzed. Thus, the measures given in the surveys were used to make the contour and then overlapped with the drawing of the survey. As can be seen in the image (fig. 5), the accuracy is notorious.

From the analysis of all the identified plots, it was concluded that they had an average area of 160 m² (although this average varies according to the collation), the majority of which were irregular, had two floors high and were covered with roofs and inclined roofs, regardless of the body and the size of the house.

3.2.2. Spaces

For the study of the spaces, 390 houses distributed throughout the city have been analyzed.

In addition, 70 designations of spaces have been identified. But only those from which we obtained more information have been analyzed in detail.

In this way, 409 casapuertas, 313 courtyards, 217 portals, 142 palaces, 138 courtyards, 102 kitchens, 290 soberados, and 277 roofs have been used for the study, plus 39 gardens and 16 tirasoles, the two latter ones as outstanding exceptions and not because they were common in the Sevillian housing type.

The analysis reveals the typological characteristics of all of them: position (floor and relationship with other spaces), use, average surface, number of times that they appear, type of cover, endowments (ladder, well, ...), pavements and other finishes.

Finally, as we can see in the example of the image (fig.6), in the house c170v located in Escobas street, the chambers and corridors in the first floor were also common.

3.2.3. Water supply, water storage and sanitation

The descriptions of the surveys and the analysis derived from the database also help to know the

role of water in the house. However, only 17 piles and ornate fountains, 11 waterwheels and 9 pools were found, which only appeared in large houses with gardens and groves, such as the one shown in the image (fig. .7), at the end of Abades Street, near Borceguinería. This house had a garden with orange and grape vines, two pools, a well, a ferris wheel that fed the garden and an ornate trough (basin) in the main courtyard.

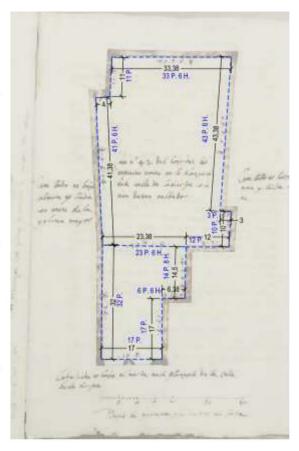


Fig. 5 Superposition of the survey with the measures that it gives (blue broken line). Background, drawing of the house e42 (ADPSE, Espíritu Santo, leg. 15, prot. 42) on Sierpe street, San Salvador. In a broken line, the layout according to the dimensions given in the drawing itself. Author: M. Nuñez

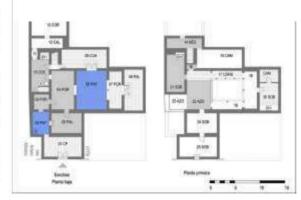


Fig. 6 Drawing of the house c170v on Escobas street, nowadays Alvarez Quintero, in the collation of Santa María la Mayor. Blue spaces: yards (PAT). Autor: M. Nuñez

In addition, in relation to domestic sanitation, 42 latrines, 35 necesarias and 5 toilets have been documented, which are all the same, but which, by their number (less than 30% of the total), cannot be considered as characteristic of the average Sevillian house.

Finally, it is known that rainwater was evacuated by sloping roof tiles and pipes on the roofs, towards the street or towards the courtyard, drifting towards sinks (60% of houses had one).

3.2.4. Materials and constructive elements

The most used building materials were mudwall (tapial), brick, wood and stone, both in structures and decorative elements and finishes. Thanks to the surveys of the Cathedral, in relation to the structural systems, 170 types of floors have been registered. The most common were composed of beams or asnados, alfarjías (lower square beams) and brick instead of table. Moreover, it has been documented among the 309 staircases that the most common were made of masonry, followed by stone and wood.

As for the finishes, the most important decorative materials include: brick, tile, stone and plaster. In this respect, 76 types of soils have been found, especially of brick, in their different positions: of corner brick, brick together, holambrado, mazaríes (square bricks), espina pez, of revoked, etc. And, among the ornamental details, they emphasized the alizares, the azonal of tile tablets, the zaquisami and the plasterwork.

