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## VALENCIAN RECONQUEST CHURCHES. STUDY OF THE ARCHAEOLOGICAL REMAINS FOUND IN THE ALGEMESÍ CAPILLA DE LA COMUNIÓN

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### Abstract

The present paper deals with the examination and research to the vestiges of an ancient church discovered in the basement of the Algemésí Communion Chapel, dating back to the beginnings of Christianity in the city. Considering the disposition of the constructive elements and the documented historical facts that date back to the first parish in the 13<sup>th</sup> century, it was deduced that the remains found were part of a temple with diaphragmatic arches and a woody roof. These facts are the paradigm of the ecclesiastical architecture that prevailed, by its execution speed, in the kingdom of Valencia after Jaime I reconquest. The study includes the comparison with other buildings of the same nature that allowed reconstructing its hypothetical volume, as well as the analysis of the techniques and materials that shaped its structure. Its identification ascribes another example to the Valencian protogothic architecture.

**Keywords:** Algemésí communion chapel; Construction history; Diaphragm arches, Reconquest church; “Mare de Deu de la Salut” church; Valencian gothic architecture.

## 1. INTRODUCTION

In 1247, once found the image of *Mare de Déu de la Salut*, it was transferred to the town parish; giving asylum to which, for his devotees, he would personify the allegory of the divine for centuries. Such is the veneration that has been professed to it that, every 7<sup>th</sup> and 8<sup>th</sup> of September, the melodies, dances and representations – both religious and profane – linked to the celebration of his finding, turns the streets of the town of Algemésí (Valencia/Spain) into a live museum that still lingers in time. This liturgical act, from November 28, 2011, holds the title of Intangible Heritage of Humanity by UNESCO; in addition to being declared, previously, Cultural Interest, Festival of Tourist Interest, Immaterial Treasure of Spain and one of the

7 Wonders of Valencia. The emotional attachment of the inhabitants, to their history, has made the city of Algemésí a cultural reference.

At present, at the foot of the consecrated minor basilica of *San Jaime Apóstol* and under the patronage of the city of Algemésí, the church that occupies the place where it is intended to settle its supposed older predecessor, receives the name of, *Capilla de la Comuni6n* (Chapel of Communion). For centuries, allusions to the possibility of holding the remains of a Saracen building in its foundations have been weighed on this temple; so much so that, his immediate environment, in his day was included in the inventory of archaeological deposits with the name of, Arab farmstead.

Four years after the reconquest, when the image of *Nuestra Señora de la Salud* was found, Mosén Curza already said in her story that she was taken with all decency to the parish church; Then, Algemésí had it. What was this church? In our mind this church was where today we have the *Capilla de Comunión* and it was the mosque of the Moors, converted into a Christian church [1].

## 2. ARCHAEOLOGICAL PERFORMANCES

Taking into consideration testimonies that promulgated the existence of a buried temple, a series of archaeological campaigns were programmed in the course of a year (Figure 1). At first, two explorations were conducted during the months of July and August 2017; stopping the work to clean up the church for the patron saint festivities, resuming in October of the same year. Subsequently, given the positive results, a new campaign was proposed and the first one broadened with the purpose of gathering as much data as possible; fact that would materialize during the months of June and September of 2018.

**Exploration 1** brought to light a succession of elements of different nature and historical period. The fragments of greater antiquity corresponded to the vestiges of one, more than probable, church of reconquest. In its extension, it was possible to identify what, apparently, gave signs of being the wall of lateral closing of a tower. Given the parity in relation to the constructive technique used -both in the execution of the walls of the now buried church, as in the tower - it was well to assume that the remains of the church and those of the hypothetical tower were built simultaneous.

**Exploration 2** was carried out with the objective of finding the wall parallel to the one found in the first one, in order to determine the width of the original church. But, due to its particular location - at the foot of one of the side chapels, prior to finding the structural element sought, the remains of an ancient individual burial were found on it.

