



Entrance Door to the Sacristy of the Sacra Chapel of El Salvador in Úbeda. Geometry of the Passage and Analysis of a Functional Solution

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ABSTRACT

One of Andrés de Vandelvira's most singular pieces is the sacristy of the Sacred Chapel of El Salvador in Úbeda. It is also notable for its connection with the church. This connection is made through the left chapel, which was originally intended to fulfil these functions, leaving this small chapel. This article analyses the causes and reasons that led the author to place the sacristy door in the corner of the left side chapel. Its plan geometry and the reasons for its three-dimensional geometry are analysed. Some of the reasons are related to the shape of the sacristy, a typical Spanish Renaissance structure. Others are related to the necessary proximity of this space to the volume of the church. Finally, it solved the problem of the lack of contact between the adjoining walls of the sacristy and the left chapel. There is no doubt that the solution proposed by Vandelvira was logical if it is understood from the origin of the project, which does not detract from the great mastery with which he developed this unusual corner passage.

Keywords: Sail Vault; Spanish Renaissance; Heritage; Vandelvira's Treatises; Holy Chapel of the Salvador.

INTRODUCTION

Some Background History

The architect Andrés de Vandelvira was born in Alcaráz, in the province of Albacete, around 1505 and died at the age of 70, having developed his work in the province of Jaén (Marín, 2005). He was known as a scholar of stonemasonry and a great connoisseur of the most famous treatises of the time, putting his knowledge into practice in his works. He did so with the vaulting or handkerchief vaulting of the cathedral of Jaén, a work commissioned by the diocese of the city to the architect (Galera, 2000). There he tested its use to cover complete naves as Filippo Brunelleschi had previously done. This type of vault is called sail vault or sail dome in the Anglo-Saxon bibliography, in this case, the analogy is formed from the shape of a square ship's sail inflated by the wind, and not that of an inflated handkerchief held in place by its four corners (Isidoro, 2021; Goitia, 1995).

Later his son, Alonso de Vandelvira y Luna, wrote the book "Trazas y cortes de piedra", on the art of stone cutting, written after the death of his father in 1591 (Domínguez, 2011). This missing manuscript has become known through the reproductions that were made of it (Rabasa, 2000). One of the two existing reproductions is currently in the National Library and the other is in the Higher Technical School of Architecture in Madrid (ETSAM). In this treatise Alonso pays homage to his father by including in volume I numerous works by Andrés de Vandelvira, together with others by Sebastiano Serlio (1475-1554) and Andrea Palladio (1508-1580),

contemporaries of his father. This treatise, subsequent to that of Philibert de l'Orme, 1567, has been and will continue to be a frequently consulted source and a reference for the art of stonemasonry and stone stereotomy. (Rabasa, 2003).

The Cobos Family Commission

The nobles related to the Cobos family in Úbeda, such as Francisco de los Cobos y Molina, were his patrons and allowed him to carry out projects of great importance, such as the construction of the Sacred Chapel of the Saviour, which Mr. Francisco commissioned the architect to build from 1540 onwards. The author of the design of this funerary chapel is Diego de Siloé, one of the most important private works of the Spanish Renaissance (Lazzeri et al., 2016; Skobelev, Gubenko, Davydov, Polovnikov, & Sobinov, 2022). Its interior consists of a large rotunda for the nobles and a single nave with small rectangular chapels on both sides (Moreno-Egea, 2016). Two other slightly larger chapels finish off the flanks of the nave at the meeting point with the large rotunda. On the right is the ascent to the chapel's only tower. The important grille, the work of Francisco de Villalpando, cast in 1555, is responsible for separating the rotunda from the nave (Morales, 1997).

The sacristy of El Salvador de Úbeda is considered one of the main works of the Spanish Renaissance and one of the most singular pieces by Andrés de Vandelvira (Vandelvira, 2018). Its connection with the church stands out. This connection is made through the left chapel, originally intended to be used also as a sacristy (Gómez-Moreno, 1983). As it was too small to suitably fulfil these functions, Francisco de Cobos decided to commission a large sacristy from Andrés de Vandelvira. The design he made for this occasion was a precedent for the one he would later design for the sacristy of Jaén Cathedral.

Vandelvira's Sacristy

Goitia wrote:

The sacristy follows the traditional structure of Spanish renaissance sacristies (that of Las Cabezas, in Sigüenza; that of Almería, etc.), with niche arches for the placement of the chests of drawers without cluttering the space. This same approach would later be used by the master in his stupendous sacristy in Jaén cathedral (Goitia-Durán, Félix, Peixinho, & Mendes, 1995, p. 130).

This commission led to a second contract for the side façades, the main façade and some of the interior balconies, [Figure 1](#) shows the Sacred Chapel of El Salvador Corner Door.



Figure 1. Sacred Chapel of El Salvador Corner Door (Note: By the author Acitores, A., 2005, photograph, located in Sacred Chapel of El Salvador, Úbeda, Jaén, Spain.)

The sacristy is richly decorated with sculptures symbolising vices and virtues, made by the artist and sculptor Esteban Jamete (Etienne Jamet or Chamet), a native of France (Orleans) whose work is also represented in the chapel's magnificent Plateresque doorway, one of his finest works.

