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INTERWEAVING TRADITIONS:

CLOTHING AND TEXTILES IN BRONZE AND IRON AGE IBERIA

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Summary

Among Threads and Looms. Maintenance Activities in the Iberian Societies: the Case of El Cerro de la Plaza de Armas in Puente Tablas (Jaén)

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Abstract:

In this paper we revise and re-interpret some of the areas in the oppidum *of Puente Tablas (Jaén) for the Iberian phase (late fifth-third century BC), focusing on the evidence of textile weaving. In this case, we aim to analyse this activity as a productive function, endowing it with the value it merits as part of the so-called maintenance activities, linking it not only to the social sphere, but also to those of the economy and culture. In particular, this article focuses on the analysis of hitherto unpublished complexes and contexts associated with this Iberian* oppidum. *This analysis is crucial since the empirical base is fundamental for inferring interpretations associated with these activities. The analysis of the various selected archaeological contexts provides information about the wide-ranging economic and social dimensions this activity acquired during this period.*

Key words: *Iberian Societies,* Oppidum *of Puente Tablas, Maintenance Activities, Textile Production.*

Resumen:

Abordamos en este trabajo la revisión y relectura de algunos espacios en el oppidum *del Cerro de la Plaza de Armas, (Puente Tablas, Jaén) para la fase del ibérico pleno (fines del s. V - III a.C.), centradas en los indicadores de actividad textil. En este caso, pretendemos analizarla como una función productiva, dándole el valor que le corresponde dentro de las llamadas actividades de mantenimiento, relacionándola no solo con la esfera social sino también con la económica y la cultural. De manera particular, centramos este artículo en el análisis, de conjuntos y contextos inéditos hasta el momento, asociados a este* oppidum *ibero. El análisis de los distintos contextos arqueológicos seleccionados nos proporciona información acerca de las amplias dimensiones económicas y sociales que esta actividad va a adquirir en esta etapa.*

Palabras clave: *Sociedades Iberas, Trabajo Textil, Actividades de Mantenimiento,* Oppidum *de Puente Tablas.*

INTRODUCTION

The material analysed here comes from the Iberian *oppidum* of Puente Tablas (Jaén, Spain). The Iberians are known as one of the most prominent cultures in the Iberian Peninsula during the Iron Age. The Iberian world developed from the sixth century BC and reached its zenith during the fifth to the third century BC. Geographically, the Iberian culture spread over the south, east and north of the Iberian Peninsula, as well as over the southeast of present-day France, and represented a clearly Mediterranean culture (Ruiz and Molinos 1998; Aranegui 2012).

As with other ancient Mediterranean cultures, for example the Greeks or the Etruscans, in the Iberian societies spinning and weaving have traditionally been associated with women. A large number of studies, focusing on different contexts (settlements, sanctuaries and burial sites), have revealed the importance of the material culture linked to these activities, demonstrating without doubt that they were an integral part of life. Nevertheless, the work related to textile production has not enjoyed explicit recognition in the economic sphere of these societies, probably because it was found in the domestic sphere and not considered an important technology as it was linked to women.

It has, therefore, been necessary to recognise the importance of these tasks, at the same time as studying, in greater depth, the daily life they were part of, and how they were related to the other spheres of action (social, political, economic, religious, etc.). This, in our opinion, is what has been done by focusing on the so-called *maintenance activities* (Bardavío and González Marcén 1996; González Marcén and Picazo 1997; Colomer *et al*. 1998), which have now been consolidated in the theoretical and conceptual panorama of gender studies. Their application as an analytical category has allowed not only a detailed analysis of the different activities, such as weaving, but also an examination of how, based on the changes undergone and the transformations involved, they may have had an impact on the social dynamic (Masvidal *et al*. 2000).

In chronological terms, we will focus our investigation on the period defined as 'Iberian,' essentially from the end of the fifth and through the fourth-third centuries BC. Spatially, we will deal primarily with the Alto Guadalquivir area, focusing on the *oppidum* of Puente Tablas (Jaén). We propose a revision and a re-interpretation of some of the houses documented in that settlement, while approaching activities that have not been dealt with before, such as those related to textile production. We look at different unpublished archaeological contexts that include material evidence of a heterogeneous nature. These provide us with information about the raw materials and end products, as well as the processes and technology used and the socio-economic and symbolic dimensions of this activity. The analysis of these findings and processes is crucial as an empirical base, without which it would be impossible to make interpretations associated with these activities. This will allow us not only to give visibility to and render an account of the active agency of Iberian women, but also to approach a more wide-ranging analysis of the domestic groups, reflecting on the implication of this activity in the community and its bearing on society.