Regarding **exploration 3**, the purpose was to try to determine the length of the pre-existing church in the subsoil in the case of finding the corner at the foot of the current main altar. But, nevertheless, the archaeology refuted all presumption on the matter, having not been possible to accurately specify the real longitudinal dimension of the nave. The discovery of the vestiges of a new diaphragmatic arch and not of the meeting between walls of closure, came to testify the presence of a gallery more than expected.

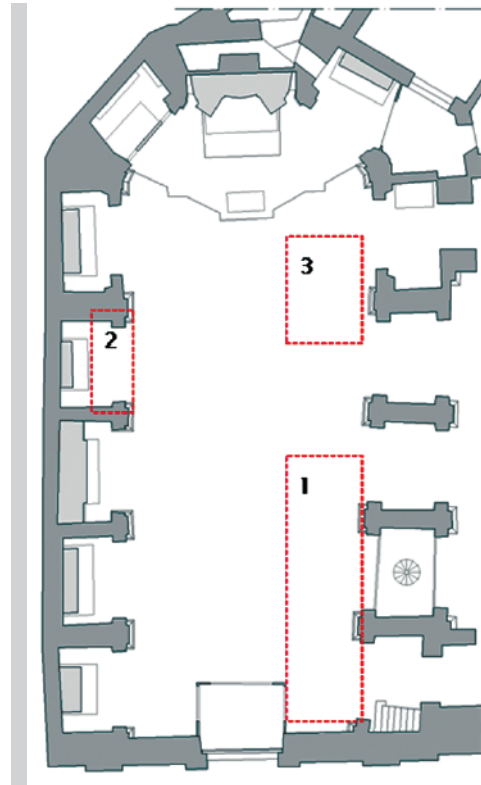


Figure 1. Archaeological exploration conducted in the interior from the *Capilla de la Comunión* of Algemésí. Source: authors

## 3. ANALYSIS OF THE VESTIGES

### 3.1. Brief history of the churches of diaphragm arches and wooden roof

When the ecclesiastical architecture in areas of the Spanish east is examined, it is necessary to note the role played by the churches of reconquest for their history. These, came off from the urgency to Christianize the vast territorial extension that, after centuries under Muslim domination, were occupied by the troops of Jaime I in the XIII century.

Diaphanous constructions, with a single rectangular nave, were the result of a sequence of parallel ogive arches, placed transversely to the main axis. The definition of the internal space, was at the mercy of how the perimeter fence was arranged with respect to the stirrups.

Emulating the churches of the Franciscan order-which, pro-mulhering asceticism, held that “in no way should the churches be vaulted, except in the presbytery” [2] - the roof was solved by a roof of wood that, depending on the back of the arch, could be a gabled roof or even a flat one.

Unconditional to the architectural foundations of Christianity, these austere parishes, though devoid of all apse, continued to direct their heads to the rising sun; and, the Romanesque savoir faire took over its covers, where, a bare semi-circular arch with large dove-framing frames the only point of entry of natural light.

### 3.2. Type of plant

Validated the premises that pleaded for the existence of an underground construction, everything seemed to indicate that the archaeological remains found under the *Capilla de la Comuni3n* belonged to an old church of diaphragm arches (Figure 2). Temples linked to the Christian repopulation, which, “became the most frequent and usual formula for the construction of churches in medieval Valencia” [3].

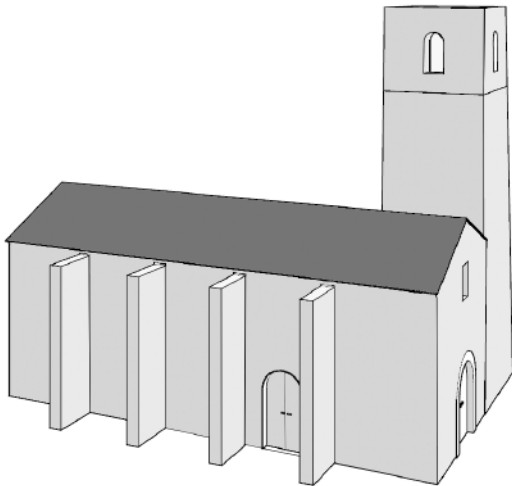


Figure 2.  
Exterior three-dimensional modelling of the disappeared Algemesí diaphragm arches church. Source: authors