Looking at the ground plan of the Sacred Chapel of the Saviour, one can see the sacristy with a very relevant size with respect to the total surface area and with a peculiar position in which the rotation of its axis with respect to the axis of the nave of the chapel stands out. If one looks at the entrance, one finds a "corner" passage, which stands out for its position and its particular composition, which makes use of anamorphosis to give importance and enhance the entrance (Baltrusaitis, 1969; Freire-Lista, 2021; Barbé-Coquelin de Lisle, 1997).

Anamorphosis

Anamorphosis was first used in painting in the 16th century in a drawing by Leonardo and, in the Nordic countries, in works by Holbein (as in the skull in the painting *The Ambassadors* of 1535). According to the Royal Spanish Academy (RAE), the term is defined as "Painting or drawing that offers the eye a deformed and confused image, or regular and finished, depending on how you look at it" (Baldoceda Espinoza, 2011). It is therefore defined, even today, as an effect that is always in two dimensions (Homza & House, 2000).

They can be classified into two types: optical anamorphoses in which there is a deformation whose ideal point of view is at an oblique angle to the pictorial plane (this occurs in the painting *The Ambassadors*, already mentioned, in which when looking at the painting from the front, the skull is perceived as deformed and only when looking at the painting from a specific position is it recognised as such); and catoptric anamorphoses: those that require a specific specular surface (a cylinder, a cone, a pyramid, etc.) for their ideal "recomposition".

According to Baltrusaitis (1969), anamorphosis is carried out based on experience and observation, that is, empirically. However, at that time the knowledge of perspective was already profound and allowed the development of previous tracings. There were also methods of punctual transposition of oblique projections. All of these works previously appeared in two dimensions (drawing and painting), although you can see how in the *Teatro Olimpico* by Andrea Palladio, the architect's last work directed by Vincenzo Scamozzi, a stage with a three-dimensional trompe l'oeil is already being tested. The proscenium or fixed stage built by Scamozzi distorts the layout of the streets, which rise and narrow (falsely seeming to flee) towards a nearby horizon line, thus giving the impression of a sensation of non-existent depth, detectable only by the relational scale. between the actors and the street facades (Marín, 1999; Marín, 2005; Rejón de Silva, 1788).

It could, therefore, be seen in the Olympic theatre as a kind of anamorphosis in an architectural example that would provide an opportunity to understand the application of this concept to other fields such as sculpture and architecture. The one created by Andrés de Vandelvira at the entrance to the sacristy, and its reasons, not only compositional but also perceptive are analysed below.

This article attempts to analyse the causes and reasons that led its author to place the sacristy door in the corner of the left side chapel. Its plan geometry is studied in detail and the reasons for its spatial geometry and compositional resources are deciphered.

In the magnificent space of the chapel, this encounter with the sacristy stands out as one of Vandelvira's most important interventions. This is why it seems necessary to analyse why this work is so important and on what pillars it rests to achieve such an outstanding result. It will be seen in the development how the starting conditions of the chapel and the adjoining site will be studied taking into account the spatial geometry, functionality, architectural composition and visual perception.

This entrance, so surprising to the observer, is not a whim, but a very elaborate work that combines different points of view and strategies. Therefore, in order to understand the solution proposed for the sacristy and its entrance, it seems necessary to put ourselves in the place of its author from the beginning of the design in order to find the path taken. This is the aim of this work: to understand and explain this project and its relevance. To this end, bibliographical resources have been reviewed and use is made of drawing from the beginning to understand the geometry applied and the decisions taken.

Aim and objective

The objective of this research is to reveal all the geometric-functional decisions and compositional strategies of this surprising entrance door to the sacristy of the sacred chapel of El Salvador in Úbeda. The novelty of this research is to analyze the causes and reasons that led its author to place the sacristy door in the corner of the left side chapel, studying in detail its geometry in plan and deciphering the reasons for its spatial geometry and compositional resources.

GEOMETRIC AND PHYSICAL CONSIDERATIONS

Chueca Goitia in his book *Andrés de Vandelvira arquitecto*, Goitia (1971) explains how the small left side chapel was insufficient for sacristy functions, as Diego de Siloé had not originally planned a large sacristy:

It is therefore not surprising that the second contract stipulated the construction of a new sacristy, an excellent piece in itself, but which destroyed the symmetry of Siloé's plan with its capricious intersection. Its entrance is boldly and mischievously arranged in a corner of the aforementioned chapel and has always been an astonishment in the art of stonemasonry (Goitia, 1971).

That there is a break in symmetry is clear and was also inevitable if it was a question of adding a sacristy space to Siloé's design. It is also true that this solution is resolved by means of a delicate and difficult problem of stereotomy, as can be seen later on. However, the decision to locate the chapel there was not a whim, as Goitia points out, but rather the need to include the available adjoining plot, making use of great coherence, sensitivity and, yes, the audacity of an innovator.

Indeed, the rectangular plan and the structural organisation of the sacristy is one of the clear decisions that Vandelvira proposed for his new project. But the sacristy cannot be conceived as a separate element from the chapel. Its physical communication with the chapel is fundamental and its position must take into account Siloé's initial plan, the adjoining space, the necessary circulation and the composition of the whole.

Gómez Moreno (1983) in his book *"Las águilas del Renacimiento español"*, in the chapter corresponding to Siloé, when he explains the Chapel of San Salvador, says: "The vaults of the aforementioned side chapels are sail vaults with much ornamentation, and the one on the gospel side precedes the sacristy with a very graceful little corner door" (Gómez Moreno, 1983, pp. 1517-1558).