Regarding the carpentry, the doors were made of wood and distinguished by their nails, the number of sheets and the appearance of shutters. The most common were those called *de escalera* (of ladder), made of boards and, to a lesser extent, *adufas* (divided in two parts horizontally) and *ceutíes*. In relation to the windows, as already indicated in the work on San Salvador, they were not very abundant and appeared mainly in high floors. They could have or not doors and seats, with more or less ornamentation, and with bars. As for chimneys, they used to be placed in the kitchens and high floors (called *soberados*) and to be made of masonry or like the French style.

3.2.5. Rise of a house in Segovias street

To finish this section and as an example of the use that can be made of the literary surveys, volumetric views have been made. They offer great possibilities of recognition of analyzed spaces and a global understanding of the house, from all points of view (fig.8).

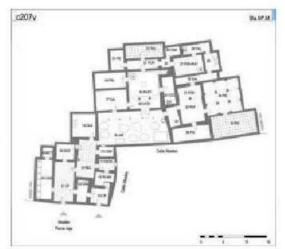
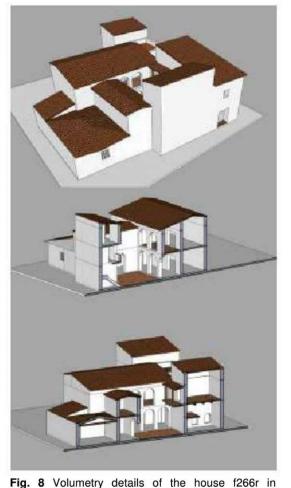


Fig. 7 Drawing of the ground floor of the house c207v on Abades street in Santa María la Mayor. Autor: M. Nuñez



number 2 Segovias street, near Abades street. Autor: M. Nuñez

This house (f266r) had three open spaces, the patio which was accessed directly from the *casapuerta*, the yard of the women's body, smaller and with a well, and the courtyard, in the background, together with the kitchen, the pantry and a havstack

As seen in the lower right view, the façade barely had holes: the entrance door and two windows. On the other hand, and as can be seen in the sectioned views, it is evident that the house opened inwards and that the patio served as a distributor towards palaces, halls and other rooms. In addition, this house stands out for presenting a *tirasol*, which is the volume that stands out in front.

3.3. Courtyard tenement housing

After analyzing the houses, another residential type is the courtyard tenement housing, which are nothing more than a large patio surrounded by rooms, in the words of Joaquin Hazañas (Hazañas, J., 1928).

According to consulted sources (about 1,700 surveys and other notarial documents), 27 courtyards have been identified throughout the city, 9 of which have been analyzed in depth. The sources give their names, their situation and the name of its owners.

It should be noted that the descriptions offered by the surveys provide little data and are very poor in detail, which has greatly conditioned both the analysis of the architectural type and the drawings of the models.

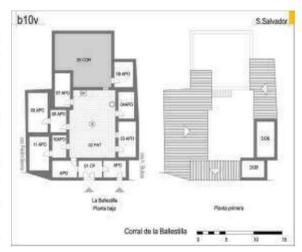


Fig. 9 Drawing of Ballestilla Courtyard (b10v), San Salvador. Author: M. Nuñez

3.3.1. Urban analysis, types and characteristics

As analyzed, the courtyard tenement housing could be classified in two ways:

- according to their position in the block: taking a common plot with a facade and organizing the apartments attached to neighbouring boundaries, or as a residual element of the inside of a large block.
- according to the number of plants: they could have one or two floors, normally roofed.

3.3.2. Spaces, distribution and drawing

As analyzed, the average area of the courtyard tenement housing was about 330 m² and had an open area of 40%, slightly higher than the average house (which was 30%).

