

HYPOGEUM TOMBS IN THE BYZANTINE NECROPOLIS AT TALL-ES-SINN, SYRIA

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ABSTRACT: *A previous study is presented on tombs of the Byzantine necropolis at Tall-es-Sinn, Deir ez Zor (Syria), located on the outskirts of the ancient city, with a graphic mapping of the tombs, the study into the way they were arranged, constructed, their geometry, typology, sizes, the expertise of their master builders, the tools that were used etc., which offers a panorama of the inhabitants who built these hypogea 1500 years ago.*

KEYWORDS: Tomb, hypogeuem, excavated architecture, Byzantine, necropolis, burial

INTRODUCTION

Treatments applied to the deceased varied vastly from culture to culture although they may be basically divided into two large main groups: those that made the corpse disappear by various means and which, therefore, did not involve architecture, and those that housed the corpse in various forms which, at the end, constituted what is known as funeral architecture.

Only too often does the funeral architecture produced by these cultures reflect the architecture of the living, not just from a physical point of view, but also from a conceptual perspective. Present-day cemeteries with three or four rows of recesses that are characteristic of the Mediterranean basin, reflect the apartments of several storeys in which their inhabitants used to live, and which differ so much from their counterparts in central and North Europe or North America, which reveal a more intimate and integrated relationship in nature as a reflection of people's habitual lifestyle in detached dwellings among natural surroundings.

An important section of these residences for the dead are constituted by excavated funeral architecture, particularly the kind that not only buries the deceased, but houses them in an orderly fashion as family groups in areas especially created for this purpose. This is the basis of our study. The procedure of a newly deceased member of a family meant having to open the tomb and locating the corpse in the arcosoliums available for this purpose. In a parallel fashion to the evident pragmatism of this architectural solution, we find a strong psychological association with being returned to the womb. In primitive Christian times, this recreation of a warm place to be received inside the earth was considered a passing place (Ragon, 1986: 20), a new state of hope as a step before a second delivery to eternal life. Indeed, the creation of a place explicitly for the dead which avoided direct contact with the earth was a reaction to the superstition that, in one way or another, resurrection would have occurred with considerable difficulty.

If each present-day city has its own graveyard, we may conclude that each cemetery archeologically exhumed in the midst of a deserted spot today would have matched a city that no longer appears. This is the case of the necropolis at Tall-es-Sinn which, besides being completely buried, constitutes the inverse reflection of both the city that disappeared and its architecture, and perhaps its idealised double;

in other words, a reproduction of the ancient socio-economic order of the living (Ragon, 1986: 45). In the future, a detailed excavation of the homes that formed the city could offer indications as to what extent, in this case, would funeral architecture imitate the architecture of the living. All in all, the present-day architecture of the area indicates a similar arrangement to the organizational structure of excavated hypogea: a direct access to an area or central patio where they are set out, and where they open out onto long rectangular forms which constitute the rooms of the house for its various members and purposes, in the same way that arcosoliums inside tombs do.

This underground city of the dead, which has been the object of archaeological research, was situated in various sectors located north and northeast of the ancient city wall of the living, a wall which was also located and studied during these operations. The most important of these sectors is the so-called sector A, which is a collection of more than one hundred tombs situated exactly in the north-westerly point of the ancient city. Sectors B, C1, C2 and C3 encompass a much smaller number of excavated tombs, somewhere in the order of a dozen per area. All the tombs are *orientated*, that is, they face the sun to the east, or at least that was the intention despite the difficulties caused from not having precise measuring instruments, or given the presence of too many neighbouring tombs which involved the last to arrive having to be positioned otherwise.

A total of 168 tombs have been located and studied, and it is likely that there are still more to be discovered. Let us assume that a similar number of tombs went unnoticed by pillagers and archaeologists. A necropolis with 300 family hypogea could match a city with 1,500 inhabitants. With time, these hypogea could be reused by the same families of the next generation, and so forth, over a certain time. As a primary approximation, the city's population could be estimated at around 1,500 inhabitants, although an excavation within the city walls and a more in-depth study would have to be done to be able to confirm this initial hypothesis.

Cataloguing and mapping tombs: methodology

This work has been considered as follows: after locating and systematically numbering the tombs upon a plan of the overall situation carried out by the team's topographers, large sectors have been divided and lettered as A, B and C with several subindices. This



Figura 1. Planta de situación de la necrópolis de Tell es Sinn, con la ubicación de los sectores de excavación a las afueras del recinto amurallado de la antigua ciudad

permits a rapid location of the subzones of the necropolis. The lack of orographical, natural and plant references made the location of the tombs extremely difficult, and they had to be named with great care in order to avoid confusion given their extreme similarity or proximity to the circumstances of the setting they are located in.