THE *OPPIDUM* OF PUENTE TABLAS: AN INITIAL REVIEW OF TEXTILE PRODUCTION ON VARIOUS SCALES

This enclave of a little more than 5 ha is a medium-sized *oppidum* in the settlement scheme of the Alto Guadalquivir. It is situated in a privileged location, both for the control of the surrounding territory and for the economic potential of the area it would have benefited from (fig. 1). The investigations carried out since the 1980s under the direction of Arturo Ruiz Rodríguez and Manuel Molinos have provided abundant and important information (Ruiz and Molinos 2015). Born as a result of the concentration of several villages that took place in the ninth century BC, during the Late Bronze Age, it was occupied for a long period until the third century BC, with a brief period of interruption at the end of the fourth century BC. The site underwent one of its major changes with the construction of a strong fortification in the seventh century BC (which would be rebuilt over time). At the same time, an urban structure was developed in the middle of the plateau, with regularly laid out streets and a palatial zone in the south. Completed by the sixth century BC, these developments were the keystones in the history of its occupation (Ruiz *et al*. 2015). In the mid-fifth century BC, we see one of the most important reorganisations of the settlement, which involved the interior space of the *oppidum*. It is around that time that the so-called Puerta del Sol (Sun Gate) was built, a space charged with symbolism and with a sanctuary next to it (Ruiz *et al*. 2015). During the same period, the palace was extended

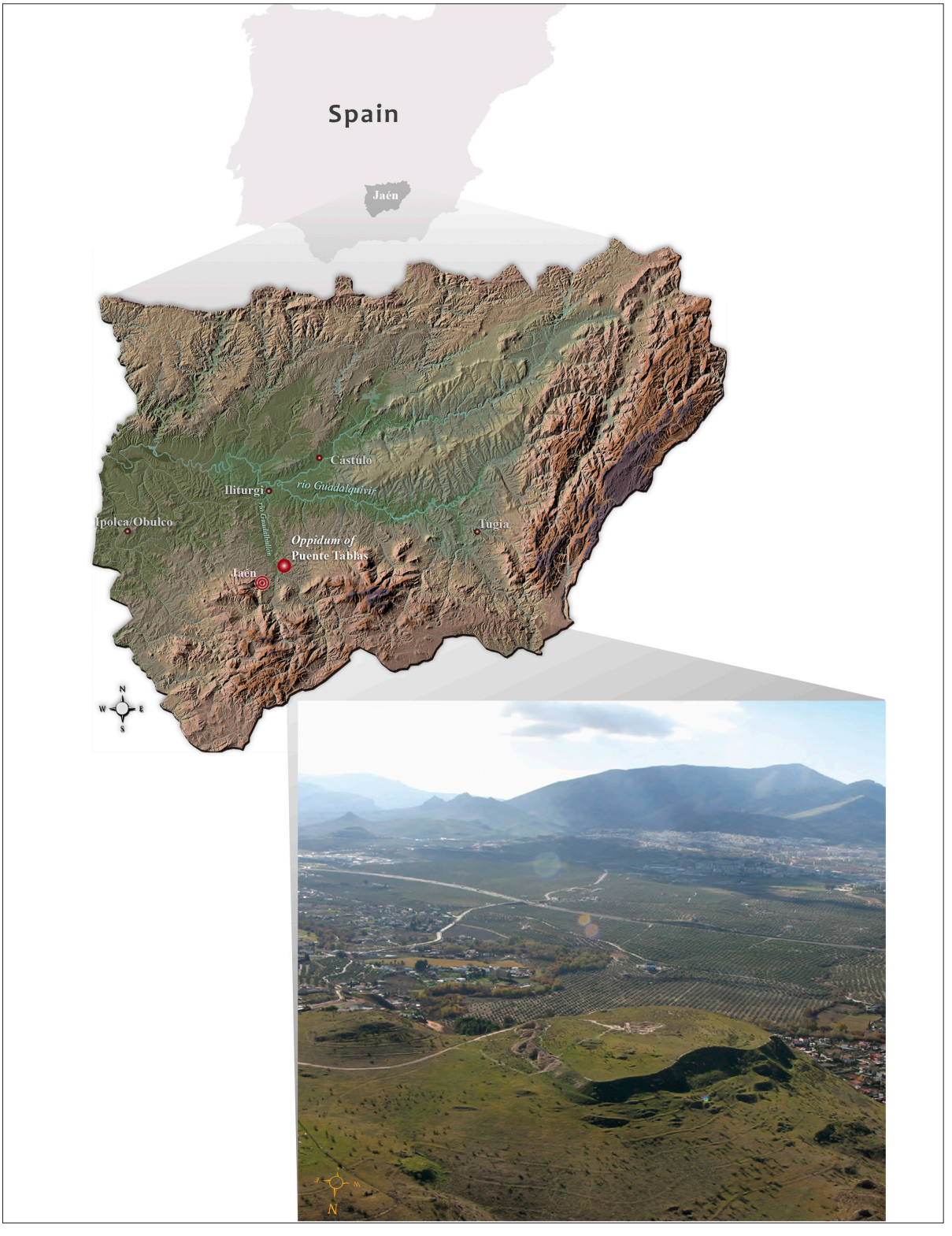


Fig. 1: Location of the *oppidum* of Puente Tablas (IAI-UJA Archive).

and took on the form we see today. The rest of the interior space was organised into a residential area for relatives and clients of the lineage, which we see throughout the fourth century BC and during the third century BC. It is this later phase that we focus on in this paper.