Galera, (2000) in his book about Andrés de Vandelvira states:

The sacristy is the most significant of all the incorporated spaces... As such a space, its shape is the rectangle common to most of these rooms with large lateral niches for chests of drawers... Also arranged obliquely to the axis of the church, its contact with it gives rise to a broken passage that leads to the small square chapel, twin to the one on the opposite side that gives access to the tower at an angle. The opening, an example of those referred to in the *"Libro de Traças"* as a corner door and corner, is a spectacular display of stereotomic virtuosity due to the deformation of the voussoirs as they advance towards the line of the imposts and the entire entablature, whose cornices project in sharp points towards the ends, worthy of the best displays of anamorphosis typical of the Nordic treatises of the Renaissance (Galera, 2000, p. 160).

In the book by Palacios, Frade and Plaza (2003), *Traces and Cuts of Stonemasonry in the Spanish Renaissance*, there are some examples of *"Arco en esquina y rincón"* by the author of the book himself, compared with similar ones taken from the *Book of Traces* by Alonso de Vandelvira (Galera, 2000), which Pedro Galera talks about and from the treatises by De L'Orme (1567) and de Aranda (1986) on pages 74 to 79. These different representations can be seen in the same order in [Figures 2 to 5](#).

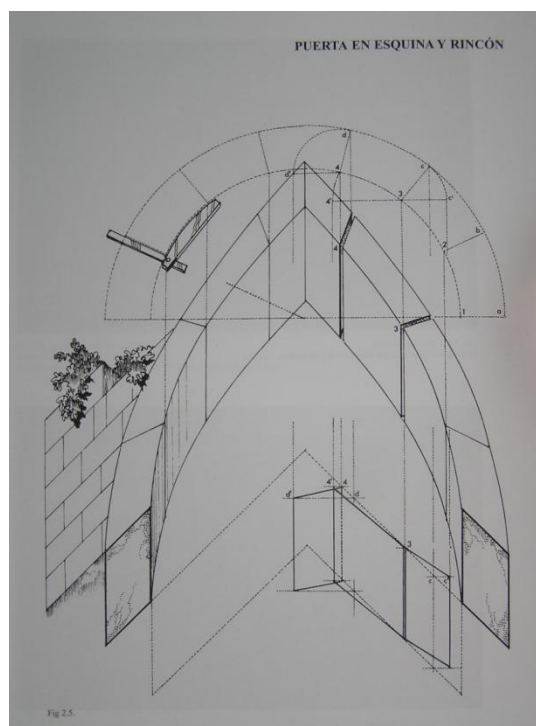


Figure 2. Corner Door (Note: By Palacios, et al., 1990, drawing of the book *Traces and Cuts of Stonemasonry in the Spanish Renaissance*.)

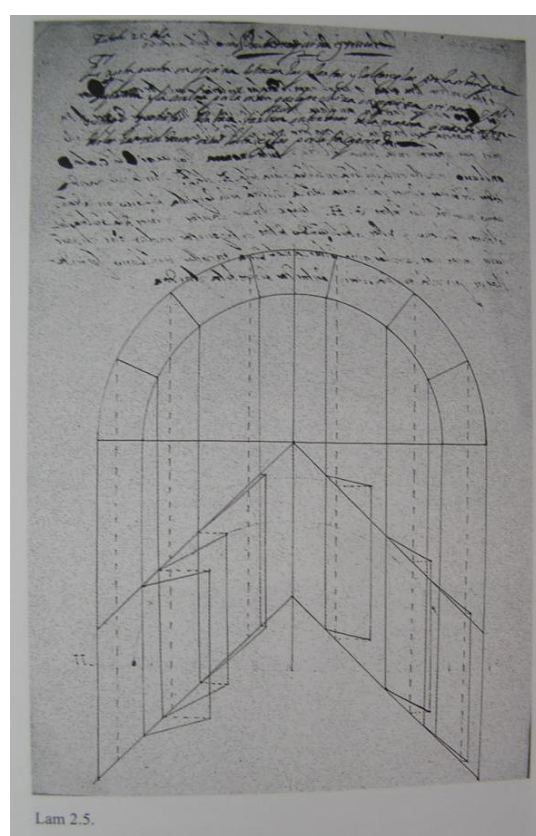


Figure 3. Drawing of Alfonso de Vandelvira (Note: Vandelvira, Alfonso, 1591 drawing of *Stone cutting trace book*.)

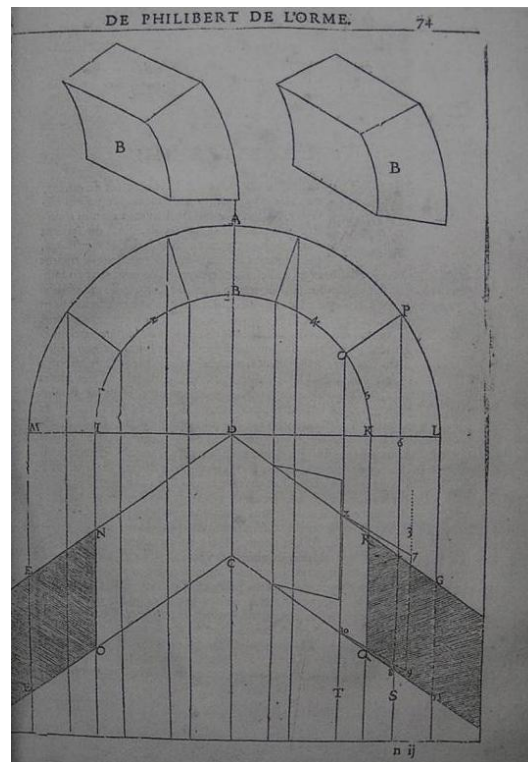


Figure 4. Corner Arch and Corner (Note: By Ballon, 1989, drawing.)