Subsequently, a clear division has been made between accessible tombs, which has enabled a detailed inspection to be made inside, and the inaccessible tombs located in the plan. Thorough metric mapping was carried out of the former, and observations related to materials were made in parallel. With regard to the latter, all that has been noted is the presence, shape and state of conservation of the access opening, the profile of the stairway in the entrance, and the interior state of conservation if there was a hole or hollow as a direct result of pillaging or because a tomb roof had fallen in. The presence of these tombs has been indicated on the overall location plan, and pointed out in the specific plan of their immediate location, with an oblong-like rectangle placed at right angles with the stairway in the entry to the tomb, with abstract indications of the aris where the entrance, the central section and the two side recesses are located. Other than the plan of the tombs location in such cases, only photographic evidence of the proximities to the access or of the hole above the tomb roof has been possible because a detailed mapping of the interior needs to be done, which has not been possible due to the physical inability to do so or to the risk of something collapsing.

The accessible tombs have enabled a much more exhaustive documentation to be done of their geometry, construction and state of conservation. The work done inside the tombs has been complex and arduous given the shortage of space available, the darkness, lack of ventilation and the heat that accumulated because of the mass of surrounding earth. Beforehand, it was necessary to clear away rubbish that had piled up in many of them or to do an archaeological withdrawal process of the remains prior to entering the tomb to carry out the mapping tasks. In all cases, entry to the tomb was preceded by throwing a stone inside to frighten any dogs or vermin out that may have sheltered there, and a great deal of care was taken as some of the tombs served as a hideout for various types of snakes.

In order to collect data from inside the tombs, rulers, tapes and tape measures were used, as was a distance measuring laser device, both directly with and in relation to a drawing machine. Finally, archaeologist's combs were used to collect the data of the profiles elaborated. The characteristics of the excavated architecture, which was done manually with small instruments, have made the graphic mapping tasks very complicated, tasks which have had to faithfully follow the irregular organic tracing of these underground areas.

Good mapping cannot take any measurement or angles for granted in the architecture under study in terms of the builder's assumed regular habits. This premise was applied to the necropolis at Tall-es-Sinn as a starting point¹. A thorough triangulation survey had to be done of the interior measurements as none of them were perfectly orthogonal. This was done from the stairway at the entrance, to the recesses, and



Figura 2. Necrópolis de Tell es Sinn. Vista del sector A1 con los arqueólogos en labores de excavación

through the central area, all of which presented trapezoidal, oblong or mixed forms. The fact that a large number of recesses, arcosoliums and other nooks exist in the tombs, despite the narrowness inside, has multiplied the work exponentially. Neither the perimeter walls nor the vertical arrises present a straight layout. Instead they are often polygonal, curved or display an assortment of lines, and it was essential to use a distance measuring laser device to carefully map the tombs. Furthermore, it was very rare for tomb floors to be horizontal, so it was necessary to find one that was horizontal for it to be used as a reference to be able to map unequal tomb bases.

The fact that double-curved surfaces, small squared consistent surfaces and struts of vaults without arrises exist has meant that very special care was taken to perform the mapping tasks. In particular, the edge of the arcosoliums presents numerous variations (as far as shape, outline, parapet height, a lintel and/or jambs being present, interaction with the vault roof etc., are concerned), and whose careful drawing has permitted to draw conclusions about the typologies of tombs and about their possible cadence of a non-contemporary time-related nature. In the same way, cords have been used as an assistant method to obtain the radii of the bows of the arches and vaults alike. Finally, the organic forms of rain- and wind-related atmospheric erosion on the earth, particularly on the areas exposed to the outer elements like stairways or doorways, or even on areas inside the tombs where a roof had completely given way, have also required extremely thorough mapping work, and the use of a distance measuring laser device was essential.

Torches and lights of various kinds have been required, especially helmet lights so they allow people to use their hands and to work inside. In particular, lights and torches with a low-level light to the surfaces have been essential since this cornered position has enabled certain details to be discovered, such as the texture, construction and elaboration of the surfaces which were not obvious in the dark or if direct light was shone on them. On some occasions, which we will detail later, the presence of decorative details like carved columns, paintings, decorated doors, etc. have also had to be accompanied by abundant photographic documents as far as the level of drawing is concerned.