INDICATORS OF TEXTILE PRODUCTION: RAW MATERIALS AND TOOLS

The evidence of textile production in this settlement is mainly indirect, although this allows us to approach it from diverse perspectives and contexts, as well as utilising heterogeneous records. In terms of the raw materials used, it is the archaeofaunal and the archaeobotanical analyses that allow us to draw conclusions regarding the use of the different types of fibres of animal and plant origin.

RAW MATERIALS

The use of fibres of animal origin is attested, albeit indirectly, as stated above, by a significant presence of ovicaprid bones at the site. The faunal analyses in the settlement show the importance of livestock, especially sheep, the numbers of which increased significantly at the end of the fifth century and beginning of the fourth century BC. The observations reveal, for example, dental wear that indicates the presence of adult sheep, mainly females (Ruiz *et al*. 1985), which is indicative of a strategy of use aimed primarily at the production of secondary resources, among which would have been wool. The high quality of wool from this area is mentioned by some of the classical authors. For example, in his *Natural History*, Pliny the Elder describes the wools of Baetica and Lusitania and notes in particular the black-fleeced sheep of Hispania (Plin. *NH* XIX.2, XIX.7 ff., VIII.73).

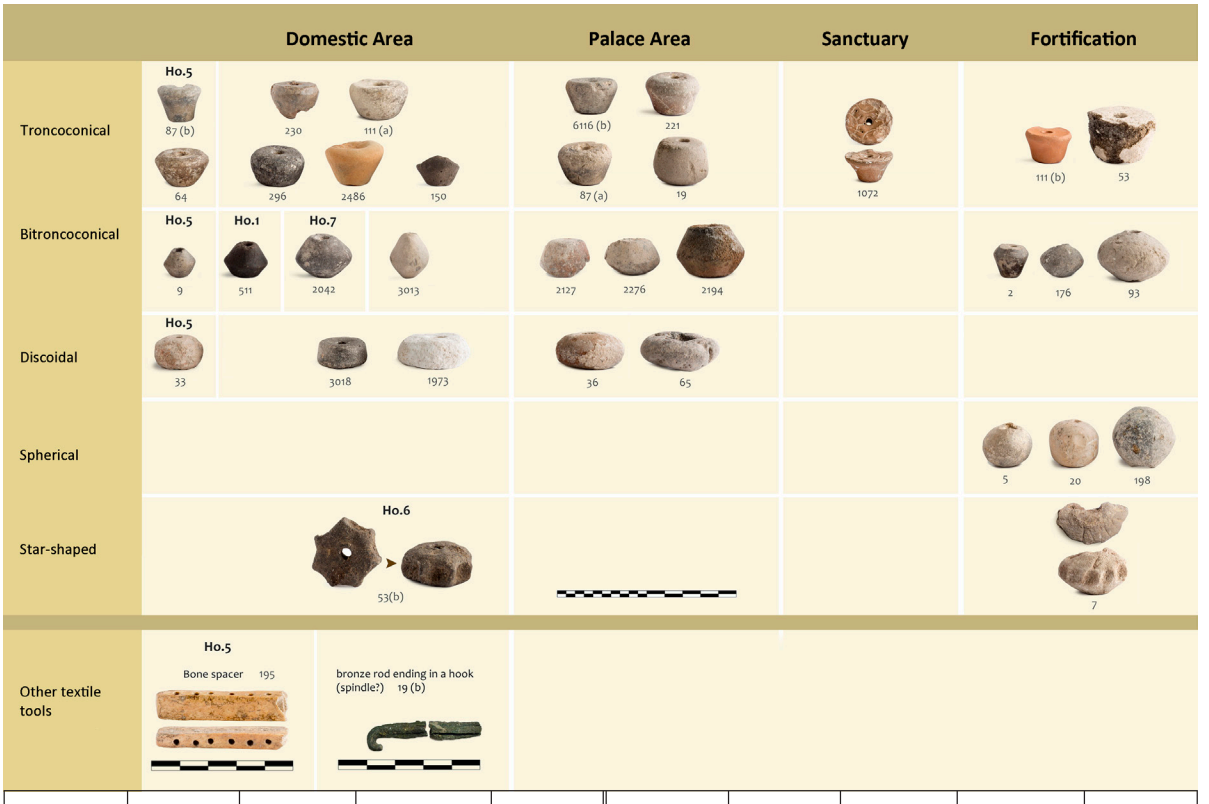
On the other hand, a systematic sampling of post-2005 archaeological studies, which carried out palaeoenvironmental analyses, revealed the presence of textile fibre plants (Montes 2014; 2015). These analyses were carried out in diverse contexts, both in the Block 1 area of houses, as well as in the palatial and Puerta del Sol sanctuary areas. The analyses show that plants used to make textiles were the second most abundant after the cereals, making up 36.7% of the plant remains. Two species were identified: flax (*Linum usitatissimum*), albeit with a low frequency of only 2%, and esparto (*Stipa tenacissima*), which is more common at 61% and represents the second most important species identified in the settlement. Esparto is part of the natural vegetation that grows around the *oppidum*, and the large number of rhizomes from this plant found and their abundance in the analysed samples show that it was an important resource used by the inhabitants of the site (Montes 2015: 128-129).

