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THE ISLAMIC BATH (*HAMMAM*) IN AL-ANDALUS. A SURVEY OF ITS MORPHOLOGICAL AND URBAN ASPECTS

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As were the *thermae* in the classical world, the baths in the Medieval Islamic period were a fundamental aspect in the everyday life of Muslim society¹. A result is the presence of baths that have survived unaltered in many Muslim countries today².

There appears to have coexisted two types of bath installations in antiquity: the *thermae*, or large public baths, and the *balnea*, of a private nature characterized by dimensions considerably smaller but with diverse sizes³. In the West, at the beginning of the 5th and 6th centuries there only appears this last type of construction, normally associated with the ecclesiastic elites. Up until the 6th century it is these smaller baths that are constructed in Byzantium with a public character, serving as a model for the first Umayyad *hammam*/s. If we compare them with the *thermae* we will observe significant changes: a decrease in size, disappearance of adjoining rooms (library, gym) and the reduction of the *apodyterium* in comparison with the rest of the adjoining spaces.

The baths in the Islamic world preserved the social, hygienic, and therapeutic functions of the classical world. They also acquired new ritual aspects consistent with the precepts of the religious followers of Islam. The baths that served a public function habitually became pious endowments and were considered essential in a Muslim city. Their presence in palaces and Umayyad residences from the first

*Translation made by Enrique Rey and supervised by the archaeologist José M. Torres Carbonell.

¹ This work was made within the framework of the Project of the VIth National Plan for Scientific Research, Technological Innovation and Development 2008-2011, titled "The Palaces of the Peninsular Middle Ages: exchanges and influences between Al-Andalus and the Christian Kingdoms".

² GROTZFELD, 1970; KENNEDY, 1985, p. 8. In Palestine the institution of the bath underwent an abrupt decline during the 20th century, to the point where many closed and the few that did survive were used solely by members of the poor class of the community (DOW, 1996, pp. 1-11).

³ For the Orient see DOW, 1996, 32-36; concerning the modest *balneas* of the Occident from the 4th to 7th centuries, normally associated with religious and episcopal nucleuses, see VOLPE, ANNESE and FAVIA, 2007.

half of the 8th century is evidence of their importance in courtly life, including official protocol.

As in the Orient, in Al-Andalus the bath constituted a fundamental element in city life according to manuscripts and archaeological work. In this sense it is convenient to remember some references related to the foundation of cities in which their construction played an essential part. When Al-Fath b. Musâ b. Di-l-Nun sets up his court in the recently created city of Uclés in the year 775, the first task he undertakes is to construct a mosque and a hammam¹. At the moment that the emir 'Abd Allah authorizes the founding of Badajoz, he orders the erection of a congregational mosque and another oratory within the citadel; also "...he ordered for the edification of the baths that can be found next to La Puerta Villa"². In the same sense it is worth interpreting the cited statement to the capture of Mallorca by Isam al-Jawlani, whose first orders were the construction of mosques, dwellings and baths³.

In the same manner as shops and other properties, the baths could belong to the state, who would lease them to particular entities; rents were collected by the *alcablero* (tax gatherer, from *alcabala*, a tax), who was the individual charged with collecting taxes in the name of the public treasury, of which Ibn 'Abdun held a poor opinion of, and whose duties were controlled by the *cadî*, whose task was to be vigilant that no abuses were committed against taxpayers⁴. But the baths could also be private property as the *faqîh* Ibn Rushd made clear in a *fatwa* related to the *kura* (province) of Galera in the Almoravid period, which illustrates for us the legalities of the baths and the problems that could arise in this respect⁵. Evidently, as any other property, the baths could be constituted as a *waqf* (pious foundation) paying taxes to the treasury of the Muslims.

1- Historiographic Approximation

In spite of the importance of the bath in the traditional Islamic city, general studies on this topic are scarce and normally of a local or regional character. The first works stretch back to the colonial period

¹ TORRES BALBAS, 1971, p. 58.

² AL-HIMYARÎ, 1938, p. 58; VALDÉS, 1998, pp. 166-171.

³ ROSSELLÓ, 1968, p. 33.

⁴ IBN 'ABDÛN, 1948, p. 106.

⁵ FIERRO, 2000, pp. 153-189.

and were spearheaded by orientalist scholars such as Edmond Pauty, who wrote a monograph concerning the baths of Cairo and was published in 1933. In 1944, the same author studied the baths of Rabat-Salé in an article; that despite its scant size, presented abundant graphic material, especially sketches of the building layout as well as sections of it. A little time prior to this, Claude Ecochard and Michel Le Coeur published an extensive work relating to the baths of Damascus¹. Henry Terrasse also made an interesting contribution to the subject in 1950 with his research of the examples under the Marînid Dynasty in Fez. In 1970 Heinz Grotzfeld published *Das Bad in arabischislamischen Mittelalter*, in which the social aspect of bathing in the Medieval Islamic world is the focus. The baths of Palestine (understood as the territories of the actual states of Israel and the National Palestinian Authority) were the subject of a study that was published in monographic form in 1996 by Martin Dow. In this study, architectural ruins and documentary sources are examined as well as their antecedents. All these works along with those relating to al-Andalus that we will mention later have permitted us to observe a series of differences in Islamic baths from a chronological and regional perspective. For the Middle Ages there are three distinct groups distinguished with substantial characteristics, they are the following: Syrian-Palestinian, Egyptian (related to the previous one), and the third we can denominate as Maghrebi-Andalusian.

For different reasons we will address later, Andalusian baths in general terms are medieval constructions that have been relatively well preserved, which explains the numerous references to them in the antiquarian tradition and even frequent individual analysis that occupied scholars and experts of the 19th or the beginning of the 20th century². The first valuable approximations from a scientific viewpoint, as much from serving as textual and archaeological information as for its broad focus beyond the local context, are the works by Ruiz-Moreno³, Gómez-Moreno Martínez⁴ and above all those by Torres Balbás⁵. More recently, and thanks to the

¹ ECOCHARD and LE COEUR, 1942-1943.