Once all the *in situ* data had been collected, they were made to scale with the help of a computer-aided graphic design program, and with additional help from a graphic processing program which corrects, touches up and mounts photographs². The final mapping arrangement is presented as a ground plan in a central position and with four interior elevations which are laid out in the four directions of space and match the projection of the corresponding sections. A sixth front-view drawing was added to the other five, and corresponded to the external doorway seen from the entrance steps. It was considered convenient to fill in the environment of the drawings with a grey mass that represents the earth



Figura 3 Escalera de acceso a la tumba 145

where the tomb has been excavated. This was used merely as a graph to provide the drawings body, distinction and reliability, and it placed these hypogea in their true underground context as a constant reminder that they are spaces that have been excavated. This graph has been presented as the negatives of a photograph which is seen against the light.

Subsequently, two very different types of record cards have been created: one for the non-excavated tombs which offer very few data for their documentation; a second type is to allow excavated tombs to be thoroughly documented in relation to their geometry, materials, elaboration and state of conservation. Both types of record card offer some basic details concerning the tomb number, the sector it is located in, the way it faces, the plan of the location of the tomb in question, and a photograph of its access.

The construction process of the tombs

It is worth thoroughly analysing this process. Nonetheless, the simplicity and reduced sizes of these burial spaces, and the technical difficulties to be overcome in this process, are not contemptible. After an iterative exercise of trial and error, it is obvious that the first successfully excavated tombs which offered guarantees of durability would have set a pattern to be followed by the rest of the builders of such hypogea. The tools used in the excavation were simple. Judging by the prints and the marks left on the material, which have been conserved with considerable clarity under low-level light, picks or pickaxes similar to those used on present-day building sites were used, and a mattock-type pick was frequently used in ground work.

These circumstances appear to be clear in the case of tomb number 154, where the marks found on the internal surface of the most hidden nooks enable us to imagine an instrument which had a right-angled control because, otherwise, it would not have been possible to leave such marks on this tomb. It is precisely the marks in the corners of the tombs that allow us to know which hand the tomb builder would have used, that is, if the builder was right- or left-handed. This information might appear banal, but at the end of the day, it is important from the material culture point of view in at least three cases, these being tombs 139, 152 and 153, which were most probably built by a right-handed worker.

These five tombs which present marks of the tool used on their internal surfaces are found in sector C. Besides one them, number 154, is featured among the valuable and perfect tombs from an architectural perspective, while numbers 152 and 161 present an internal pillar in the central area. The presumable great richness of these cases has not apparently involved major details in the finishes, while the marks left by the tool used have disappeared in the many other more humble tombs either through subsequent sanding of the excavated surface or the worsened overall state of conservation that the surfaces present. In fact the use of an instrument to polish excavated surfaces, that probably



Figura 4. Puerta de acceso a la tumba 160, con una cruz en sanguina ubicada entre el alfiz semicircular y el vano rectangular

looked like a flat surfaced stone on the area to which it was applied and convex on the extrados for it to be handled properly, should not be ruled out for most cases.

At the time of analysing what has been done, some of those tombs that involved major quantitative work ought to be highlighted, that is, those that involved extra soil removal and which implied more qualitative work, which was complicated and delicate in relation to design, plottings, execution and also to the level of the ensemble's final finishing touches. The attached record cards have a specific section which permits certain information to be known, such as the volume extracted in each undamaged, conserved excavated tomb, while the attached drawings and information help to equally distinguish between those tombs that stand out from the rest given their architectural nature and their thorough execution.

The execution time of these tombs can vary considerably. Objectively speaking, extracting an average of 8 m³ of earth from a hole does not involve many days work. The energy with which the worker worked is an equally determinant part if we compare the marks caused by the force worked on some tombs with others. All in all, it is almost certain that some tombs would have been commissioned, or self-built and not subsequently modified, although it is also likely that arcosoliums were extended, created and gradually added in most cases, depending on the need at the time. This would explain the irregular features on some of them and the lack of arcosoliums on some of the sides.