The written sources also indicate that the main fibres used in the area were – in addition to wool – flax and esparto. Pliny the Elder tells us of the excellent quality of the linen of Hispania (Plin. *NH* XIX.2, XIX.7 ff.). He also comments on the marvellous and extremely useful plant that is the esparto of the Carthaginensis, which was used to make shepherds' shoes and clothes, among other things (Rísquez 2016: 55).

Another type of record refers to the artefacts linked to some of the textile production stages, primarily spinning and weaving. The archaeological record contains a large number of spindle whorls and loom weights, as well as other tools that have gone almost unnoticed, such as the bone spacers used in tablet weaving, spindle hooks, and possible bone pin beaters. These items show us the different stages of thread preparation, the manufacture of fabrics and other elements or objects, such as ropes, mats and baskets. They also allow technological-functional analysis arising from their detailed study, as has been carried out in other Mediterranean areas (Gleba 2008).

SPINNING

Spindle whorls, being the tools that were placed at the bottom of the spindle to make it turn faster and facilitate the spinning of the resulting thread, constitute the most commonly found evidence of spinning activities (fig. 2). Of the 36 spindle whorls documented for the end of the fifth century and beginning of the fourth century BC, all were handmade and had been fired, primarily in reducing atmosphere (66% of the total). With regard to the paste, there is a clear predominance of fine and well-levigated fabrics (79.2%), with those that present clearly visible coarse or average-sized inclusions (8.3% and 12.5% respectively) being in the minority. The surfaces of most items have been smoothed, and in some cases it is possible to see the finger marks. Only two spindle whorls are decorated. One has a decoration of vertical zig-zag lines of dots, while the other – associated with



Number	Heigh cm	Ø max. cm	Ø orifice cm	Weight gr	Number	Heigh cm	Ø max. cm	Ø orifice cm	Weight gr
0002	1.7	2.0	0.5	6.02	**0198**	3.4	2.5	0.5	21.1*
0005	2.3	2.9	0.7	17.4	**0200**	-	2.8	0.5	-
0007	2.4	3.9	0.7	18.0*	**0221**	2.1	3.0	0.6	18.5
0009	1.5	1.9	0.5	4.9	**0230**	2.0	2.7	0.6	11.8
0019	2.6	3.2	0.6	21.3	**0296**	1.9	3.0	0.6	18.4
0020	2.5	2.7	0.5	20.4	**0442**	-	-	-	-
0033	1.7	2.7	0.5	14.5	**0511**	1.8	2.5	0.5	9.1
0036	1.9	3.8	0.6	30.7	**1072**	1.6	2.7	0.4	9.1
0053	2.5	4.2	0.9	41.2	**1393**	-	-	-	-
0053 (b)	2.0	4.0	0.7	32.2	**1973**	1.4	4.0	0.9	22.7
0064	1.9	3.1	0.6	17.2	**2042**	2.2	3.2	0.6	20.9
0065	1.7	4.5	0.9	41.3	**2127**	2.1	2.9	0.6	14.8
0087 (a)	2.1	3.0	0.6	21.3	**2194**	2.9	3.8	0.6	37.8
0087 (b)	2.1	2.5	0.5	6.9*	**2276**	2.1	3.2	0.6	20.4
0093	2.8	4.1	0.5	25.0	**2486**	2.2	3.2	0.6	20.3
0111 (a)	2.0	3.3	0.7	23.2	**3013**	2.6	2.2	0.5	10.6
0111 (b)	1.7	2.6	0.5	10.2	**3018**	1.9	2.7	0.6	13.2
0150	1.9	2.4	0.4	7.5	**6116 (b)**	1.9	2.9	0.6	13.12
0176	1.8	2.5	0.4	8.9	**7157**	-	-	-	-

Fig. 2: Tipology and physical parameters of spindle whorls in the *oppidum* of Puente Tablas. *Weight of half spindle whorl conserved (Image: Authors).

a ritual – has a more complex decoration of incised sun-motifs and opposing circles. In this case, we hypothesise that the decoration can be explained by the specific symbolic and ritual functionality of the spindle whorl. In terms of their shapes, the troncoconical and bitroncoconical forms predominate (44.4% and 27.7% respectively); the rest – discoidal, spherical and star-shaped – range between 5% and 11%.