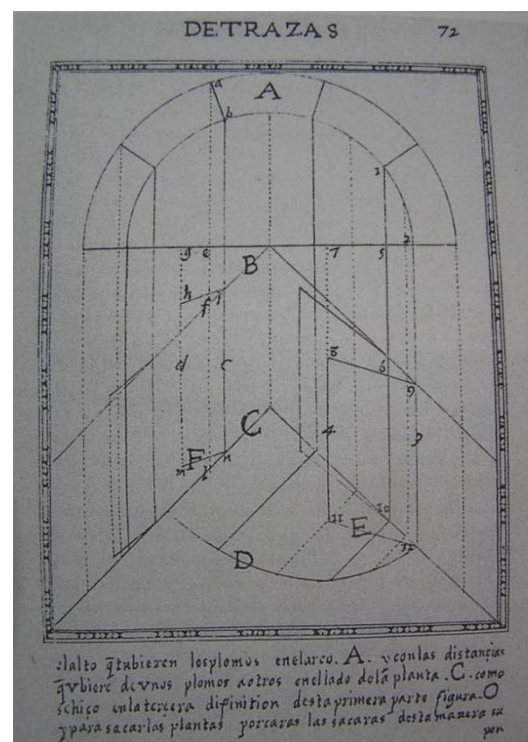


Figure 5. Corner Arch and Corner (Note: de Aranda, G. M., 1986, drawing.)

Both the examples given by Palacios et al. (1990), of corner arches correspond to passages with a single vault without changes of direction and without intersection, such as the examples of the Castle of Sabiote (Jaén), the Cathedral of Coria and Plasencia (Cáceres), for the corner arch cases, or those of the Palace of Pizarro in Trujillo (Cáceres) which illustrate the examples of corner arches.

The corner arch of the Sacristy of El Salvador differs fundamentally since it is an intersection of two vaults so that the axis of the entrance turns halfway in the area formed by these vaults as an antechamber to the door. This can be seen in the drawing shown in Figures 6 and Figures 7.

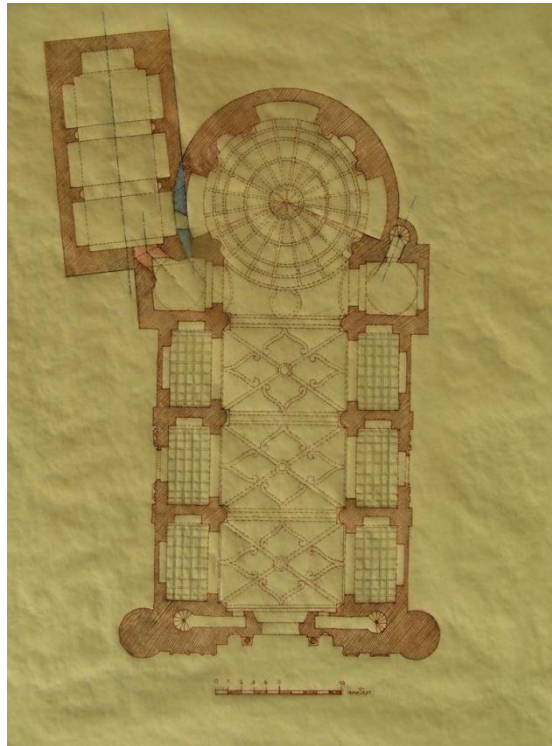


Figure 6. Position of the Axis of the Chapel in Relation to the Axis of the Church (Note: By the author Acitores, A., 2005, drawing.)