Due to the scarcity of data, only three courtyards have been drawn. The one at Sol street was entered directly into the courtyard from the street and their rooms were organized on two floors. It had a distribution corridor on the top floor accessed through a staircase next to the door of the courtyard.

The Ballestilla Courtyard (fig.9) can be understood as an example of courtyard tenement housing. It was accessed by the *casapuerta*, which had a room, and from there to the patio. The latter was paved with brick together and had a sink, a well and a chimney under a shed. The patio was surrounded by rooms, one of which exceptionally had a window. At the bottom of the plot there was a courtyard, with another room.

Finally, the San Hermenegildo Courtyard stands out in the Mancebía, which in addition to the rooms, had a pharmacy and a shed for the latrine and was the largest in surface.

This residential typology was very simple, as pointed out by Hazañas.

3.4. Inns

3.4.1. Background, location and analysis

The first who studied the system of lodging in modern Spain was Eduardo Ibarra (Ibarra, E.,1940). In addition, Antonio Collantes (Collantes, A.,1984) refers to inns in a shallow way, and in other locations, such as Toledo or England, have been analyzed by Jean Passini (Passini, J., 2004), John Hare (Hare, J., 2013) and Jane Manco (Manco, J., 2013). 70 inns have been located from all consulted sources and other notarial documents, concentrated in the collations of Santa Catalina and San Alfonso. And, they have been sorted by name, location, owner and year in which they are cited.

The Lost Inn (Mesón de Los Perdidos) stands out among them, as it was cited by the Ordinances of Seville in 1527 (in its own title), and the Corner Inn (Mesón del Rincón), whose name and location have lasted until what we know today as El Rinconcillo Restaurant next to the church of Santa Catalina.

3.4.2. Spaces

The result of analyzing 18 inns has resulted in the localization and drawing of 16 of them and the study of the characteristic spaces of this type of residential building, configuring the inn typology in 16th century Seville.

The spaces that characterize an inn are: the casapuerta (also understood as multipurpose space), the portals, the yard or courtyard, stables (important uses because they supposed near 30% of the total occupied space, with cribs to keep the horses and mules), palaces and high floors (for accommodation, called soberados), the plain roofs and the well.

The average area of inns was about 366 m², with 18% of open spaces, much lower than that calculated for houses (30%) and courtyard tenement housing (40%).

3.5. Shops

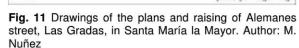
3.5.1. Commercial areas

Seville concentrated its commercial activity in the collations of Santa María la Mayor (with Customs, Las Gradas and Alcaicería Mayor), in the collation of San Salvador (with Especerías, Alcaicería and the Royal Butchery), in Santa Catalina with the Alhóndiga of the wheat and in Omnium Sanctorum in the the Fair Square. In this way, after analyzing the 254 land lots of non-residential properties available, these were concentrated in Santa María and San Salvador, collations that have been analyzed in depth. Among all the surveys, there have been identified: 120 shops, 63 house-stores, 11 warehouses, 9 wineries, 8 wheat-shops, 8 bakeries ovens and 14 other uses, among which butcheries are highlighted.

3.5.2. The collation of Santa María la Mayor

In the case of Santa Maria, 113 storefronts (shops) concentrated mainly around the Cathedral, especially in Las Gradas and Alcaicería Mayor, have been documented.

This analysis has resulted in two types of buildings both without open spaces:



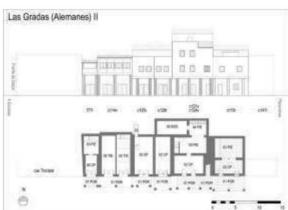
- the buildings on the streets of the Alcaicería with one or two living spaces, a tiled floor with a front porch and,
- the buildings at Las Gradas, which had two or three floors with plain roof in the first body, inclined roof and front portal.

As can be seen in image (fig.11), most of the shops and barracks have been erected from the data of the surveys.