The pre-existing parish would be presented as a modest open space with a woody coffering with double slope, with a morphologically rectangular mono nave plan (Figure 3), divided into five sections by marked arches and whose buttresses would extend outwards beyond the enclosure. Lacking any apse, its flat head-like the current presbytery – would respect the traditional eastbound orientation. In terms of access, two possible hypotheses could be able: one on the western flank, since “the entrance, frequently, is lateral. [...] and in buildings that have not been enlarged the door is located in the penultimate section of the nave” [3]; and another, coinciding with what is now

the threshold of the Chapel, under the shelter of a sturdy bell tower.

Paragonizing the discovered vestiges with other parishes of the same typology and historical period, even having modified its physiognomy, the structural organization of the space was shown in perfect communion. The church of San Pedro de Xàtiva – before reversing the trajectory of the spectator – as well as El Salvador de Sagunto – with the exception of the polygonal apse – have a plant analogous to the one with which the liberator, Jaime I, would command to rise, the foundational church of Algemesí.

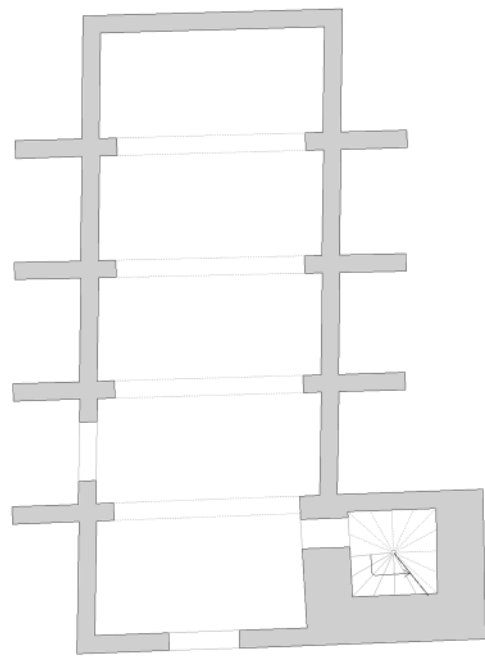
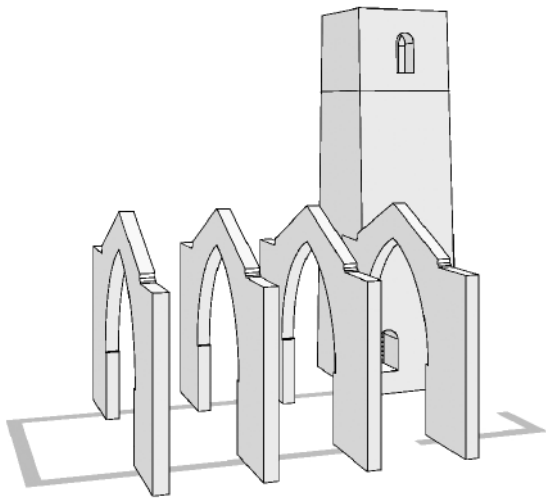


Figure 3.  
Hypothetical plant of the church of Algemesí in the thirteenth century. Source: authors

### 3.3. Diaphragm arches

Transversal element of imposing majesty that, in times of post-conquest, stood out in the Valencian ecclesiastic architecture as a defining piece of its constructive idiosyncrasy.

Covering large spans, arches arranged as ribs were responsible for supporting all the weight of the cover (Figure 4). The pointing of its curvature translated into a lower thrust that, even so, needed robust stirrups to counteract the efforts. Its layout conditioned the final result of the church; being able to find true diaphanous spaces, in which, it gave the impression that the diaphragm arches started in height support-



**Figure 4.**  
Three-dimensional modelling of the diaphragmatic structure of the disappeared church of Algemesi. Source: authors

ed by simple brackets embedded in the wall. Church of San Pedro de Xàtiva (Figure 5 left) and others that, invading part from the nave, they were evident from the level of paving, Church of Salvador, Sagunto (Figure 5 right).