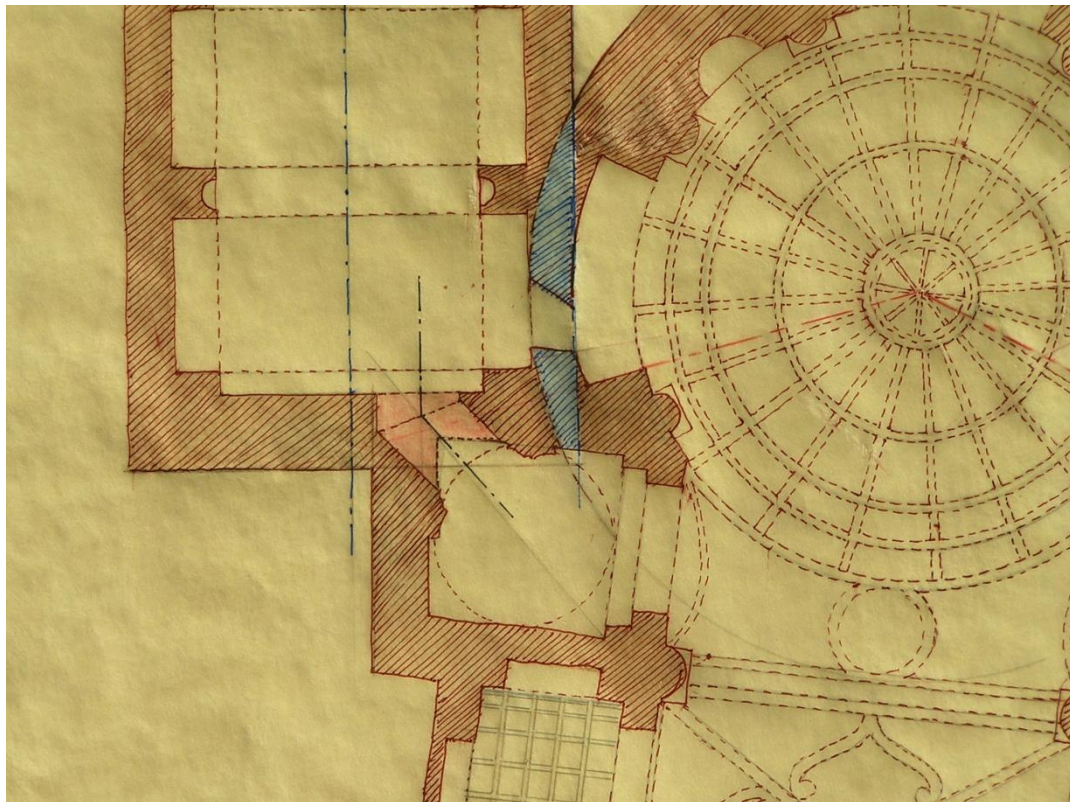


Figure 7. Zoom of the Intersection (Note: By the author Acitores, A., 2005, drawing.)

In the caption of the photograph illustrating this entry, Palacios et al. (1990) write:

This arch connected the nave of the church with the sacristy through a corner, an irrefutable demonstration by Vandelvira of his knowledge of the art of masonry. Note the deformation of the arch's head, which approaches the plane of the imposts (Palacios et al., 1990).

This small vaulted space, whose height corresponds to the total height of the door, is sufficient to create a transition, a tunnel, between spaces capable of increasing the sensation again when changing space. In short, there is a transit between one space and another, at a lower height, which allows the best physical and visual articulation between these spaces.

The technique called "montea" is the tracing on a scale of 1:1 or the real scale of the templates necessary to make the quartering, draw and mark the cuts of an ashlar, voussoir, or any other constructive piece. It has been used since the Middle Ages and forms part of the stereotomy process. On the other hand, stereotomy is a term that appeared in France in the 18th century and in Spain in the 19th century and is of a theoretical nature, sometimes included as part of descriptive geometry. Although it can be understood from the observation of the works left to us by ancient Rome that this art and the techniques necessary to carry it out were already known, there are no records or documents where this knowledge is recorded (Nitsche, Schreurs, & Serneels, 2023; Lezzerini, Pagnotta, Legnaioli, & Palleschi, 2019; Janssen et al., 2014).

Palacios et al. (1990) go on to describe the "decendas de cava in corner" (pages 114 and 115), in which he compares their layouts with those of Alonso de Vandelvira. The geometric problem of the entrance to the Sacristy is partially solved in them.

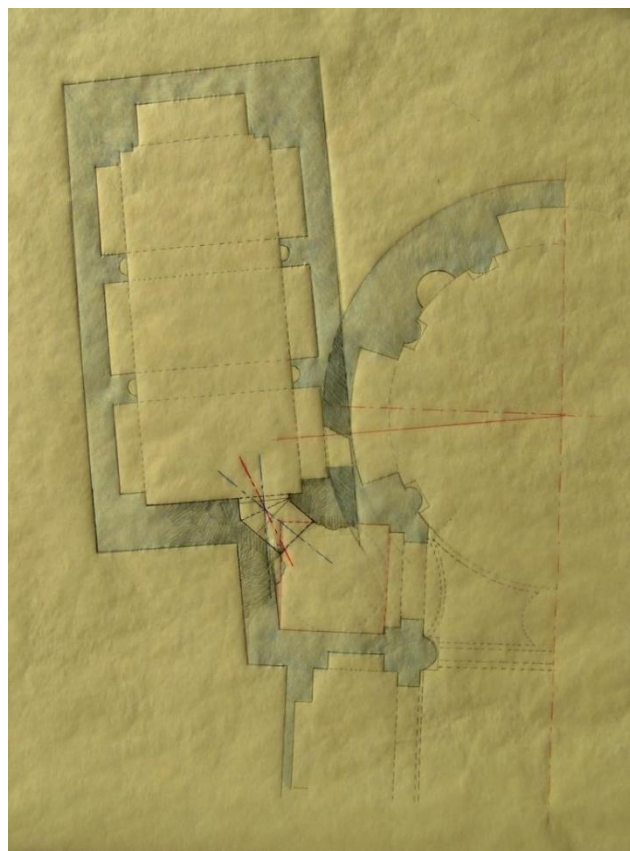


Figure 8. Intersection between Spaces and Rotation of the Input Shaft (Note: By the author Acitores, A., 2005, drawing.)