² For example, the publications relating to the baths of Palma de Mallorca (FERRÉ, 1889); or the Granadan baths (MÉLIDA, 1916; VALLADAR AND SERRANO, 1906).

³ RUIZ-MORENO, 1945.

⁴ GÓMEZ-MORENO MARTÍNEZ, 1947.

⁵ TORRES BALBÁS, 1945; *id.*, 1952a; *id.*, 1952b; *id.*, 1954; *id.*, 1959; *id.*, 1971.

development of Medieval Spanish Archaeology and the recovery of Spain's heritage beginning in the first half of the 1970s, there have been detailed archaeological and architectural studies of baths. It is beyond our goals to make an exhaustive relation of such publications although we will highlight some of them, especially those dealing with a more or less general layout. Among those we will cite a brief but interesting book by José Carlos Rivas over the baths of the *Marquesado del Cenete* based above all on abundant and well-studied archival documentation posterior to the conquest¹. In 1989 a monographic collection was published, edited by Epalza and titled *Baños árabes en el País Valenciano*. Some of its contributors, like Epalza, go beyond the regional aspects and examine the form, function, and even the establishment of Andalusian baths in a city. A year later Pavón Maldonado published the first volume of his extensive work, *Tratado de arquitectura hispanomusulmana*. It is dedicated to water and includes a large chapter covering the topic of Andalusian baths by collecting the information available at the time². In 1996 the architect Luis Ceres read his doctoral thesis, titled *Los baños árabes del reino de Granada*, at the University of Granada. The work emphasizes graphic documentation, especially plan layouts, although it did not reach sufficient diffusion because it remains unpublished. Another monograph which contains different contributions, some of a general character and others related to concrete buildings, is; *Baños Arabes. Arqueología y Restauración*, published in 1999 and edited by Acién, Aguayo and Castaño. In 2006 a book came to light concerning the medieval baths in the city of Toledo in which we can find different works that are primarily based upon information provided by recent archaeological fieldwork and restoration³. Finally, and even though focused to the study of two monuments, we must mention the books dedicated to the baths of *El Naranjo* (Jaén)⁴ and *Elche*⁵.

In 2009 we published a comprehensive article titled "Archaeology of the Andalusian Bath: notes for its understanding and study"⁶, in which we dealt with diverse general aspects of the

¹ RIVAS, 1982.

² PAVÓN MALDONADO, 1990, pp. 299-364.

³ VV. AA., 2006.

⁴ SALVATIERRA, 1993.

⁵ AZUAR, LÓPEZ and MENÉNDEZ, 1998.

⁶ NAVARRO PALAZÓN and JIMÉNEZ CASTILLO, 2009a.

Andalusian bath, among them the history, historiography, and functions of the building. But we deepened our research particularly into three other aspects: urbanistic, morphological, and typological. The typological aspect consists of a simple classification system based on formal criteria, related solely to the humid area of the public baths that are always vaulted. This would result in the presence of three large groups of baths that are in turn comprised of different subgroups. The interested reader is referred to this article for a full discussion of the many aspects of Andalusian baths that are presented here.

The study of bath architecture that has come down to us is the principal source of information available since we are dealing with the largest and best preserved examples of Andalusian buildings. Within the bath structure there is a certain section we term the humid zone. This particular area involved the presence of steam and circulating water and required thick solid walls, in order to maintain the interior heat and concomitantly to support the heavy vaults that served as the ceiling. Even though none of the baths remained in use in the Iberian Peninsula after the 16th century, many of them have conserved this part of the structure by being integrated into posterior constructions, frequently used as cellars¹. In other cases they were reused by demolishing one of its vaults with the goal of creating an open space reminiscent of an open patio that enabled them to be outfitted as workshops or housing. If it is true that the solid construction of the humid zone of the bath facilitated the conservation of its vaulted chambers, the same did not occur with the adjoining dry and service rooms. Due to their fragile construction they were demolished and very frequently separated from the original part of the bath. This partial conservation helps explain why many scholars during the 19th and 20th centuries had confused the humid zone as comprising the entire bath complex without considering that this was just one area of the bath.

1. Morphological Aspects

In all Medieval baths, three distinct functional areas can be distinguished: the dry and humid sections; and the service zone.

¹ In Toledo there have been various cases where the vaults form parts of cellars of buildings for private use, which has made it impossible to document aside from photographs and partial sketches.

The area we denominate dry zone makes reference to the group of rooms that are located between the street outside and the humid zone inside. The dry zone is made up of the entrance area, the latrines, the dressing room, and the rooms dedicated to resting. All these rooms are organized around a rectangular space with high ceilings in which it was possible to place a wooden lantern at the top to facilitate the natural light and ventilation. The rooms dedicated to resting were always open to this central space and customarily were elevated by means of platforms made from wood or masonry on which the bathers could lie down before continuing their day in the busy streets.

In contrast to the humid zone, the dry zone is not exposed to high temperatures, steam or intense humidity. Its construction materials and building methods were very different from the humid zone; it resembled more closely the materials and methods used for houses¹. This explains why this zone was never covered over with a vaulted ceiling and instead used a wooden structure as the ceiling². The decoration differed between the two zones as well, in the dry area it was conventional to use soft materials such as stucco. This was completely incompatible with the humid zone as Epalza emphasizes³; we can see this with the examples of the Granadan baths of *Comares* (fig. 1) and from *Polinario* as well as from the Moroccan baths of Rabat-Salé and al-Mokhfya of Fez.