As it happens now, it was a street with portals, with pillars of brick, mainly octagonal, and offering three entrances to the three streets of the Alcaicería Mayor, now disappeared. In addition, there has also been an elevation of the street in which the profusion of windows stands out, detail which differentiates it from other building typologies that have been seen until now.



Fig. 10 Drawing of The Lost Inn, Santa Catalina. Author: M. Nuñez



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3.5.3. The collation of San Salvador

In the collation of San Salvador 68 shops and house-stores have been studied. In this case, the most common type of property is a shop consisting of a single compartment in the ground floor, with a portal and a bye in the entrance, located in the streets of the Alcaicería of Sedería and Especerías, streets with Islamic origin. As in the case of Santa María la Mayor, there has also been a urban analysis and plans of the Alcaicería and Especerías area (fig.12).

3.5.4. Other commercial establishments

Other types of establishments found in the sources include warehouses and wineries, of oil and wine, located mainly near the Oil *Postigo* in Santa Maria la Mayor, and near the Wine street in San Pedro.

There have also been found *atahonas* and bakeries, closely linked activities, about what little or nothing was known.

In this sense, it should be mentioned the survey of the stove located in the Basketry, next to the Wall, in La Magdalena, which was dedicated exclusively to this function.

Finally, the butcher shops, among which the ones referred to by Collantes as Catalanes and Clerigos, in Aduanilla Square (f84r and c87r) have been found.

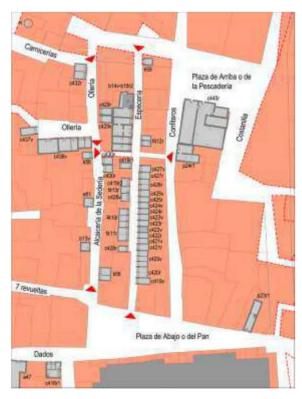


Fig. 12 Restitution of Alcaicería in San Salvador. Identification of entries and location of buildings. Author: M. Nuñez

4. Hypothesis of 16th century Seville map and catalogue of drawings 4.1. 16th Century plans of situation

The drawn-up map has been organized into 31 plans at 1: 2000 scale, consisting of a window with the plan, a legend with a graphical scale in meters and a miniature plan identifying the format in question (fig.13). Each of them includes the following information:

- nomenclature of streets and squares,
- institutional, religious and private buildings,
- other types of places identified in the books of surveys,
- location of the located properties (plot, with its code and a color -to differentiate the owner-)
- inns and courtyards have been shaded in green and yellow. Parish churches and other significant buildings in dark grey color to distinguish them,
- reconstructions of alignments of streets and blocks and opening of streets.

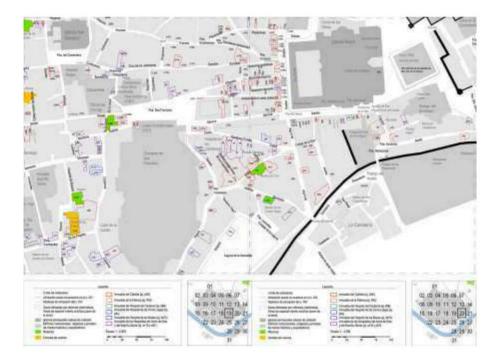


Fig. 13 Plans 19 and 20 of the whole situation plans. Author: M. Núñez

4.2. Catalogue of drawings of houses, courtyard tenement housings, inns and shops

One of the great contributions of this thesis is the catalogue of drawings based on literary surveys. It is important to make clear that the drawing of the buildings has not been an easy task, especially the larger ones and those that offered little data, as the location was not always possible and the description of the rooms was sometimes very complex, given the large number of pieces or the number of floors.

Even so, with more than one hypothesis per property in some cases, 177 houses have been drawn (211 hypotheses), in very different collations; 3 courtyard tenement housings (a small number due to the fact that, as mentioned previously, the surveys of this residential typology did not offer sufficient details); 16 inns (17 hypotheses), and, lastly, 89 shops and other types of establishments (91 hypotheses).