However, the difficulty that had to be overcome while building a tomb lay in both the plottings and designing of the interior space, in the arcosoliums, vaults, etc., rather than in the number of cubic meters of earth to be dug out. Another difficulty to be considered consisted in avoiding coming across excavated spaces from neighbouring tombs while one built one's own tomb. This kind of errors are not frequent, although they are commonplace in excavation architecture. For example with tomb numbers 18 and 19, the hole that remains today, and which links two recesses, was almost certainly opened up by a pillager. However, the extreme proximity of both tombs could also suggest a chance opening occurring during the excavation process, which was immediately walled in with the necessary excuses being made. Needless to say, it leaves a clue for pillagers about the presence of an adjacent tomb whose real entrance did not need to be found.

It is likely that two people worked together in the making of tombs. Nowadays one would be a skilled worker who would have done the digging (that is, a worker with the necessary knowledge who may well have been the head of the family that the tomb was being built for) and a labourer who extracted the earth during the digging process (in other words, a workmate or helper). The assistant worker would have also supplied light, if required, for the skilled worker during this work process in the form of oil lamps. Finally, it is necessary to reflect on the inner tomb measurements. The size of the recesses noted in the

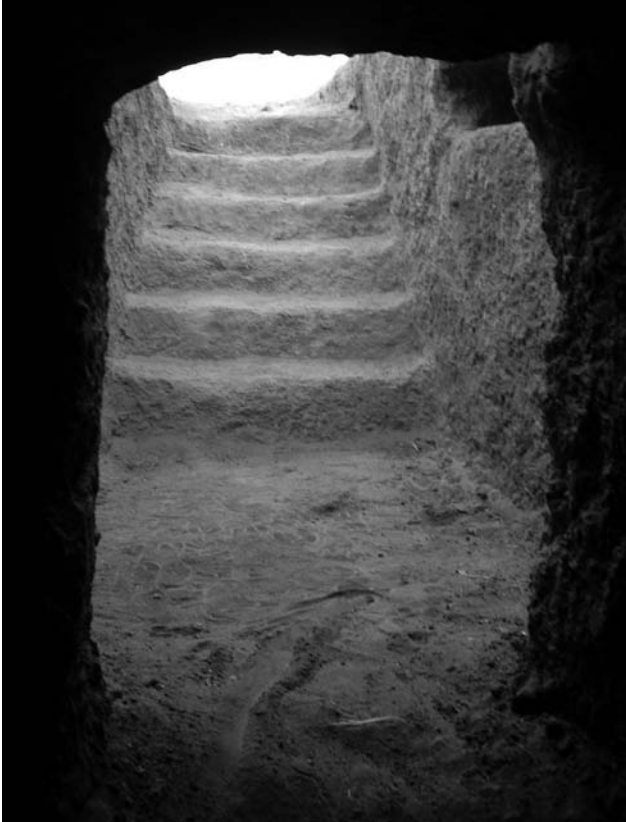


Figura 5. Acceso a la tumba 153, visto desde del interior de la tumba

ground plan is very similar and all of them have specific dimensions to house a human corpse, unlike the shape and size of these arcosoliums or of those within the central area, because even when three of their arrises were shared with the respective longitudinal arrises of the three perimeter arcosoliums, the variations of trapezoidal, oblong and curved forms, and the creation of more or less robust corners, afford the ground plan with a vast variety of dimensions. Therefore we could state that the tombs respond to anthropomorphic measurements in the recess areas in an almost modular nature, although the ensemble acquires a spontaneous refreshing arrangement which matches the nature of their organic propensity for telluric forms.

General and variant characteristics

Practically all hypogea present similar characteristics as far as the arrangement of their ground plan is concerned, except for very rare cases of the type of tomb found in pits, all of which are located in sector C1, and which only represent 4% of the total as opposed to 96% of tombs in hypogea which are characteristic of the necropolis at Tall-es-Sinn. These hypogea have steps at their entrance which open skywards and face west to east. The kind of entrance opens out onto an access and is walled in with either an organogenic limestone piece or one made from gypsum plaster, judging from the conserved examples of them. Once this opening is clear, it is possible to go underground into a central area where three arcosoliums, which house their corresponding interments, are normally located on its other three sides. Variations are noted in the arrangement of the arcosoliums; for example, there may be up to five arcosoliums present (two on each side and one at the back). This is precisely the case with tomb number 17, whose variants include small arcosoliums on the same access side, and variants which rule out any front or side arcosoliums. This is most probably because subsequent excavations for another arcosolium were never required.