In this respect, when Almagro describes the bath of Tordesillas, he makes the statement regarding the absent rooms of the dry zone, saying: "*by not being constructed as robustly as the humid rooms (...) they were built with materials more fragile and it is habitual that they resulted in being ruined while at the same time the other areas of the bath that still stand were constructed with vaults and walls of more resistant materials*"⁴. Tordesillas is not an exceptional case, the same thing has occurred at almost all the preserved bath complexes in Spain, including the Murcian ones. The fragmentary characteristics of the buildings that have survived to this day are what make their comprehension and analysis difficult. It is a

¹ PAUTY, 1944, p. 217; BERMUDEZ, 1974-1975, p. 100.

² PAUTY, 1944, p. 212 and TORRES BALBÁS, 1952, p. 182.

³ EPALZA, 1989, p. 15.

⁴ ALMAGRO, 2005, p. 7.

frequent occurrence for those who have studied these existing structures to believe that they are witnessing the entirety of the bath complex¹. Torres Balbás erroneously believed the dry zone (*bayt al-maslaj*) solely was used "*in some luxurious baths*" and that this space frequently "*was a covered courtyard*"², such as in the royal bath in the *Alhambra of Granada* and some others; occasionally it would be open to the sky"³. This opinion has led many to believe that the dry zone, termed *al-bayt al-maslaj*, "*we almost never find it in an urban bath*"⁴ or it was solely added "*in some cases*"⁵. Recent excavations are shedding new light in this respect⁶, by permitting these dry zones to be documented in structures where they have disappeared completely, for example, in the baths of *Churriana de la Vega*⁷ and *Torres Torres*, it is demonstrated that even simpler rural baths could boast of a dry zone.

The best example of a bath complex that has been preserved is the one located in the palace of Comares, this is why we can use it as a reference model in order to recognize the elements of the building that are no longer in existence in the majority of other public bath sites still in existence; nevertheless, we must keep in mind the palatial character of Comares. One of such elements to recognize in a bath is the central room with a lantern ceiling, this feature was utilized in other public baths such as the one located along the street of *Calle Real de la Alhambra* (Polinario) or the bath at *Almirante de Valencia*. The most interesting aspect of the dry zone of Comares is the perfect integration of all its adjoining dependency rooms around the central chamber with the lantern ceiling. Here we can observe the two bent entrances: one that served as a communication with the outside, and the other that enabled an entrance into the humid zone. We can also see how the

¹ Mikel de Epalza rightly asserts these problems in his valuable article (1989, p. 14).

² The expression "covered patio" can lead to confusion, it can be translated that the covering of the patio was provisional and could be removed, when in reality, the covering took the form of a lantern very similar to the one adopted at the bath of Comares.

³ TORRES BALBÁS, 1952, p. 182.

⁴ AZUAR, 1989b, p. 39.

⁵ AZUAR, LÓPEZ and MENÉNDEZ, 1998, p. 26.

⁶ The appearance in archaeological excavations from two baths in the cities of Valencia and Alcalá de Guadaira uncovered the remains of a dry zone (*bayt al-maslaj*) preceding the three other rooms of both baths (HERREROS, 2002, fig. 8 and DOMINGUEZ, 2000, fig. 5).

⁷ LÓPEZ OSORIO and TORRES CARBONELL, 2008.

latrines were strategically located in order to not generate foul smells for the bathers. Open to the central space were the rooms dedicated to repose where one could recline and relax. To augment this sensuous environment, the facades of these rooms were purposely placed to face one another in order to aesthetically please the observer. It is for this precise reason that this central chamber with its adjoining rooms for lying down is named *Sala de las Camas* (Hall of the Beds).

1.2 Humid zone

The humid zone is comprised of various rooms whose architecture is characterized by solid walls and an enclosed space. The only openings in existence are the access and the skylights in the vaulted ceilings that were utilized for light and at times for ventilation. The rooms tend to be elongated spaces with alcoves (spaces placed on the extremities of the chamber), very similar to the layout of main halls in the contemporary Andalusian-Maghrebi houses. The thickness of the walls and the solidness of the masonry work of the vaulted ceilings illustrate the preoccupation with isolating this zone with the dual objective of maintaining the interior humidity and temperature at a constant.

At present, the majority of these parts of the baths that have been conserved are usually found in a ruined state with the flooring missing the materials it was constructed from and the wall coatings absent. The scarce remains of decoration that have survived indicate that the walls as well as the vaulted ceilings were painted over with red motifs on a white background. In some cases there were paintings on the walls representing architectural elements, it is the case of the *Bañuelo* in Granada (fig. 2). In other humid zones rich geometric and vegetal motifs were used: the cases of the bath of Elche¹, the baths of Villardompardo (Jaén) and the bath of Doña Leonor de Guzmán in the monastery of *Santa Clara de Tordesillas*². The white background of the walls animated them thanks in part to the light streaming in by way of the skylights in the vaulted ceilings, that at times adopted a star shape, and were inset with different colored glasses.

Inside the humid zone, the rooms were arranged in a manner that followed the increasing temperature of the given room: low

¹ AZUAR, LÓPEZ and MENÉNDEZ, 1998, sheet. 30.

² TORRES BALBÁS, 1959.

temperature rooms were first, followed by higher temperature rooms on the opposite side. Traditionally this layout has been simplified by speaking in terms of singular rooms that were cold, warm, and hot. It is prudent to state that this was not always so simple: frequently some rooms of the humid zone could be made up of more spaces than one.

The cold room was located farthest away from the furnace and closest to the dry zone. Even though it is common that the cold area is made up of one elongated room, there are cases where the cold area can have two or three rooms. In the smaller baths it is this sector that suffers a reduction in size¹. It is very common for these rooms to have alcoves on their extremities. Located in these alcoves were one or two niches² with small water basins inside.

The warm room of the humid zone is located between the hot, whose extreme temperatures cannot be supported for very long, and the cold sector where the bather spends very little time due to the lower temperature. Occasionally ducts would be branched off from the hypocaust in the hot sector to warm up this room³, but due to its distance from the furnace this sector rarely warmed substantially. It is in this area where the bather would remain for a period of time after exiting the hot room "...resting and continuing in a more pleasant environment the process of sweating. It is also a social place for conversation, sitting or laying on the stone platform (...) In this room one's skin would be cleaned and massaged at the same time" ⁴. This diversity of functions made this room the point where most of the time would be spent during the overall bath process, before exiting into the relaxation room in the dry zone. We can consider this the space for rest and socializing of the humid zone.