It should be noted that the longitudinal axis of the sacristy is placed tangent to the circumference that describes the plan and dome of the main chapel, as is the oblique passage towards the staircase of the tower on the right side. The small passage that goes from the sacristy to the rotunda is in the fragment of wall common to the sacristy and rotunda, where they are tangent, (marked in blue in Figure 6) and are at the height of the tower staircase, both points being symmetrical with respect to the main axis of the chapel.

The graphic analysis of this passage shows the resolution through the intersection of two barrel vaults. A previous corner passage and, before reaching the door, the passage axis is turned again by means of a cannon sectioning obliquely to its axis (space marked in salmon pink in Figure 7).

Whether or not the sacristy space was part of the family's palace house, adjacent to the church (this is uncertain), it can be affirmed that, with the type of rectangular floor plan of the sacristy, typical of the Spanish Renaissance, in a situation as close as possible to the volume of the chapel, tangent to the main chapel, sharing a

part of the wall with it, the position adopted was a very logical solution. It can be seen how the direct passage, perpendicular to the wall, would be very narrow and would not allow the symmetry of the sacristy space as it would interrupt the first niche arch on the right-hand side (Bristow, 2013).

From inside the sacristy, the direction of the passage located on one of the short sides of the rectangle of its plan is not perpendicular to the axis of the arch in the corner.

Finally, as in the cases of the oblique caissons or passages, the formal and geometric solution corresponds to a functional solution, either for the passage of light or (as in this case) for physical passage, there being a difficult communication between the two spaces.

It should also be noted that the left chapel is not a perfect square. Its back wall opens up a few degrees to take the direction of the axis of the sacristy. In other words, this wall is parallel to the axis of the sacristy. In this way, the axis of the corner passage forms 45° with the axis of the sacristy and not with the longitudinal axis of the nave of the chapel. [Figure 10](#) and [Figure 8](#) show the position of the sacristy if the chapel were symmetrical to the right and the final solution adopted with the intersection of spaces and walls, and the turning of the entrance axis. [Figure 10](#) shows the position of the sacristy if the chapel were symmetrical to the right. [Figure 9](#) describes the final solution adopted with the intersection of spaces and walls, and the turning of the entrance axis.

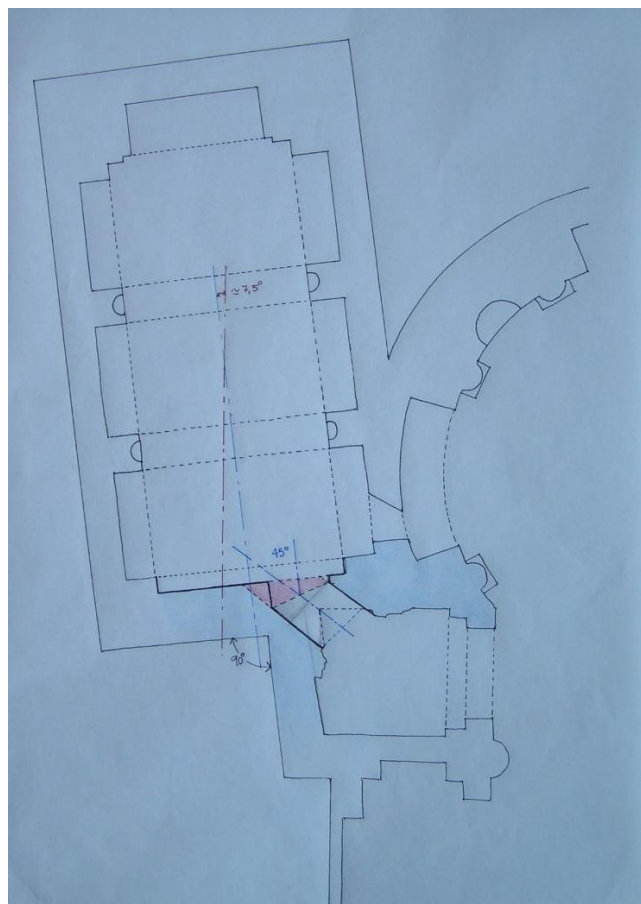


Figure 9. Angle of Rotation of the Sacristy (Note: By the author Acitores, A., 2005, drawing.)



Figure 10. Situation of the Cappella Symmetrical with the Final Position of the Chapel (Note: By the author Acitores, A., 2005, drawing.)

It is also noted that the solution of a corner arch with a single cylindrical vault would give a very large door dimension that would invade the axis. As the entrance is not located on this axis, the best solution is to leave it free and the doorway is clearly on one side. For this purpose, the door is installed in a trapezoidal threshold corresponding to a barrel vault, the axis of which turns again 45° with respect to the initial corner arch passage, taking the direction of the axis of the sacristy. [Figure 9](#) shows the oblique passage scheme invading the axis and angle of the turn of the sacristy.

The intersection between the two vaults is enhanced by the change of direction of the coffers that decorate and structure the vaults of the passage. The shape of these coffers is easily explained by a simple geometrical distribution. [Figure 11](#) shows the allocation of Coffers.



Figure 11. Vault Coffers (Note: By the author Acitores, A., 2005, Photograph of Sacred Chapel of El Salvador, Úbeda, Jaén, Spain.)

Moving from the inside to the outside of the sacristy, the first thing you come across is the doorway, a small, obliquely sectioned barrel vault, which turns all the projections of its coffers into trapezoids. Then, one moves on to the corner arch. This other vault has the same height but the span is greater, so the arch it describes (perpendicular to its axis) is wider than the barrel vault and coincides with the intersection of the two cylinders.