As previously demonstrated by other studies, one of the important functional characteristics of these tools is their size, as the thickness and strength of the yarn depended on the weight of the spindle whorl (Castro 1980: 142; Chazelles 2000: 116). Thus, the larger, heavier whorls, which were also associated with longer spindles, were likely used to obtain thicker, stronger threads. The smaller, lighter ones were used to produce finer threads (Alfaro 1984: 77). The variety in thread diameter would have allowed to produce various qualities of fabric. At the same time, the lighter spindle whorls could have been used to increase and speed up production, which would also have been linked to the larger number of bitroncoconical and troncoconical forms (66% of the total), as these shapes at the end of the spindle increase the speed, reduce the oscillation and maintain the spinning balance for longer (Castro 1980: 144).

In addition to their weight, it is important to consider a series of measurements for these artefacts, such as the height and diameter or the size of the central perforation. In the sample we are studying, although the height of the pieces ranges from 1.4 cm to 2.9 cm, most are in the 1.5 cm to 2.5 cm range (72.2%). Their diameters are between 1.9 and 4.5 cm and the central perforations are very homogeneous with 75% between 0.5 and 0.6 cm, although we identify two groups with similar percentages near 50%. One group includes those that have a diameter greater than 3 cm, in which a large number is between 3 cm and 3.2 cm and the rest are between 3.8 cm and 4.2 cm; only one example is larger (4.5 cm). In the second group, the pieces range from 2 cm to 3 cm, although most are in the higher values of the range, above 2.5 cm. With respect to the weight, taking into account solely the objects that are complete (29), various groups can be distinguished. The first (five pieces) is between 6-9.1 g, the second (five) between 10.2-14.5 g, the third (four) between 17.2-18.4 g, and the fourth and largest group (seven) between 20-25 g. There are pieces that do not fall within these ranges, either because they are lighter (4.1 g) (fig. 2, No. 9) or heavier (32.2 g). The latter differs from the rest also in its shape, as it is star-shaped and was found in one of the houses, as we will analyse below (fig. 2, No. 53b). It is interesting to note that heavier spindle whorls (>42 g), have been documented in the earlier phases of the settlement, in the fortification (fig. 2, Nos. 53 and 198), but we do not find these values in the middle Iberian phase, which could point to an evolution over time towards lighter weights, as has been indicated in other studies (Castro 1980).

Considering these data, it can be pointed out that the diversity of shapes and weights of the documented spindle whorls refer to a thread production with heterogeneous thickness, length and resistance.

Another aspect to highlight would be the microwear observable on most of the spindle whorls, which indicates continued use.

Also linked to spinning, we should point out one of the more unusual items we were able to document. This is a bronze rod ending in a hook, which could have been part of a spindle (fig. 2, No. 19b). A spindle either had a groove or a small hook through which to thread or fix the yarn, allowing the spinner to begin working with the next length of half-twisted fibres between the hook and their hand. It can also be used to fix the yarn when plying two single threads into one (Alfaro 1984: 74). Spindle hooks have been documented in other European settlements (Alfaro 1984: fig. 34) and in other periods (Gostencnik 2011a: fig. 8; Gostencnik 2011b: fig. 3, 7-8).

WEAVING

The evidence of fabric weaving is based mainly on the finds of loom weights, as well as other minor objects, including part of a bone spacer that still has six perforations and some possible bone pin beaters.

A total of 19 loom weights has been documented for the end of the fifth century and beginning of the fourth century BC. We have classified them into five types, based on a combination of different parameters (fig. 3): shape (trapezoidal, rounded or prismatic), weight (between 100 g and 580 g), height (between 8.2 and 12.7 cm), thickness (ranging from 4.2 to 10.5 cm), the number of suspension holes (one or two), and the location of the find. All these are important indicators, if we bear in mind that the function for which they would have been used was the production of fabrics and they would have