The hot room is the last of the three that make up the humid zone and is also the one that demonstrates a more standard morphology. The shape is rectangular with alcoves built into its extremities. The chamber's high temperature was due to the implementation of heat producing structures, all part of a cohesive strategy: a hypocaust system located beneath the floor; the location of

¹ "Of those three rooms, the widest one is always the central room, and the cold room is the narrowest" (TORRES BALBÁS, 1952, p. 183).

² This is the case of the Jaén bath from Villardompardo, the one from Comares, the mudéjar example from Tordesillas and the one from Yabal Zagora in Morocco.

³ It is the case with the palatial baths from Madīnat al-Zaharā', from Comares, and from the public baths discovered in Jaén: Villardompardo and Naranjo.

⁴ EPALZA, 1989, p. 19.

a furnace next to the chamber, separated by a fine thin wall; installation of four chimneys embedded in the walls to facilitate the flow of the hot air; the presence of a hot water basin, and finally by the steam given off from the water in the cauldron. It is without a doubt the first of these strategies that substantially provided the heat source for the chamber. The hot air from the hypocaust located beneath the floor would circulate throughout the subterranean galleries of this system thereby heating the entire floor of the room so that when it ascended through the chimneys imbedded in the walls these would enable the circulation of the hot air, resulting in the walls themselves being heated but also enabling the exit of the smoke. Though there were occasions where some branches or ducts from the hypocaust would enter the warm room, it was customary to confine it to the hot room floor without interfering with its alcoves¹. Seeing that the temperature in this room was exceptionally high, especially with regard to the floor, it was necessary for the bathers to wear thick-soled footwear with the aim of preventing burns to their feet. The heated floor would transform the water poured by bathers on it into steam.

The basins for both hot and cold water are indispensable in any type of hot room. It is quite normal for these basins to be situated in the interior of two niches flanking the furnace, such as the one found at the *Bañuelo* in Granada (fig. 2). In other baths, for example those of *San Antonio* in Murcia, there is only one niche at the side of the furnace while the other is found inside one of the alcoves, as at Comares; the simplest solution was to place the hot water basin in one alcove and the cold water basin inside another alcove², or even just situate both basins in one alcove as was done at *Trinquete* in Murcia. It is appropriate to notice that the water basins, in general, were not pools where the bathers could submerge their entire body as in the Roman models. Rather, they were simply containers where the bathers with the use of a bucket could extract both hot and cold water to combine a desirable water temperature that would be used to wash and lather themselves in soap³.

¹ However, there are some examples in which the hypocaust encapsulates the totality of the humid zone protruding into the space of the alcoves; this is the case of the Granadan bath at Churriana de la Vega (LÓPEZ OSORIO y TORRES CARBONELL, 2008) and from Almirante de Valencia.

² This was surely the case at the bath of San Lorenzo in Murcia.

³ However, in the bath connected to the hall of Abd al-Rahmān III of Madīnat al-Zahrā', one of the alcoves of the hot room was converted into a small pool lined

The service zone, the third one that comprises the bath complex along with

the dry and humid zones, was always located next to the hot room. There was no communication between the two, the service zone had its own separate access from the street. Its spaces were vital for the proper function of any bath, here was where the main furnace, cauldron and the firewood were placed; it was also here where the water arrived and was distributed. The layout of the service zone is simple: one open room for workers to be able to attend to the needs of the bath. Its shape was determined by the size of the plot available. The service zone typically had a staircase that connected to the vaulted roof of the bath and to the *aljibe* (water cistern) that would at times be located at an elevated position relative to the bath structure.

The furnace and the cauldron that was placed above it were customarily placed inside a covered space, typically vaulted and separated from the firewood laying nearby, and were also right next to the hot room separated by a thin brick wall with an opening. Since the service zone was the main source of hot air for the hypocaust, it was necessary for both zones to be communicated by means of an opening at the same height. Because of this, the floor of the service zone is commonly the lowest part of the bath complex. The cauldron was placed at a higher elevation with the double function of easily serving the water basins and being closer to the aperture opening in the wall of

with marble with three stairs that permitted access to and allowed the bathers to sit in the pool. In spite of the palatial example, we do not believe that this practice was generalized and used in public baths, seeing that once a person was immersed in the pool, the water would become unclean and unusable for other bathers. M. Dow indicates that the minimum amount of water that does not become impure by the person submerged in the water varies according to religious Islamic schools. The shafi'i and hanafi schools dominant in the Middle East consider the minimum quantity necessary is two *qullah*, a unit of measurement equivalent to one thousand liters, or a volume of water that is a cubic meter. This means that pools of smaller dimensions could not be utilized for ritual bathing (*gusl*) since the water would turn polluted as soon as a person came into contact with the water who was considered in a state of *yanaba*, or of a higher impurity. The malikite school, dominant in Al-Andalus and the Maghreb, dictates that when an impure individual submerges in a pool less than one thousand liters the water is not necessarily converted into impure water. (DOW, 1996, pp. 15, 16 and 36).

the hot room. This way the steam it gave off could easily pass into the hot room. In the *Baños de la Reina* of Murcia, of Islamic origin although named as such because the location belonged to María de Molina, the cauldron was made of bronze according to a census contract from the year 1391¹; in Toledo, Córdoba, and Granada diverse examples appear in texts in which the cauldrons are made of copper as well².