After several expeditions all around the Valencian Community, the multiplicity of examples using stone as material for the execution of its arches, showed the constructive preference of this type of building. However, in the region of La Safor and La Plana Baja, variants were found in the brick factory, such as: the church of San Antonio Màrtir de la Font d'En Carròs and, although the chronology is longer, the old Church of La Sangre of Nules (Figure 6). In the thirteenth century, the Christian church located in the Algemesi farmhouse, belonged to this small group of temples in brick; solution that “appears more frequently in alluvial and scarce stone areas” [4].



**Figure 5.**  
Church of San Pedro, Xàtiva (left). Church El Salvador, Sagunto (right). Source: authors



Figure 6.  
Ancient Church of La Sangre, Nules. Source: authors

The remains found, although limited in terms of vertical projection, were sufficient to reveal the hypothetical structuring of the diaphragm arches. With a wall thickness of 60 cm, the placement of the pieces followed the configuration of double layer factories; whose parament, keeping the general lines of the

American rigging, conformed to a predetermined number of rope courses. The result would be that of a diaphragmatic arc conformed by the orderly sequence of: four courses placed on a rope plus another one to blight, in charge of “sewing” the factory, breaking the continuity of the nucleus (Figure 7).

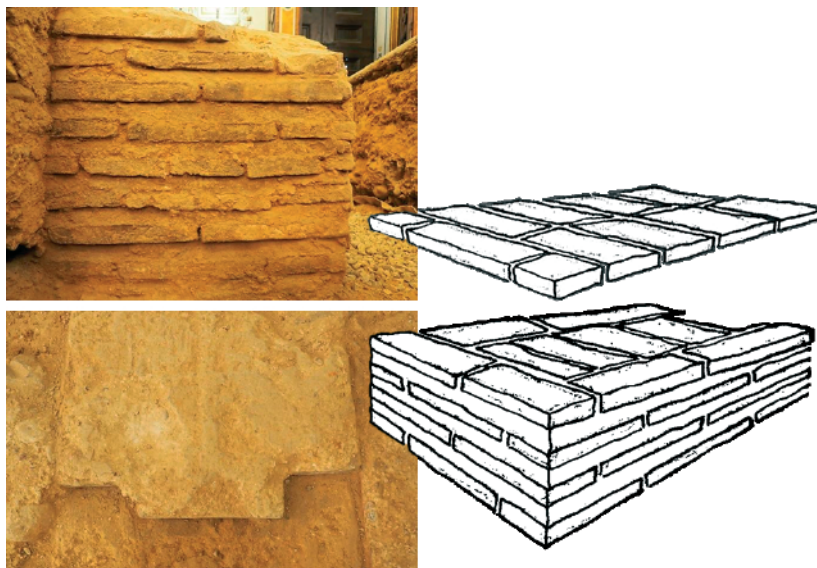


Figure 7.  
Archaeological remains and sketch of the brickwork of the diaphragmatic arches of the 13<sup>th</sup> century Algemesí church (exploration 1).  
Source: authors



**Figure 8.**  
Vestiges of one of the buttresses of the primitive church of Algemésí (exploration 1). Source: authors

In contrast to the certainty that, regarding construction and its implementation, the vestiges provided, the references to their traces – having recovered a tiny part of the total height of the arches – could not be more than mere conjectures based on a comparative study with other related buildings, to use in order to recreate the possible appearance of the arches.

The configuration of the buttresses with respect to the enclosing wall (Figure 8) was an indicator of what its original form might have been. The stirrup, remaining part of the interior of the nave, would act as a base on which the arch would rest. Based on the premise of Arturo Zaragozá who argues that, “the height of the starts, except in the case of convent churches or large parishes, is very low, standing at a height ranging between two and three meters” [3] said sockets could have had a height of around 3’00 meters.