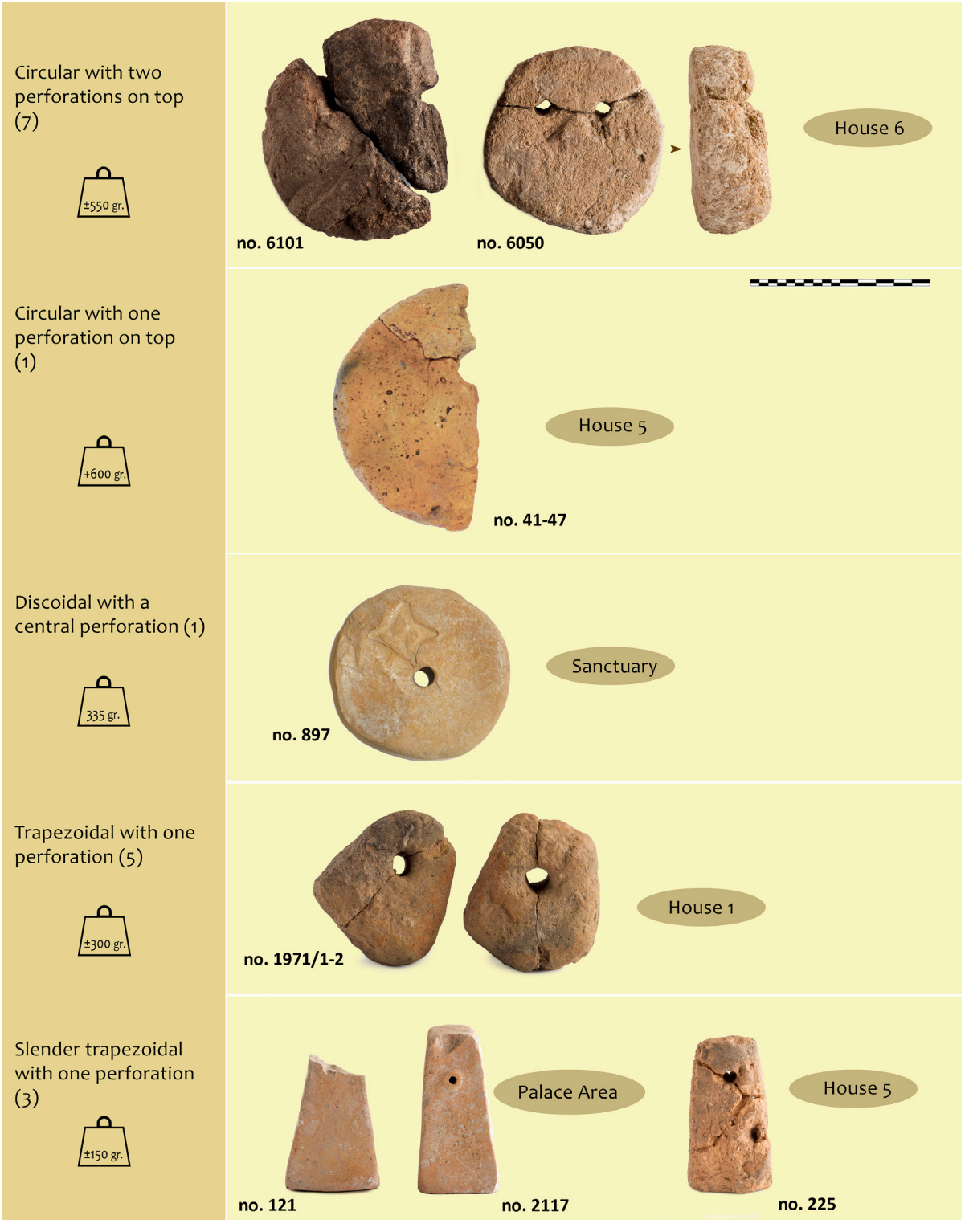


Fig. 3: Typology of loom weights in the *oppidum* of Puente Tablas (Image: Authors).

determined the number of threads attached to each loom weight. They can also give us information about the strength, flexibility and rigidity of the thread used. We do, however, have to point out (this will be dealt with below) that some of them were not intended for this function or were used for different purposes, with a symbolic connotation.

If we consider the technical aspects of their manufacture, the first differentiation would be whether the pieces were fired or not. The largest group corresponds to the fired weights, which were subjected to an oxidising atmosphere. Within this group, we can also observe two fabric types: on the one hand that which contains coarse inclusions and has virtually no surface finish, and on the other, that with fine inclusions. There are very few examples of the latter; they are well-fired pieces with well-levigated pastes and smoothed surfaces, and are also decorated. The sun-dried weights are made with very coarse pastes and well-visible inclusions. Some of them are fractured, possibly due to use or because the area of the hole is the most fragile. It is therefore an unintentional fragmentation, likely due to the production processes, together with post-depositional factors.

If we link the technical and the formal aspects, we also observe notable differences. The different production techniques we have described correspond to different shapes, weights and heights.