The maintenance of all these services required the constant presence of a worker who needed to enter and exit the bath complex without any contact, neither physical or visual, with the humid rooms, since certain days of the week or at determined hours of the day the bath could be used by women³. If it was obligatory for this type of concealment to be in place and it also applied to the passage of the water, steam, and hot air in the humid rooms. The privacy of the bathers was a priority for the designers of the bath, but it was also necessary to service the humid zone with water and hot air. As a result, the network of conductions and orifices that provide water and heat from the service zone to the humid one were carefully devised to conform to the privacy needs of the clients.

The public baths required a sufficient flow of water to supply the cauldron and the basins, the volume of water did not have to be very large but at least stable enough to recharge the *aljibes* or cisterns, especially at times where the water flow could be inoperable. The water could have different origins according to the water resources of the place. The most common source of water came from rivers or springs, from which the water would be conducted by means of *acequias* (water channels), where *norias* (water wheels) were used to elevate it. In other cases the water would be extracted from the phreatic level by means of *aceñas* (water wheels)⁴. Normally the water would be gathered in the bath, in the *aljibes* within the service zone at a certain height so that the water could be distributed by means of gravity. From these deposits, the water would circulate to the basins for cold water and to the location of the cauldron by means of ceramic pipes.

¹ TORRES FONTES, 1975, p. 69.

² PAVÓN, 1990, p. 344.

³ For a discussion of the use of the bath by women see PUENTE, 2006.

⁴ This system is documented in the bath of Almirante de Valencia (CAMPS and TORRÓ, 2002, p. 137) and those in Ronda.

Following the abandonment of the baths, it was frequent that the building would be divided into at least two new properties, a division that was favored because of the structural differences between the dry and humid zones, and above all because the bath had two entrances from the streets around. Once the partition had taken place, access to the vaulted areas was no longer done through the principal door of the bath. Instead, in many cases a door in the service zone was made as the entrance to the new property. This entailed the addition of a new doorway into the interior of the ancient hot room, at the point where the furnace was located where no thick wall existed between the two zones. This is what occurred in the bath at *Madre de Dios* in Murcia and in the one at *Pescadería* in Córdoba.

2. Urban Aspects

In the already numerous studies dedicated to Andalusian baths the predominant points of view are architectonic, artistic or archaeological, while the urban themes have been treated superficially. Nevertheless, if we examine a representative group of publications, we will observe frequent allusions in them pertaining to five aspects of the bath related to urbanism. The first one highlights their presence throughout the city, both in the *madina* as the outlying suburbs, due to the elevated number of them; the second underlines the baths close location to mosques; the third one emphasizes the proximity to rivers and water channels; the fourth refers to the preference of baths being located close to city gates; the fifth one consists of the need for baths to open to the city's most important streets. We will examine each of these aspects separately.

2.1 Dissemination and density

The abundance and dissemination of baths throughout the urban landscape is a characteristic well documented by medieval texts, archaeology and the topography of the traditional *madinas* that have survived until the present, especially in North-Africa and the Middle East. In this sense, information provided by written sources from Andalusian Córdoba give the figure of 300 baths in the Caliphal period, a number duplicated during the Almanzor period¹, other sources elevate the figure up to about 3,911². Such figures are

¹ AL-MAKKARİ, 1855-1861, vol. I, p. 355.

² MOLINA MARTÍNEZ, 1983, p. 40.

unlikely, even if we assume that they include the private baths of palaces and aristocratic houses. Nonetheless, even reducing the number within more reasonable limits, this information shows that the presence of these establishments was significant in Andalusian urban settings. And we can also deduce that the presence of such a high number was without a doubt a sign of prestige and grandeur for those cities that had them.

As far as we know, the baths were distributed throughout the entire urban center¹. The pattern of distribution has certain analogies with that of the mosques, which were situated in a homogenous manner throughout all the neighborhoods of the city, including the suburbs if they reached a sufficient density of population to warrant one. In other words, in the urbanized spaces of the medieval *madina* it appears that the baths were distributed in a manner in which every neighborhood or district (*rabad*) could count with its own or, at least, that there was one in the vicinity. The dispersion of the baths in the Islamic city was led in part by commercial interests combined with other factors. This contrasts with the Christian city where baths, as a feudal monopoly, would be rented out to leaseholders for a fixed amount of time and the profit was ensured by means of the delimitation of districts, or terms of exclusion where no other bath establishment could be placed according to the crown's rules. It was possible, nevertheless, that in the Islamic city some type of limitation existed to the construction of new baths where others already existed. This was so because the already existing baths' benefits could be substantially diminished by the new competition; though in this case this rule was due to a principle of Islamic law and not to feudal privileges.

2.2 Proximity to the mosques

Beyond the coincidences derived from the uniform distribution of mosques and baths throughout the urban center, many scholars have defended the existence of a particular spatial relationship between these two types of buildings. For example, Pavón affirms that "*the binomial mosque-hammam is present in a multitude of Hispanic cities*"². Nevertheless, Mikel de Epalza thinks that the baths were not connected institutionally to the mosques, in spite of the fact that the baths were often pious endowments; but this also occurred

¹ PAVÓN, 1990, p. 319.

² PAVÓN, 1990, p. 302.

with houses, orchards, shops, or cemeteries, and it did not mean they had to be located close to mosques. This scholar affirms that there was no physical relationship between the oratory and the baths, thereby opposing a generally accepted theory¹.

For those who are inclined to believe in the physical proximity between mosques and baths, the reasons are various. There is not full agreement among researchers but the reasons can be narrowed down to two types: religious and legal. The first type, in highlighting the importance of the ritual function of the baths, explains that the majority of the baths are "*the door or antechamber of the mosque*"². Some authors believe that, in the same manner the oratories contained a water fountain for minor ablutions and next to the most important congregational mosques was erected a *midá* or pavilion with latrines and washbasins as the ones that have been confirmed in Seville, Cordoba, and Marrakesh, the baths would also be located next to the mosques to facilitate complete ablutions.