The rotation of the axes can be seen very clearly in the rotation of the keystones of both arches. From the keystone, the narrowest part of the arch, the number of cassettes per arch segment increases. The shorter section of the wall is divided in two by describing an interpolated curve between the extreme arches. The same is done in the longer section, resulting in an intermediate wedge that takes up the increase in surface area compared to the previous section. The horizontal divisions of the coffers are logically level in both vaults. This geometrically reasonable layout is what produces, as already explained, the aforementioned deformation of the coffers towards the impost lines, which reinforces the perception of depth and distance from the vertical axis of the corner.

In the façade window, there is another oblique step to allow the light to pass through and place it on the axis in the interior. Again a problem of functionality, in this case, between the exterior and the sacristy, as occurs with the passage from the sacristy to the main chapel, which is recorded in the longitudinal section of the sacristy. [Figure 12](#) shows the longitudinal section of the sacristy of the Sacred Chapel of the Saviour in Úbeda by Antonio Almagro (2014).

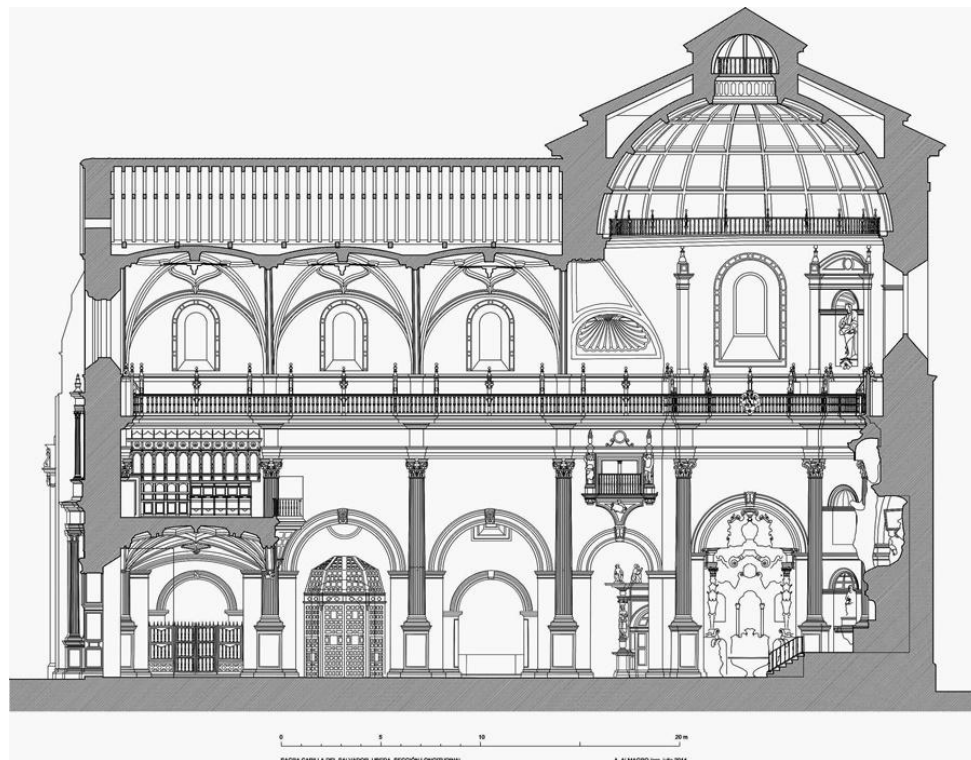


Figure 12. Longitudinal Section of the Sacristy of the Sacred Chapel (Note: By the author Almagro, A., 2014, drawing of the Saviour in Úbeda.)

It can be summarised that, although masterly and surprising, the location and shape of the sacristy are not so whimsical, nor is the entrance or connection with the church. Of course, any commentary on this entrance would have to be completed with an assessment of the whole aspect of its architectural composition, the decoration of which reaffirms all the aspects mentioned above.

DISCUSSION

Formal and Compositional Considerations

It was previously read in the caption to the image that Palacios et al. (1990) wrote: "Note the deformation of the head of the arch approaching the plane of the impost". This last aspect, already emphasised by other authors, has much to do with the perception and use of the knowledge of the conical or linear perspective system. The deformation of the head of the arch and of the impost and cornice lines accentuates the sensation of depth that the corner entrance could produce by itself, exaggerating the visual deformation of the conical perspective and giving the doorway of the passageway a greater grandeur.

This small vaulted space, whose height corresponds to the overall height of the door, is sufficient to create a transition, a tunnel between spaces, capable of once again increasing the sense of grandeur when entering the sacristy space. In short, there is a transit passage between one space and another, at a lower height, which allows a better physical and visual articulation between these spaces.

The location of the corner entrance allows it to be seen from further away from the nave. If this entrance were centred on the adjoining wall, the person would have to be almost inside the side chapel to see it and would have to do so from a shorter distance with much less space. Therefore, this corner entrance also makes it more visible and allows it to be realised on a larger scale.

The applied anamorphosis, the continuation of the tracing of the coffers and the head of the arch, creates a false forced perspective that enlarges the image of the entrance decorated with architectural and sculptural elements. The forced leakage of these elements, in turn, marks the direction of entry at the spatial level and amplifies the real distance.