Among those that have been fired, three have a fine matrix, of which two have a trapezoidal prism shape (height 8.75 cm) with a hole at the top and a weight of 184 g, while one is discoidal (maximum diameter 9.7 cm) with a central hole and a weight of 335 g. The first was found in the palatial area and the second in the sanctuary area. Loom weights with the coarser matrix are trapezoidal and circular, with a single hole. By groups, those of trapezoidal shape weigh *ca*. 300 g and are 8.2 cm and 8.4 cm high, while circular ones must have been heavier, since fragmentary finds weigh almost 400 g. Circular weights are also larger than the previous ones (12.7 cm in height). Finally, we must mention the presence of some whole pieces with a lower weight of around 150 g and a height of 8.8 cm.

All the weights that have not been fired have coarse tempers and are essentially round with two holes. They weigh more, between 500 and 580 g, and are between 10 and 11.7 cm high. Without doubt, all this evidence points to the production of diverse types of fabric. They varied in terms of the number of warp threads used. It is important to emphasise that some of these weights were found as sets, leading us to hypothesise the presence of looms. They present size and morphological diversity, as we will detail below.

Another type of find related to textile production is a bone spacer. It is a rectangular piece of bone with 4.5 cm of its length preserved and a thickness of 1 cm, and with six visible perforations of 0.2 cm in diameter (fig. 2, No. 195). This type of object is linked to other weaving techniques associated with the so-called tablet looms (Di Fraia 2010: 62-63). These looms consisted of small tablets of different shapes, although the square ones were the most common. They were made of hard materials, mainly bone or wood, and had small holes in the corners through which the threads of the warp passed. There is abundant evidence of this type of tablet loom from prehistory to Roman times (Cardito 1996), and it has also been documented in Iberian contexts dating to the period of our interest, such as in the necropolis of El Cigarralejo (Cuadrado 1987) and in Baza (Ruiz de Haro 2014), as well as in settlement contexts such as La Bastida de les Alcusses (Bonet *et al*. 2011: 166-171). The use of this type of loom has been dealt with extensively (Alfaro 1984: 85-89), however of most relevance to our paper is that the spacers/tensors with multiple holes were indispensable for the functioning of this system. Their purpose was to prevent the groups of threads from various tablets becoming entangled as they were rotated. This type of loom would have been used to make the borders of the larger pieces of fabric, bands for different garments (tunics, cloaks, etc.) as well as belts or ribbons. One of the best-known representations, in which we can see how our piece would have been inserted in this type of loom, in this case to make the edge of a cloak, was found in the Lippi Tomb 89/1972 in the Etruscan necropolis of Verucchio in Italy. This example has been used for the proposed reconstruction of the procedure followed and the tools used, indicating the function of these pieces (Raeder Knudsen 2002: 229-230, fig. 103, fig. 104). Three bone spacers with a sub-rectangular section, similar to that we present here, were documented at Fonte Tasca di Archi in Italy (Di Fraia 2010: 62-63, figs. 3-5).

Finally, although very fragmented, we have identified possible bone pin beaters; they are not very elaborate and are associated with some of the areas which are discussed in greater depth below.

Fig. 4: An spatial distribution: spinning and weaving in the *oppidum* (Image: Authors).

AN INITIAL APPROACH TO SPATIAL DISTRIBUTION: SPINNING AND WEAVING IN THE *OPPIDUM*

Spindle whorls are involved in one of the earlier steps in textile making, i.e. spinning. The spatial distribution of spindle whorls in the areas of Puente Tablas that have been excavated to date indicates that spinning was carried out across virtually the entire settlement, suggesting that no specific space was dedicated for it (fig. 4).

In this sense, differences in the distinct areas of the *oppidum* are evidenced based on the technical-functional parameters that we have described in the previous section. Almost all the pieces found in the palatial zone, which amount to 23.6% of the sample, are more than 3 cm in diameter (3-4.5 cm). Only one is slightly smaller (2.9 cm). However, among the shapes, the largest percentage corresponds to those that are troncoconical and bitroncoconical, as in the rest of the settlement; two are discoidal and correspond to those with the largest diameters (3.8 cm and 4.5 cm). It is also noteworthy that of the only two decorated troncoconical pieces, one was found here and the other in an equally symbolic and important place – the Puerta del Sol sanctuary. It is the only example found there and perhaps it had a different use – a metaphoric allusion – given the context.

In the middle of the *oppidum*, where some of the excavated domestic units or houses are located, 42% of the pieces have a greater variability in diameter (1.9-4 cm) and weight. Two distinct groups (with more than one item) can be differentiated. One between 9.1 g and 14.5 g and another between 20.3 g and 23.2 g; we will evaluate the rest of the pieces individually. One of them corresponds to the smallest example found in the settlement (4.9 g), another to an intermediate value between the two differentiated groups (17.2 g), and the third is much heavier (32.2 g). The uniformity of shapes should be emphasised, with an almost absolute predominance of troncoconical and bitroncoconical forms. The heaviest piece identified also differs in that it is the only one with a star shape.