The surface of the ground plan of these hypogea varied between 2.34 m² for tomb number 168m, and 4.75 m² of tomb number 162, but most are around 3.50 m². The smaller sizing in this case is not in connection

with a lack or scarcity of means. Quite the opposite, in fact, as the smallest tomb of them all, in relation to its ground plan and volume, is tomb number 168, which is among those of a greater architectural quality given its very careful layout and refined execution. It is precisely this accuracy which has permitted its size and excavation work to be reduced to an indispensable minimum.

The greatest volume excavated is 12.05 m³ and corresponds to tomb number 17, this being the only tomb to have five arcosoliums, two on each side and one at the front. Among the rest of the common tombs which have 3 arcosoliums, or 4 at the most, the maximum volume of earth removed is seen in tomb number 153, this being 10.42 m³. The rest of the tombs near tomb number 153 in sector C3 are equally distinguished by their ample volume which almost always exceeds 8 m³. This demonstration of major economic resources being invested in the tombs of this sector is confirmed with other details concerning their design and finishing touches, which are abundantly present in this group of tombs, as we now go on to indicate. Examples of such are the way that they were painstakingly executed, the diminished doorframes, or the possible presence of pillars or decoration.

The parameter related to the depth achieved in the excavation also offers interesting data. The two deepest tombs, these being numbers 160 and 161 both with a depth of 3.65 m, are also located in sector C3. Conversely, the shallowest tombs only presented a depth of 2.13 m, and corresponded to tomb numbers 146 and 148 located in sector C2. Within this range, the depth of most tombs varies by 2.50-3.00 m. If we compare these measurements of depths with the height of the inner chamber, which varied between 1.50 and 2.00 m in most cases, the remaining ground constituting the mean excavated tomb roof showed measurements between 70 cm and 1 m. Tomb number 140, with a lower height of 0.93 cm, possesses a record roof thickness of 1.84 m. Conversely, tomb number 132 only possesses a roof that is 30 cm thick, and it has been conserved until the present-day despite this fact, be it in a state of deficient conservation.

The length of the stairway at the entrance equally constitutes an interesting parameter to make comparisons among tombs. The longest stairway was noted for tomb number 139 with 4.97 m, while the shortest, measuring 2.17 m, corresponds to the aforementioned tomb number 168, which is characterised precisely by its small sizes, excavation volume and architectural quality. The lengths of the remaining entrance stairways vary to around 4.00 m. Frequently, small-sized recesses were created in the side walls of these steps downwards to house deceased children or infants. It is as though some belief had prevented them from burial within the family hypogea itself, but they had to be near it, somewhere before the doorway in one of the two side areas. Whatever the case may be, the position of these recesses in the left-hand side wall clearly predominates. In three of the cases studied, these recesses are alternatively placed on both sides of the steps downwards, that is, on the left- and right-hand sides. All such tombs amount to 21, which out of a total of 33 excavated structures represents 64% of the tombs with external lateral recesses intended for children or for the unborn on one or both sides of the steps.

Another interesting parameter to study is the type of doorway. Rectangular doorways predominate and represent up to 45% of all the doors that are currently visible in the hypogea. Another more elaborated type of doorway exists. It is also rectangular and presents diminished frames to house the closure slab. There are even some which possess a circular trimmed *alfiz* at their entrance, and represent 11% of the total. Full-centre archways are also abundant in these tombs and represent 32% of the total. Additionally, a subsequent type of irregular archway exists, be it of a deliberate design or because of erosion, which represents 12% of what remains of the total.

The dimensions of the entrances vary between 70 cm in tomb numbers 160 and 161 which are rectangular, and 1.00 m for tomb number 18, which is a full-centre archway. Indeed, these extreme measurements within the range of the entrance dimensions give an idea that may be genuinely confirmed, this being that, in general, rectangular doorways are lower than full-centre archways.



Figura 6. Vista de los nichos interiores de la tumba 152

Beyond the entrance, the level of the tomb floor may either be found on the same level as the doorway or below it. The depth of the doorway is the same inside and outside the tomb on both sides of the entrance in 27% of all cases. On the other hand, the tomb depth in relation to the exterior access is less in the remaining 73%.

Inside the tombs, the coverings of the visited tombs present the following variations of vaults: flat arches, diminished arches, barrel vault and truncated vault. The flat arch is the most frequent type and represents 54% of all the tombs studied, followed by the diminished arch with 14% of the total. The barrel vault type is more complex in design, layout and elaboration, and is only observed in 7% of the whole series studied. Finally the truncated vault, whose surface curves in both directions and emerges from one sphere sector, also has a complex layout despite its intuitive nature, and appears in 25% of the remaining tombs. Tomb number 154 constitutes an exceptional document as its arcosoliums and vaults are not only laid out and executed with great architectural perfection, but it also conserves two holes on the excavated surface of the right-hand arcosolium made by the small nails used to plot and lay out the arcs of both the arcosolium and vault.