Making a synthesis regarding the study, the diaphragmatic structure that formed the founding church of Algemésí, could have been executed according to the following characteristics: masonry arches forty centimetres thick that would reach eight meters in height, arranged on a plinth of about three meters high and sixty centimetres thick that, interrupting the wall of perimeter enclosure, would extend to the exterior taking the form of stirrup, exceeding three meters in total length.

### 3.4. Enclosure walls

While it is true that the interventions carried out in this type of buildings have muddied the legibility of the construction techniques used at the origin, the boundary walls used to be the most widespread solution in “the central regions and especially in the south” [4] to surround the perimeter of the nave. Since ancient times, the boundary wall or “tabiya” has tended to be associated with boxed blocks of rammed earth, but independently of the raw material that composes them, the auxiliary element used during its execution - the rammed earth- and its putting into work are the common denominator that gives its name to this type of traditional construction. As the well-known architect Leopoldo Torres Balbás pointed out: “the boundary wall, therefore, is a constructive process and not a material” [5]. Ergo, the most suitable definition would be one that “despite its historical development and its popular use the term tabiya should only refer to the technique that uses boards to form a formwork that is filled not only with soil but with other types of materials, that is why we can speak of earth boundary wall or boundary wall of lime and stone, etc.” [6].

According to the archaeological remains found in the Algemésí Capilla de la Comunción, which stood out for their constructive singularity, the enclosure was built by walls of concrete wall 60 centimetres thick (Figure 9); variant that, according to Fray Lorenzo de San Nicolás, was composed of a heterogeneous and strong mortar of “small stone and lime, all taken out to tamper” [7].



**Figure 9.**  
Ruins of the fence wall (exploration 1). Source: authors

The concrete wall could owe its origins to the Roman *opus caementicium*; for, echoing this in “I quattro libri dell’architettura”, Andrea Palladio defined this technique as a “structure of replenishment, which is also said caxon, the old ones did it with tables placed vertically or on edge the space that should be the thickness of the wall, and fill it with mortar. In this way the wall was rising to portions” [8].

This constructive typology used to be used in walls of great thickness as they were, the defensive walls. Its high resistance against horizontal thrusts, made this solid mass an optimal solution for the fulfilment of its commitment; stay unharmed after an attack. In the capital of the Ribera Alta, there still remains what

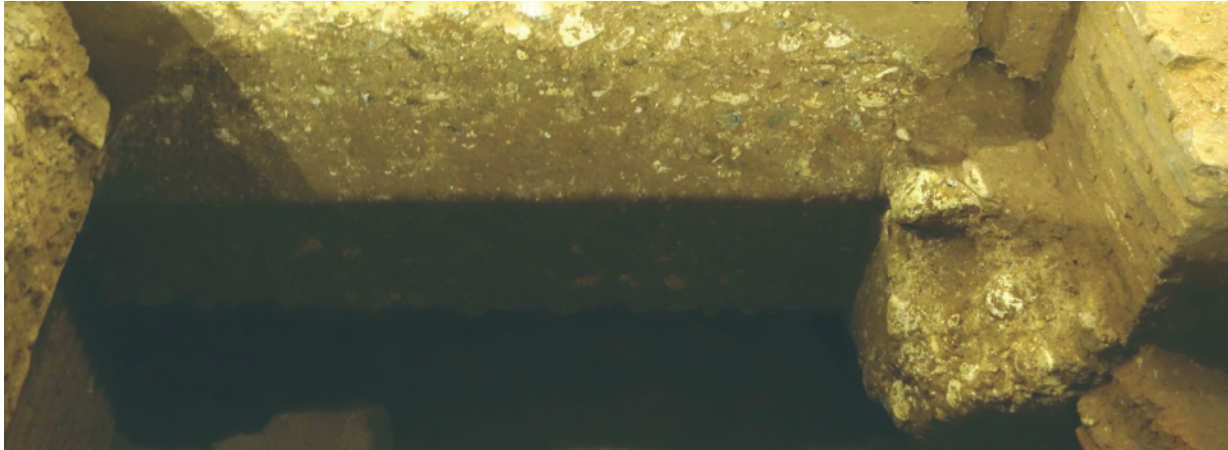
could be considered, from a constructive point of view, the antecedent closest to the archaeological remains that are being analysed, the Islamic walls of the city; It also combines walls of concrete with arched elements of brick.