According to some, the method by which this spatial convergence of baths and mosques took place was by state intervention when it concerned planning. The state would occupy itself with the construction of both establishments next to one another. This is the hypothesis that has been suggested in relation to the baths of Jaén and the remains of a possible mosque found next to them, in a sector of the city that was newly urbanized when both buildings were constructed³. Even though it is true that this type of initiative was possible, because the written sources in some cases do associate the construction of baths with state intervention, some texts show that these planning interventions were exceptional⁴.

¹ EPALZA, 1991, p. 18.

² PAVÓN, 1990, p. 359.

³ PÉREZ MARTÍNEZ and ALCÁZAR FERNÁNDEZ, 1993, p. 144.

⁴ For example, the account of the founding of Fez states: *construction of the wall began in the neighborhood of al-Andalus at midday and the entirety of the site was surrounded by the walls; built inside the city walls was a mosque that is in rahbat al-bîr (the flat level of the well), that is named the Mosque of the Sheikhs, and he preached in it the Friday sermon. Then, he undertook the edification of the neighborhood of al-Qarawiyyîn (...) it was moved from the neighborhood of al-Andalus establishing itself at a site called al-Maqarmada. He erected there a shop and he began to build the mosque, today known as The Chorfa, he pronounced in it the khutba and then began construction of his house, today known as Dâr al-Qaytûn, where his children occupy The Chorfa al-Djûtiûn. Then he built a alcaicería (marketplace for selling luxury goods) adjoining the grand mosque; and*

According to other authors the explanation would be related with the judicial situation of both types of structures. On many occasions they would share their characteristics of a *waqf*: a pious endowment that formed part of the treasury of the Muslims (*bayt māl al-muslimin*) administrated by the *cadi*, whose benefits were destined to the sustainment of numerous services of a religious and social character. Theoretically, there could have been cases where the construction of a mosque and bath in a building project sponsored by a private benefactor, would be given to the Muslim treasury as an endowment from the owner as a pious act. Pedro Marfil is of this opinion, and he cites the baths of *San Pedro* in Cordoba¹ as an example. They are not located on a principal road or close to any city entrance. He suggests that the baths were made at the same time the church of *Los Tres Santos* was converted into a mosque during the Almoravid period. However, to judge based on the written sources, it was normal to establish as endowments houses, shops, cemeteries, orchards and even mosques and baths, but seldom related between them. In fact, among the scarce known examples, there are some cases of a relationship between cemeteries and mosques but not between oratories and baths. Thus for example Mut'a, the wife of al-Hakam I, ordered the construction of a cemetery and a mosque, as did Mu'ammara, one of the wives of 'Abd al-Rahmān II². In conclusion, we cannot reject that there existed pious foundations in which there could have existed a physical association between a bath and a mosque; nevertheless, the number of these cases does not seem to have been significant.

Based on the association of mosques and cemeteries as a pious endowment, some scholars suggest that there existed cases where there was a physical relationship between baths and cemeteries. In their view baths were constructed over cemeteries and that was possible because both of them depended on the treasury of the Muslims³. Nevertheless, both the jurisprudence and the *hisba* treatises

around the corner from the mosque, a market" (IBN ABĪ ZAR', 1964, pp. 86 and 87). According to the source, then, Idrīs b. Idrīs ordered the construction of the walls, the mosque for the assembly of the community, the raw silk market and the market, but nothing is mentioned concerning baths.

¹ MARFIL, 2008, unpublished.

² MURILLO, CASAL and CASTRO, 2004, p. 264.

³ "The scarcity of plots of land in urban areas and the necessity to construct new sanitary installations provoked between the 12th and 13th centuries the spatial

sufficiently credit the vigilance of the cadis and almotacenes (*al-muhtasib*) for avoiding all kinds of intrusive constructions in the "sacred" space or *hurma* of the cemeteries¹. Beyond the causes of this supposed proximity, which are fully debatable, the available information does not allow to conclude that there really existed a physical connection. Arab sources occasionally refer to the abundance of baths in the cities giving highly exaggerated figures. There are the 60,000 an author attributes to Baghdad and the 5,000 or 6,000 of Córdoba. At other times they relate the number of baths with population figures, it was said that in Baghdad there was a *hammam* for every 50 inhabitants and in Qayrawan 1 for every 80. Some scholars ponder the quantity of baths in some cities in proportion to the number of mosques: "The 15 Tunisian baths cited that according to Ibn Abi Dina existed in the kingdom of the sovereign al-Mustansir; were calculated in relation to the mosques; in the XIIth Century, in Damascus, there was a *hammam* for every 6 mosques and in XIth Century Baghdad a *hammam* for every 5"². It is evident that with these proportions it is impossible to talk of a "hammam-mosque cliché" since, even supposing that baths were located next to a mosque, there would be, for each of these cases, 4 or 5 mosques without a bath. Moreover, having in mind that the mosques would be homogeneously distributed throughout the different neighborhoods and urban precincts, it appears logical to suppose that those baths tended to be located in a central position with respect to the 5 or 6 neighborhoods they serviced. This, moreover, is what is deduced

reduction of some cemeteries for the construction of baths whether public or private" (ROBLES, RAMÍREZ and NAVARRO, 1994, p. 96). In reality, of the examples provided from this group of archaeologists only one, the bath of *Palo de Medina*, protruded into a preexisting cemetery. But it is a small private bath associated to a home without any "functional interaction" between the two. The bath of San Nicolás is found adjacent to a cemetery but it did not intrude into its space: excavations demonstrated that this bath was founded over a preexisting house whose principal salon served as a mausoleum, but this does not mean that the bath was erected over a preexisting cemetery. On the other side, no Murcian bath has been found connected to a mosque and there is no evidence to suggest that there was a special physical relationship between a mosque and a bath. Therefore, it cannot be concluded that in Murcia there existed "a real physical proximity between baths and cemeteries, that together with the mosques conform to urban functional units", which also has not been detected in a mosque and cemetery, such as the Cordoban examples discussed above.

¹ FIERRO, 2000.