The catalogue of drawings is arranged in four chapters according to the typology. Each chapter includes at the beginning the list of codes of the drawings made, as well as their situation in the map. The drawings are identified by their code, collation, type identification colour (blue for houses, yellow for courtyard tenement housings, green for inns and red for shops) and a graphic scale on Castillian yardsticks.

5. Glossary of terms of 16th century Sevillian master builders

The glossary of terms used by the master builders (*alarifes*) in the 16th century surveys allows the correct interpretation of the documents and the study of the Sevillian domestic architecture of this period. It consists of 531 main and 60 secondary entries (since within a same entry there may be several uses of the same term). Among the most important contributions are 29 terms whose definition has to be elaborated from the sense and context of the survey because they could not be located in well-known dictionaries.

With regard to the organization of the glossary, the terms are arranged alphabetically. The entries (voices or terms) are highlighted in capital letters and bold and are accompanied by an acronym in parentheses to identify the origin of the definition (name of the dictionary), as well as other variants of the same word (for example, *Mazarí* and *Mazaríes*). Next, a small comment is made, in some cases, to detail the use of the word in the Sevillian context and the analyzed surveys, offering quotations where the term is used. Finally, sometimes a photo or drawing of the term is included.

6. Conclusions

The main conclusions which have been drawn from this work have been the following:

- 1. It can be said that the sources used for the sixteenth century have been very prolific and provide reliable information for the study of the Sevillian housing of that century. However, even though some 2,000 surveys have been used, there are still other types of sources, such as new building contracts and spreadsheets, which may shed more light on the projects of houses of that time.
- 2. 321 drawings have been catalogued and have served to develop all the architectural and graphic analysis. It should be noted that the drawings are hypotheses based on literary surveys, resulting from the application of the methodology of translation of what is described in the texts to the graphic language.
- 3. Starting from the literary surveys and with the help of the drawings, it was possible to verify, expand, distinguish and know the spatial, constructive and endowment elements that characterized Seville 16th century buildings:
- The spaces that characterize the Sevillian house (*casapuerta*, portal, patio, palace, kitchen, courtyard and plain roof) have been studied and a graphic and functional analysis has been carried out, together with a possible cataloguing according to the number of open spaces, between patios, courtyards, orchards, etc.
- It has been attempted, with the scarce data available, to establish the typological characteristics of the courtyard tenement housings and 27 have been located, although many of them still have to be documented.
- Inns have been studied as a residential typology. Little or nothing was known until now about these residential buildings. The spatial organization has been analyzed studying 18 in depth and 70 have been located. It has been concluded that many of those were not conceived as such but were the result of processes of transformation of houses to serve the high demand of these types of establishments in the Seville of Golden Age.
- Finally, the analysis of the shops has proved very useful due to its interest from the urban point of view, with the elaboration of volumetries and restitutions of the commercial areas of Santa María and San Salvador.
- 4. During the development of the thesis, all the information resulting from the hypothesis of the 16th century plan has been overturned, properties were located (based on 376 literary surveys and 192 of the graphic surveys 30% of 1,700). The city map, as well as a very useful tool during the work, can be considered as a first step for the elaboration of a Golden Age city plan, which can be expanded with new data in the future and serve other researchers.
- 5. It highlights the great contribution of the glossary of terms with about 600 voices. The history of Sevillian domestic architecture of this century would not be correctly understood without the definitions of words like: ajembrilla, alizar, almatraya, hocino, madre, palacio, puerta de en medio (middle door), casapuerta, tirasol or zaquizamí. Having identified many of them in the books of surveys of institutional origin turn the glossary into a rigorous and systematic material, real and alive expression of an era.
- 6. In conclusion, it must be emphasized that this thesis can be considered the beginning of many other investigations, based on historical sources which, as has already been shown, offer many possibilities for those who wish to study the city in the 16th century.

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