In the absence of conclusive data, as the size of the vestiges avoid it, it could be said that: the lime concrete wall that formed the perimeter of the XIII century parish of Algemesí, was executed by means of a continuous shuttering. Length equal to the space between diaphragm arches (Figure 10) – with a height of boundary wall comprised between sixty and ninety centimetres, which, would modularly increase the closing to the cornice line.



**Figure 10.**  
Hypothetical length of the boundary wall (exploration 1). Source: authors





**Figure 11.** Foundations: Boundary wall in the central area and, on the right side, one of the diaphragm arches (exploration 1). Source: authors

### 3.5. Foundation

During the archaeological excavation, two different types of foundation were identified (Figure 11): one relative to the diaphragmatic arches and another one of the wall itself.

But, regardless of the constructive element intended to sustain, the foundations of the temple were supported by a thin layer of regularization, made up of river boluses of different sizes (Figure 12); for, “whatever the type of wall that is built must sit on a well-leveled foundation” [9]. This was also in charge of the uniform distribution of loads to the land.

Analysing in the first place the running foundation of the diaphragm arches and their buttresses, it was observed that, the brick factory supported directly on a rigid footing basement made with cyclopean concrete; a combination of lime mortar with stones of considerable size embedded in the mass during concreting. With this system, as they were unifying their components, filling the interstices between edges with the mortar, the piece took the homogeneity and precise solidity; since “evaporated water it contains, acquires a hardness and consistency such that it can be considered as true artificial stone” [10].



**Figure 12.** Regularization layer (top view, exploration 1). Source: authors



**Figure 13.**  
Roofing church San Pedro, Xàtiva. Source: authors

On the other hand, the foundation of the wall corresponded to the prolongation of the boundary wall that remained embedded in the ground. In this case, being the enclosure conceived to support, basically, the demands due to its own weight, the “boundary wall concrete, as consistent as our current concrete and cement constructions” [11] guaranteed the safety of the structural set.

### 3.6. Roofing

Another characteristic element of the re-conquest churches was their coverage system. Usually, this consisted of a wooden framework that, resting on the back of the diaphragm arches, gave shape to a gabled roof, finished with Moorish tiles. The meeting between the two gables was often hidden by creating a horizontal line as an “almizate”.

Over the years, the degradation of the wood has led to drastic interventions that, in order to improve its conservation status, have led to the total or partial loss of the medieval roof. In spite of this, some examples of what could have been, a possible adaptation of

the Islamic-style alfarjes in buildings of Christian worship, are still preserved; as it is, the coffered ceiling in San Pedro de Xàtiva (Figure 13).

“This idea is reinforced if one considers that to cover these constructions Mudejar workforce could have been used, in which there was tradition for the trade of carpenter” [4], demonstrating the incessant use of native construction techniques, without matter or worry about what the prevailing religious beliefs were.

Regarding the disappeared church of Algemesí, taking into account that any hypothesis would not stop being mere speculation – because no remains of woody material have been found – the possibility that its roof could be adjusted to a wooden entrance carved with Saracen workmanship was considered correct.

### 3.7. Façade entrances

In this building typology, the most usual way to solve the access to the temple was through Romanesque style entrance (Figure 14); where delicate archivolt on



Figure 14.  
Hermitage of San Roque de Ternils, Carcaixent. Source: authors



Figure 15.  
Bell tower church Santísimo Cristo del Salvador, Valencia (left). Old bell tower Santa Catalina church, Alzira (right). Source: authors

a molded impost or, failing that, a simple semi-circular arch with a large stony dovetail framed the entrance.