The Virgin of Peace on the corner cornice enhances the vertical axis of the entrance, emphasised by the vertical decorations, vase and artichoke. The caryatids on the flanks, with baskets of flowers on their heads, are inserted into a vertical axis that is crowned at the top by two child figures, whose relational scale is considerably

larger than that of the figures addressing the Virgin. Larger and younger, these two figures accentuate the anamorphosis of the elements of the façade, from its central axis towards the ends.

Both its geometric layout and the play of changes of scale and deformations of elements reinforce the idea of depth of this vaulted space, small in size, but grandiose in conception, which precedes the door. This area articulates the double turn that leads from the chapel to the sacristy, making this a priori difficult connection beautiful and dignified.

It can be seen how Vandelvira has the ability of the great architects to combine the three principles of Vitruvius, *firmitas*, *utilitas* and *venustas*, in his writing "The Ten Books of Architecture" to achieve a masterful work in a small-scale intervention. Furthermore, like the great Greek masters, he was able to manage the control of human perception and the keys of conical or linear perspective to achieve a maximised spatial effect in a reduced space. All of this responded to a rigorous study of the geometry of the spaces of the Chapel and those adjacent to the sacristy. He had to take into account the result in the composition of the sacristy that this displaced door would have in order to achieve a coherent fit of all its interior elevations and compositional elements (window openings and niches, among others).

This study reveals the interdisciplinary implications he had to consider for his project. Some uncertainties remain about the physical form of the site at the time of construction and its belonging to the palace house. However, we can deduce that this work entailed a considerable study of the main directionalities so that the sacristy would have a design in accordance with the rectangular plan of the Renaissance sacristies. We, therefore, consider that the shape of the adjacent site had to be taken into account and partially conditioned the architect's decisions. One of them was that Vandelvira opted for the intersection of spaces. Thus, part of the sacristy wall shares an enclosure with that of the chapel, as we have already seen in [Figure 8](#), placing it tangent to the curved wall of the chapel.

This work also shows how drawing, in addition to being a tool for design, is a good tool for research, being, in some cases, essential. This is how each step can be analysed until the final solution is reached.

CONCLUSION

As a result of the study as a whole, it can be stated that all the decisions taken by Vandelvira helped to solve the difficult problem of connecting the new sacristy, which was not included in Diego de Siloé's project. In order to do so, he took into account the initial conditions: the shape of the chapel and the place and shape of the adjacent site.

The solution improves the passage from outside the sacristy and from inside, choosing the best solution from among all the possible options. The passageway resolved in two passages with an intersection of oblique cannons allows the axis of the new room to be respected, providing an adequate width of passage (greater towards the chapel and slightly less but sufficient to the interior of the sacristy) on both sides. It allows the passage to be enhanced and visualised from a greater distance, as it is located in the corner, as has been explained and created an important entrance to the sacristy, which is approximately one fifth of the total surface area of the complex.

The corner solution provided improves the passage from the outside of the sacristy and from the inside, choosing the best solution among all the possible options as explained above. In turn, the passageway resolved in two passages, with the intersection of oblique barrel vaults, allows the axis of the new hall to be respected, providing an adequate passage width (wider towards the chapel and slightly narrower but sufficient towards the interior of the sacristy) on both sides. Without the turning inside the passageway, the width of the door inside the sacristy would have been excessive.

The place chosen for the passageway allows the door to be seen from a greater distance, as it is located on a corner, as explained above, creating an important entrance to the sacristy, which represents approximately one-fifth of the total surface area of the complex.

It is concluded that the masterful use of anamorphosis is in perfect harmony with the arrangement of the chests and the geometry selected for the corner passageway, creating a large work on a small scale. This is supported by sculptor Esteban Jamete's handling of the scales of the figures and their position, which appropriately accentuates the central axis of the passageway and the verticality of the jambs on either side.

The passage through the threshold is logical and very interesting, producing this articulation from one space to another, absorbing the rotation of the axes of the chapel and the sacristy. In turn, this passage of lesser height gives way to a space of great importance, which is reinforced by this intermediate passage.

This is why Vandelvira's work is perhaps risky and novel but full of care and wise decisions. Today, his work

remains to demonstrate the three values that, according to Vitruvius, inspire architecture: Firmitas, Utilitas and Venustas. These three elements together help to define the best solution both functionally and formally. The formal component fulfils its symbolic function and also allows the best possible connection by supporting the best functional solution. This solution would not have been possible if the architect, Andrés de Vandelvira, had not been a great scholar and connoisseur of the art of stone masonry, but he certainly proved to be one.

Once the study has been carried out, it can be concluded that Drawing has been a decisive tool for understanding the geometry developed. This must also have been the case for Vandelvira's decision-making in the project for the sacristy of the Sacred Chapel of the Saviour. In this research, graphic analysis has been of great importance to give visibility to the different aspects such as the superimposition of walls, the angles of rotation of the axes, alternative positions and widths of steps, etc. Therefore, the drawing allows us to understand and explain the reasons for the design, both at a constructive and technical level as well as at a functional and formal level.

Thanks to this research work it is possible to understand the hidden details of this small but complex project by a great master who knew how to provide the best solution at all levels, spatially, functionally and formally. This project by Vandelvira is one of the great works of the Renaissance.

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ETHICAL DECLARATION

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