² PAVÓN, 1990, pp. 360 and 361.

from the observation of the terrain in those cases where we can count on sufficient information. For example, in Murcia we know the exact position of 5 baths and of the series of neighborhood mosques that were transformed into parish churches following the Christian conquest. None of the 5 baths were found attached to a mosque and only one, *San Lorenzo* was located very close to one, in front of the oratory on the other side of the street; the rest were relatively distant from them.

2.3 Proximity to points of water supply

The proximity to a sufficient flow of water was a condition that favored the

location of any public bath. It is for this reason Epalza pointed out that the "*baths are found in the lower elevation zones of the city to facilitate the conduction of water...*"¹

Some written sources credit this constrained connection between the location of the baths and the possibility of access to water; for example, in the description of Jaén by al-Himyarî: "*In the interior of Jaén there are springs: There a flowing spring of sweet water can be seen, covered by a vault constructed in antiquity. It pours into a large reservoir whose water served to feed the diverse baths: the Hammam al-Tawr where a marble statue of a bull is found; the Hammam al-Walad, this one and the one preceding it belong to the government; the Hammam ibn al-Salim; the Hammam ibn Tarafa and Hammam ibn Ishaq (...). In the sources of Jaén it is possible to cite the so called 'Ayn al-Balat (...). It feeds the baths known by the name of Hammam Husayn and the water afterwards goes on to irrigate*"²

In this sense, the study of the urban distribution of the Toledan baths allows Juan Manuel Rojas to affirm that "*in analyzing the location of the ones known in Toledo we find that the fundamental factor that determines that a bath is found in a certain place is its proximity to a water supply. From this, it appears that the closeness and access to mosques were factors of second priority*"³. According to al-Idrîsî, Elche had at its disposal various baths that were fed by the main water channel that crossed the city. The ones that have been preserved still standing are inside the convent of the religious order of

¹ EPALZA, 1991, p. 18.

² AL-HIMYARÎ, 1938, p. 88.

³ ROJAS, 2006, p. 14.

St. Claire and located outside the city walls, in front of the *Puerta de la Calahorra*, and were fed water by a branch of the main water channel¹. The ones excavated at Orihuela, were situated in the narrow space between the city wall and River Segura, whose flow without a doubt supplied water to the baths. In Murcia, the *acequias* of Caravija and Aljufia travel through the north front of the suburb of Arrixaca. Their layouts must have been taken into consideration when the locations of the two baths known from the written sources as, the *Puerta del Zoco* to the west and the *Baños de la Reina* to the east, were selected.

2.4 Proximity to city gates

Proximity to city gates seems a logical demand in a public establishment since it is desirable to have easy access to it. Epalza suggests that the baths "*were located in residential neighborhoods, in places of transit or close to the entrances of the city, to cover the necessities of both rural people and travelers, who would at times take advantage of their heat to spend the night, similar to a low-cost hotel*"². Evidently, not all the baths were intended to be located near the entrances. We have seen that one of its characteristics was to distribute itself uniformly throughout the urban landscape to service the needs of the residential neighborhoods. However, it seems logical to suppose that those destined to service periphery urban districts would attempt to be situated next to the city entrances in order to attract those arriving from outside the city³.

The value of the closeness to a gate of the *madina* has been deduced in relation to the location of the baths of the *Arrabal Viejo* in Ronda, those at Gibraltar and at the site of Vascos⁴. Although distant in time, the example of 'Anyâr, an Umayyad foundation, is extremely significant since this city was completely planned. Here, the baths were established next to the north entranceway, very close to one of the principal roads and to the line of shops that would open up to one of the main streets. In the city of Granada the *Bañuelo* was located

¹ AZUAR, LÓPEZ and MENÉNDEZ, 1998, p. 26.

² EPALZA, 1991, p. 18.

³ The existence of a doorway known as those of the baths on the wall of Játiva, TORRES BALBÁS, 1952, p. 185.

⁴ AGUAYO, GARRIDO, and PADIAL, 1999, p. 28.

close to the gate named *Puerta de los Tableros (Bab al-Difaf)*¹ and *El Baño de Hernando de Zafra* or *Casa de las Tumbas* was near *Puerta de Elvira (Bab Ilbira)*.

2.5 Access to important public streets

The baths tended to be located in the proximity of streets with a substantial number of pedestrian traffic, with the aim of providing easy access to the largest number of clients as possible². The same logic can be applied to *funduqs* and markets in addition to the factors discussed above.

The bath of *Calle del Agua* in Granada is a good example since it is located exactly on the intersection of two of the most important arteries of the *Albaicín* district: one of them joined the gate of *Elvira* with the main mosque of that neighborhood, which today is the *Colegiata del Salvador*; the second emanates from the gate of *Las Pesas* (in the wall that surround the neighborhood of *Alcazaba Cadima*) and links with the gate of *Fajalauza* in the most exterior wall of the *Albaicín*. Moreover, as the name of the street it opens up onto suggests, it was located next to the water flow of the water channel that originated at the spring of Aynadamar.

Even though located next to principal streets, it was not customary to open up the bath façades to such avenues. The interior of the bath demanded privacy and thermal isolation. But more fundamentally, since the bath complex was located on highly valued commercial property next to a busy road, a façade was simply a waste. This was especially true if the street was simply lined with the outside façade of a bath structure. Building designers preferred it be separated by rows of shops that usually have not been preserved. The *Baño de la Calle del Agua* in Granada, for example, was separated from the street by a row of shops. This could have been the case of the bath of

¹ Since the work of Torres-Balbás (1949b), there exists a general consensus among scholars that the monumental ruins conserved correspond to the *Bâb al-Difâf* mentioned in the texts, and that it should have lodged or accommodated a floodgate that would permit the closure of the flow of water from the River Darro in cases of any danger. Through this same doorway or through another one that could have been added, at a height next to the actual street and forming a unique complex door, there should have existed a pass or access to the city. Only like this is one able to understand the continuity of the road from one side to the other of the hypothetical doorway, the Carrera del Darro serving as an axis that we believe goes back to the andalusi period.