The arcosoliums also present some interesting variants which are worth highlighting. In general, arcosoliums may be found with full-centre archways, basket-handle arches or rectangular arches, or even those with a mixture of lines where curves and straight lines are combined. The arcosoliums with full-centre archways, which reveal knowledge of the layout of curves with the help of a cord, are present in 50% of the total number. Those arcosoliums depicting basket-handle or rectangular arches are found in 42% of the whole series, while the remaining number are of a mixed type and only represent 8% of all the excavated tombs visited.

There is another interesting type of parameter which relates the layout of the arcosolium with that of the vault and, which in almost all cases, possesses different arches and trajectories. In 57% of all the excavated tombs, the arcosolium is presented irrespectively of the vault layout in such a way that an interior edge exists between both. Evidently, this architectural solution does not require great expertise as the independent nature revealed both layouts may assume any form of irregularity as to the position, placing and trajectory of both elements. Conversely, the tombs under study, where the layout of both the arcosolium and vault lies tangent to both their apices, appears in 32% of all cases. This architectural solution requires certain skill and, above all, some rudiments of geometry. Finally, 11% of tombs have adopted the simplest solution which consists in the layout of the arcosolium and the vault coinciding so that the location of a single curve on the excavated wall would have been necessary for it to have been built.

A circular or polygonal pillar has been encountered in the central area of some tombs. The total percentage of the tombs where this form of central support exists is 15%. If we compare the surfaces of these four cases with other tombs with similar or greater dimensions without such a support, we can rule out the idea that these pillars have been built to support a major roof surface. In fact, quite the opposite applies as some surfaces of these five tombs are quite discrete. The analysis of the ground being supported also allows us to rule out that the pillars had been built, or better still, had been excavated in these tombs to support the ground which did not offer many guarantees as this ground is identical to that of the adjacent tombs without such pillars. It is possible that these pillars have been created to provide added safety, to guarantee their conservation and to avoid collapses, although these pillars have apparently not been effectively created for the survival of these specific tombs. The architectural layout,

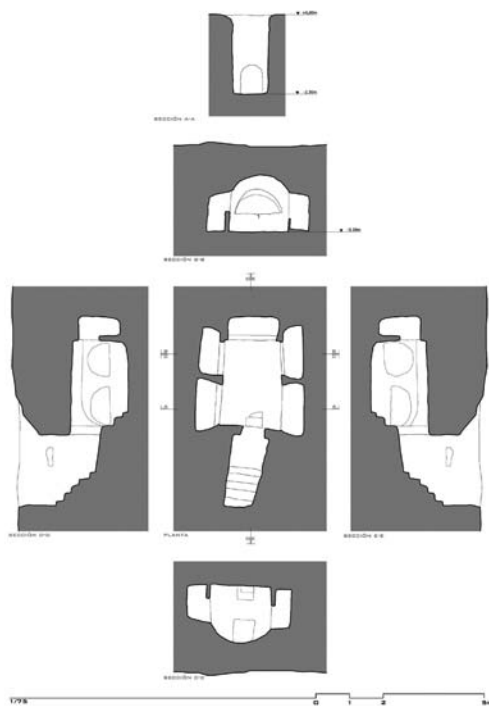


Figura 7. Levantamiento de la tumba 17

which has been painstakingly done, and the presence of worked or painted decoration on several tombs where the pillars appear allows us to propose a hypothesis that these supports have also been created, above all, for a merely architectural decorative purpose. Those tombs which possess some form of decoration, especially primitively outlined Christian crosses³, are observed in 12% of all the excavated tombs.

State of conservation

The 33 excavated tombs reveal a variable state of conservation which ranged between deficient and good, irrespectively of the presence of rubbish and waste found in many of them. Of these, 3% are in a state of ruin as opposed to 45% of the tombs which are in a state of deficient conservation, while the remaining 52% present a good state of conservation.