Again, based on the archaeological information gathered so far, there was nothing to do but venture to hypothesize the possible configuration of the threshold. Underline that, the absolute absence of stony material, led to theorizing on a brick cover. So it could be said, almost with total conviction, that the openings of access to the temple could have been of great simplicity with doors framed by a semi-circular arch in brick that, piercing the boundary wall, opened the liturgical space to the Exterior.

Another aspect to take into account with its supposed layout, resided in the premise of Arturo Zaragoza. He stated, "These entrances have a system of constant proportions; the height of the imposts is equal to the width of the entrance or the entire span is inscribed in a circle" [4]; guidelines that, when materialized, modelled a harmonious entrance.

### 3.8. Bell tower

Without neglecting the Romanesque building practices, the parishes with diaphragm arches and wooden roof, used to have a robust bell tower connected

to the building, quadrangular, solved with block stone, which was accessed from inside the church. These vertical constructions, devoid of all ornamentation, broke their continuity with a bare line of impost that, encircling its entire perimeter, delimited the group of bells.

From the few examples of Christian colonization that have managed to remain standing, some of them have been forced to partially rebuild the upper part in order to consolidate them (Figure 15 left) and others that, according to the different artistic currents, have been so altered that they have lost their original late-Romanesque countenance (Fig. 15 right).

"Except for the openings, closed with semi-circular arches, which house the bells, nothing differentiates them from the defensive towers, a role that they also had to fulfill" [3]. The same must have represented the bell tower of the 13<sup>th</sup> century for the incipient Christian community of Algemésí. The archaeological remains revealed that, like the walls of the church, the tower was erected with a boundary wall of lime mortar; a technique used in Muslim defensive towers (Figure 16) for being "the texture of a mud wall, [...] of a proverbial solidity: an almost indestructible concrete" [11].



Figure 16.  
Tower of the castle of Aledua, Llombai. Source: authors



Figure 17.  
Lateral wall of the 13<sup>th</sup> century bell tower, the bottom of which used the buttress of the diaphragm arch to close the structure (exploration 1). Source: authors



Figure 18.  
Lateral wall of the 13<sup>th</sup> century bell tower, the bottom of which used the buttress of the diaphragm arch to close the structure (exploration 1). Source: authors

The powerful wall found in the subsoil (Figure 17) – 1'60 meters thick; even to the tower of Albal and Serra, both Islamic – had to be part of a structure slightly troncopiramidal that, narrowing as it took height, settled on a regular base of 4'50x6'00 meters crowned, with all probability, with a cabin designed to house the bells.

For all these reasons, it is good to believe that, in the medieval center of Algemesí, a bell tower could have been erected with techniques of Muslim descent that, faced with a warlike conflict, acted as an authentic fortification for its locals.

Going into its structure, there was no more archaeological evidence than remains of some bricks embedded in the wall; thus, the description of the hypothetical element of vertical communication had to adapt, consequently, to the morphology of the supposed tower.

The stairs used to be solved by prismatic steps in stone that ascended converging to the same axis. These are known as spindle spiral stairs or central turnip. It was usual for the perimeter box that contained them to have a circular shape. But once again, another of the elements of the disappeared temple of Algemesí again disagreed with the pre-established constructive canons; it could have been executed, in brick, a spiral vaulted staircase of the type “La vis de Saint Gilles” of square plan, where the helical dome – of quadrangular generatrix- would fit the interior perimeter of the tower (Figure 18).