² EPALZA, 1989, p. 14.

Bañuelo (fig. 2) in relation to the street it abuts on the eastern side, and in the case of *Baño de Hernando de Zafra* or *Casa de las Tumbas* in relation to the street *Calle Elvira*, just to cite two more Granadan cases. The same applies to the Murcian baths of *San Nicolás* and those from the street of *San Antonio*, where the shops that opened up onto the artery were documented archaeologically¹. This arrangement seems appropriate to the essential characteristics of a bath and is an urbanistic solution not specifically Islamic; the Baths of the Forum of Pompey, for example, were located inside an *insula* that had three of its four sides occupied by shops.

¹ NAVARRO PALAZÓN and ROBLES FERNÁNDEZ 1993; NAVARRO PALAZÓN and JIMÉNEZ CASTILLO 1993.

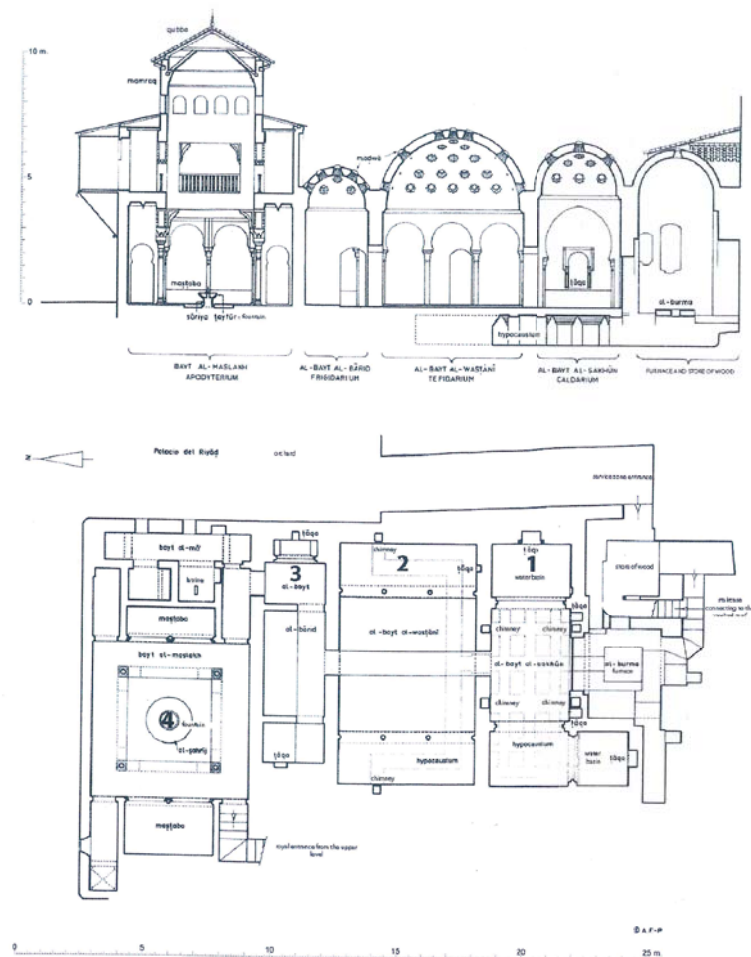


Fig.1. The Bañuelo (Granada). Original plan of A. Almagro, 1971, interpreted, labeled and colored by the authors of this work.

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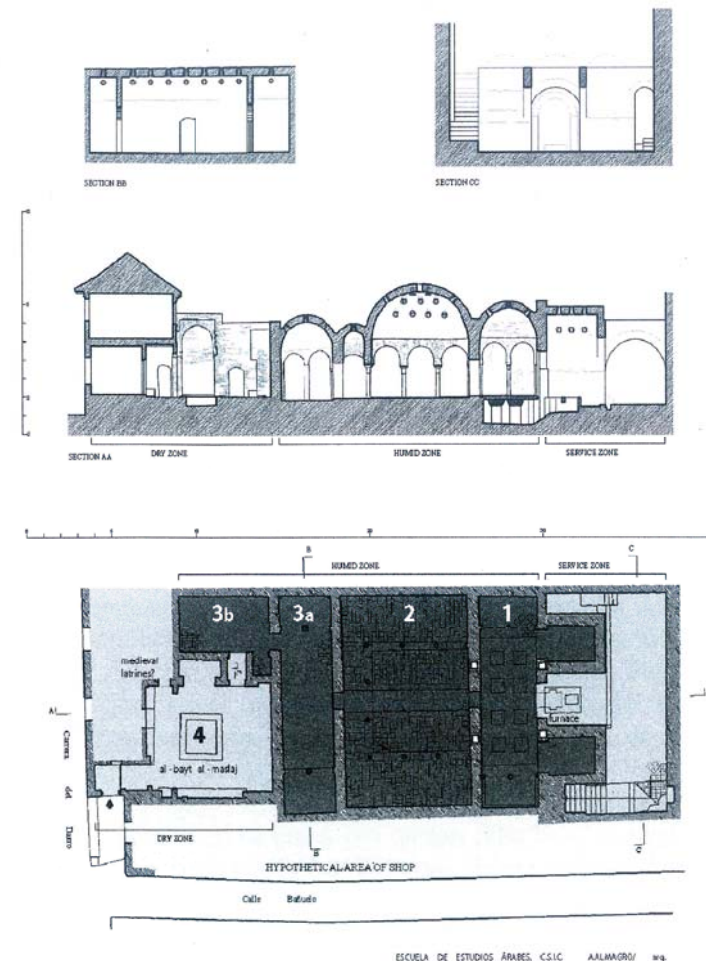


Fig. 2. Bath of the Comares Palace in the Alhambra (Granada). Original plan of A. Fernandez -Puertas, 1971, interpreted, labeled and colored by the authors of this work.

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