Those in a deficient state of conservation offer a whole range of possibilities. The most serious are those that have caved in, some of which are due to natural circumstances, others have unquestionably been caused by pillaging. Slabs have broken, or have indeed disappeared, in the tomb entrance, which may also be blamed on the actions of robbers of death rites. In addition, the marks, breakages and flaws on the doorways may also be attributed to criminal actions. All the doorways present evident erosion, particularly on the transverse section of the stairways where the vertical edging has been more or less worn away by atmospheric elements. The longitudinal section of the stairway also shows a vast erosion of the stairways excavated in the ground, which have lost all sense of any regularity that they possible had in their time, and which have become an irregular cascade of undulations leading down to the tomb's entrance.

The blunt shapes caused by the telluric deterioration of not only these transverse and longitudinal sections of the stairway, which have been affected by erosion to a greater or lesser extent, but of other parts of the tombs, indicate the passing of time and provide a measurement of their age. It is precisely for this reason that it is worth reflecting on their conservation and not on their total deletion (Mileto and Vegas, 2006). Damp and the possible presence of saline efflorescences as a result of either rain filtering through the ground or water directly

entering via the stairway once the slab which blocked the entrance had disappeared, is a genuine problem for the conservation of some tombs.

Of the 33 excavated and drawn tombs, only the roof of one has completely fallen in, and two more tomb roofs are at risk of doing so. The remaining roofs present vaults that are solid and correctly conserved. Therefore 3% of tombs have caved in, 6% of tomb roofs are at risk of caving in, and 91% of tomb vaults are in a good state of structural conservation.

Conclusions

After this vision of the tombs at the Tall-es-Sinn necropolis, which has gone from general details to particulars by resorting to their specific characteristics and by establishing crossed comparisons of their various distinctive parameters from a material cultural perspective within a fairly uniform and iterative hypogeum typology, we may observe the presence of some better elaborated tombs as a culminating point of these considerations. These tombs are not only distinguished by the presence of decorative elements that have either been worked and/or painted, or by the possible sculptured support pillar in the middle of the central area, but also by an architectural sense and knowledge which is reflected in the design of this ensemble, in the geometrical layout of the arches and vaults and in their delicate and skilled execution, upon which even the marks of picks and pickaxes made by their builder may be noted.

Tomb numbers 159, 160 and 161 in sector C3 stand out because of their execution, decoration and ample volume. Tomb number 159 with a diminished doorframe and central pillar, and number 160 with a rectangular door framed with a round *alfiz* and with several painted and extraordinarily conserved crosses, and tomb number 161 with a diminished doorframe and a central pillar decorated with a magnificent cross, apart from being neighbouring tombs, reveal a generous volume despite their discrete surface. Furthermore, the first and third cases also conserve two simple but magnificent alabaster doorways.

Then tomb numbers 154 and 155, which are also located in sector C3, and tomb 168 in sector A, stand out for their builders' architectural knowledge and sense. Tomb number 154 reveals trajectories with arcs that are perfectly laid out in the arcosoliums and vaults and, as previously mentioned, they even present marks of the nails that were used to plot them during the building process with the help of a cord. Tomb number 155 also presents delicate tangents which prove difficult to conceive and to execute between the apex of the arcosoliums and the vaults, and which certainly require former knowledge and deliberation. Given the orthogonal nature of the ensemble, tomb number 168 indicates that its builder had an excellent knowledge of the discovery and tracing of right angles.

It has to be understood that particularly the tombs in sector C3 belonged to wealthy families, which is reflected in the improved knowledge of their builders regardless of them being the owners themselves or the fact that they have been built by a paid skilled worker. It also needs to be understood that the builders learnt and copied the achievements of neighbouring tombs, which was even challenged in the quality and execution accomplished. Sadly however, this architectural study cannot offer specific data to draw conclusions about the dates, sequence or cadence of the construction of these excavated tombs.

NOTES

¹ For a former example of how this methodology is applied to another non-excavated archaeological context, see the mappings in Vegas (2001)

² For more details on these graphical mappings, see Vegas and Mileto (2002)

³ For more in-depth details about primitive Christian symbols, refer to Daniélou (1990)