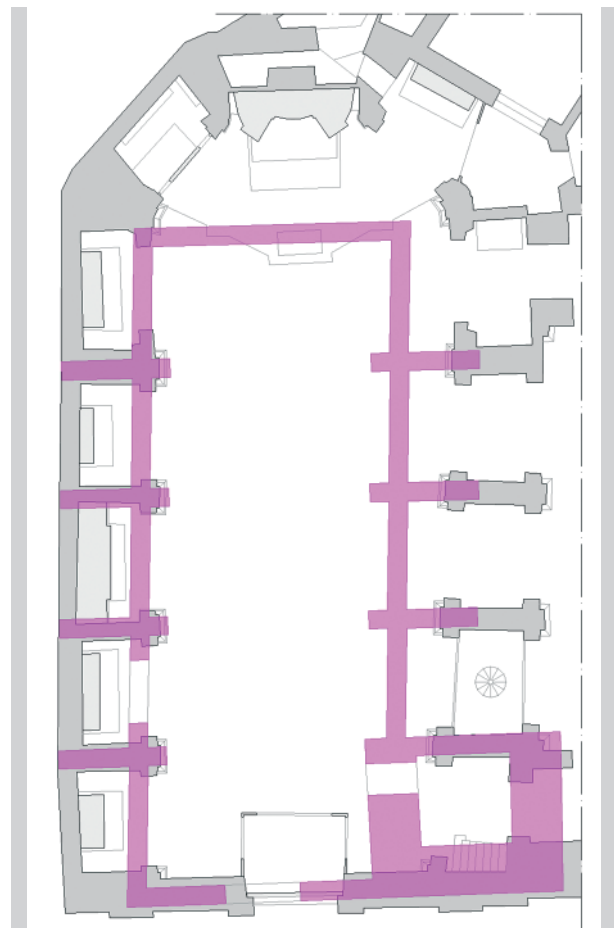
#### 4. CURRENTLY

After the first century behind the Christian occupation, the development of the population called for the construction of a major temple. A new structure that closely adhered to the vaulted ecclesiastical pattern of Levantine Gothic; a wide sacred enclosure, generated from a mono-nave plant with lateral chapels and polygonal apse, whose general dimensions in nothing differed from the current *Capilla de la Comuni3n*.

It is necessary for the constructions to be made on fixed points, sufficiently capable of resisting the weight of all the materials that constitute them, [...] in order to provide the works with a solid and resistant base, that is, a good foundation [10].

The architects of the new church, aware of the firmness with which its predecessor was forged, opted to reuse its structure as a supporting base, generating an irregular plant with marked skewness. Such a determination implicitly involved the mutilation of the old

building until it reached the required flooring level. The walls that gave form to the chapels started from the very surface created by the cutting of the diaphragmatic arches of the 13<sup>th</sup> century; without more connection than, a lime mortar slurry in charge of guaranteeing the interrelation between the founding vestiges converted into a foundation and the new vertical structure. On the right side, these lateral spaces partially supported the vestiges because, as can be observed (Figure 19), the diaphragmatic arches would not pick up the entire length of the new transverse walls. But part of those walls drawn by project requirements, which required the widening of the central nave would have needed a new foundation connected to the primitive church that was to be buried. On the contrary, on the gospel side, the new counter-structure would fully support the original stirrups.



**Figure 19.** Hypothetical plant of the church of Algemesí in the 13<sup>th</sup> century with respect to the floor of the current *Capilla de la Comuni3n*. Source authors

## 5. CONCLUSIONS

The archaeological intervention came to certify the permanence of the beginning of a religious building in the subsoil. Those that per se, today converted into the root of part of the *Capilla de la Comuni3n*, symbolize the germ of the ecclesiastical architecture of the city of Algemesi. That modest church that, after the reconquest, welcomed into its bosom the image of the *Mare de D3u de la Salut*.

However, the constructive analysis disproved the theories that, since time immemorial, spoke of the existence of a mosque in the bowels of the Chapel; gossip based on the premise that, having been a farm under the jurisdiction of Alzira and “[...] being their inhabitants Muslims, they would have some place to pray” [1]. But, although it is true that, due to its architectural typology, the vestiges found were to be included within the select group of churches with diaphragm arches and wooden roofs that were built with urgency in recently Christianized Valencian territory, the techniques employed denoted a clear Saracen influence.

With everything and with it could well be said that the discovery of the remains of the oldest church of Algemesi people is a milestone for the most archaic Valencian gothic architecture when added to the list of diaphragmatic constructions of the Valencian Community.

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