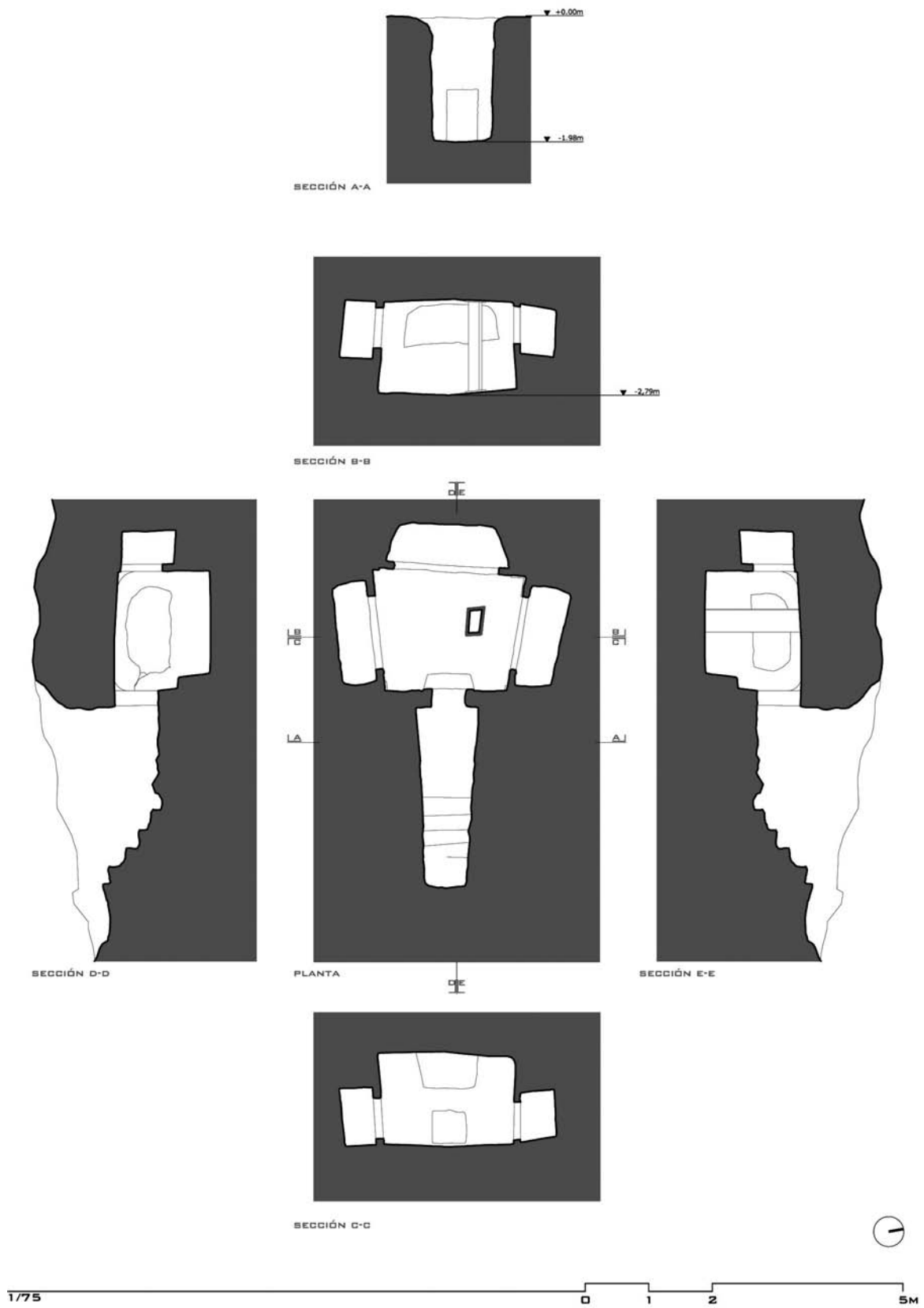


Figura 8. Levantamiento de la tumba 138

Technical record card

Direction and edition of the mapping:

Camilla Mileto
Fernando Vegas

Metric mapping of 2005:

Patricia Cruzans
J. Antonio G^a Esparza
Neus Vilalta

Metric mapping of 2006:

Valentina Cristini
Soledad G^a Saez
J. Miguel Zapata

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Versión española

TÍTULO: *Las tumbas en hipogeo de la necrópolis bizantina de Tall-es-Sinn, siria*

RESUMEN: *Se presenta el estudio previo realizado sobre las tumbas de la necrópolis bizantina de Tall-es-Sinn, Deir ez Zor (Siria), ubicada en el perímetro exterior de la antigua ciudad, con el levantamiento gráfico de las tumbas, el estudio de su disposición, construcción, geometría, tipología, dimensión, maestría de sus alarifes, herramientas empleadas... que brinda un panorama de los habitantes que construyeron estos hipogeos hace 1.500 años*

PALABRAS CLAVES: *tumba, hipogeo, arquitectura excavada, bizantino, necrópolis, enterramiento*