Spindle whorls found in the surroundings of the fortification (22%) present a greater variety of shapes (spherical, bitroncoconical and star-shaped), with two groups in terms of weight (6.02-10 g and 20.4-23 g) and one piece weighing 17.4 g. This would indicate a group with a lighter weight, lower than that documented in the houses, which could have been used to make finer threads, and another in which the pieces have similar weights to the other zone.

The remaining 12% were documented in different test trenches excavated on the plateau, mainly between the houses and the palatial zone. They are all troncoconical

or bitroncoconical and not very heavy (10.6-18.5 g) and, once again, could have been used to manufacture different types of thread.

As far as the loom weights are concerned, the greatest concentration is found in the middle of the plateau, specifically the excavated houses, as indicated by their spatial analysis. The differences in shape (trapezoidal with a single hole and rounded with two orifices), all made using coarse pastes, together with the weights (150 g, 300 g, 500 g - 580 g and more) and firings, allow us to undertake a more detailed study, hypothesising the presence of different types of looms.

Also of major significance is the location of the two well-fired weights, which were made using finely levigated clay. One, which was found in the palatial zone, is in the shape of a trapezoidal prism with a hole at the top. It has an oxidation-type firing, with a smooth, highly polished surface and an incised line on the base. Its markedly smaller size and weight (184 g), as well as the context in which it was found – a foundation ritual – leads us to believe that it was used in worship.

Much clearer is the symbolic value of the piece found at the Puerta del Sol sanctuary – a discoidal weight with a hole in the middle, weighing 335 g, with an oxidation firing, and a finely levigated clay with a smoothed surface. In this case, it is decorated on one side with a lotus flower motif – associated with divinity in Iberian societies. Both will be dealt with below.

THE HOUSES AS A STUDY CONTEXT

The urban layout in the centre of the *oppidum* has been well documented by the excavations carried out in recent years, which have revealed its domestic architecture. As we have already indicated, we know that square and rectangular plots were laid out from the mid-fifth century BC in the centre of the settlement. These corresponded to houses that went on to form blocks situated between streets. These blocks appear to have the same design: an approximate width of 28 m with two rows of houses separated by a common wall that distributes them on both sides, opening onto two different streets of some 3 m in width.

In Block Number 1 (fig. 4), the open-area excavation of various houses revealed a variability in the size and distribution of their spaces, with some opening onto Street 3 and one onto Street 2. They all have a length of some 14 m, although their widths vary between 6 and 9 m, manifesting the diversity of these domestic units. The smaller ones would have covered some 60 m^2 and the largest (so far documented), House 2, is 120 m^2. We also know that in some cases they had an upper floor. Some, such as Houses 3-4, are highly complex and likely exceeded the scope of a domestic space and may have been a large warehouse (Ruiz *et al*. 2015).

In all these houses, the courtyard plays an essential role because is the main area for consumption and for the production activities. It was the largest space in the house and only the half was roofed. Likewise, we see a greater trend towards privacy based on the arrangement of the doors and the existence of this type of courtyards around which the house is structured. There was also an increase in complexity, whereby the different spaces appear to reveal a greater functional specialisation.

Thus, the house becomes an exceptional context for analysing aspects related to the maintenance activities and in the following sections we focus on one of these activities – textile production.

AMONG THREADS AND LOOMS: A MICROSPATIAL ANALYSIS OF THE TEXTILE ACTIVITIES

House 1 is the simplest of those excavated in Street 3, with a courtyard at the entrance and two rooms at the back (fig. 5). The room on the left has a continuous bench that acted as a cupboard onto which various receptacles were placed. The room on the right, like the other, has part of the floor paved, with the rest possibly having been occupied by an item of furniture or a bed, which is why it has been interpreted as a store-bedroom (Ruiz *et al*. 2015: 116).

Items linked to textile production were found in the courtyard of this dwelling. They include a spindle whorl and a set of five loom weights found together, three of which are complete. Here it is necessary to highlight not only their shape (all trapezoidal with a single hole), which is different to those documented in other spaces, but also their weight (all around 300 g) and height (8.2-8.4 cm). The most spacious room, which is interpreted as having multifunctional purpose (Rísquez *et al*. 1991), also contained a loom weight. Although it is also trapezoidal in shape, its appearance is much more stylised, as it is slightly higher (9 cm) and significantly narrower, with smaller distance between the hole and the top. Its weight of 150 g is half that of those found in the courtyard, and could possibly link it to the production of a different kind of fabric.

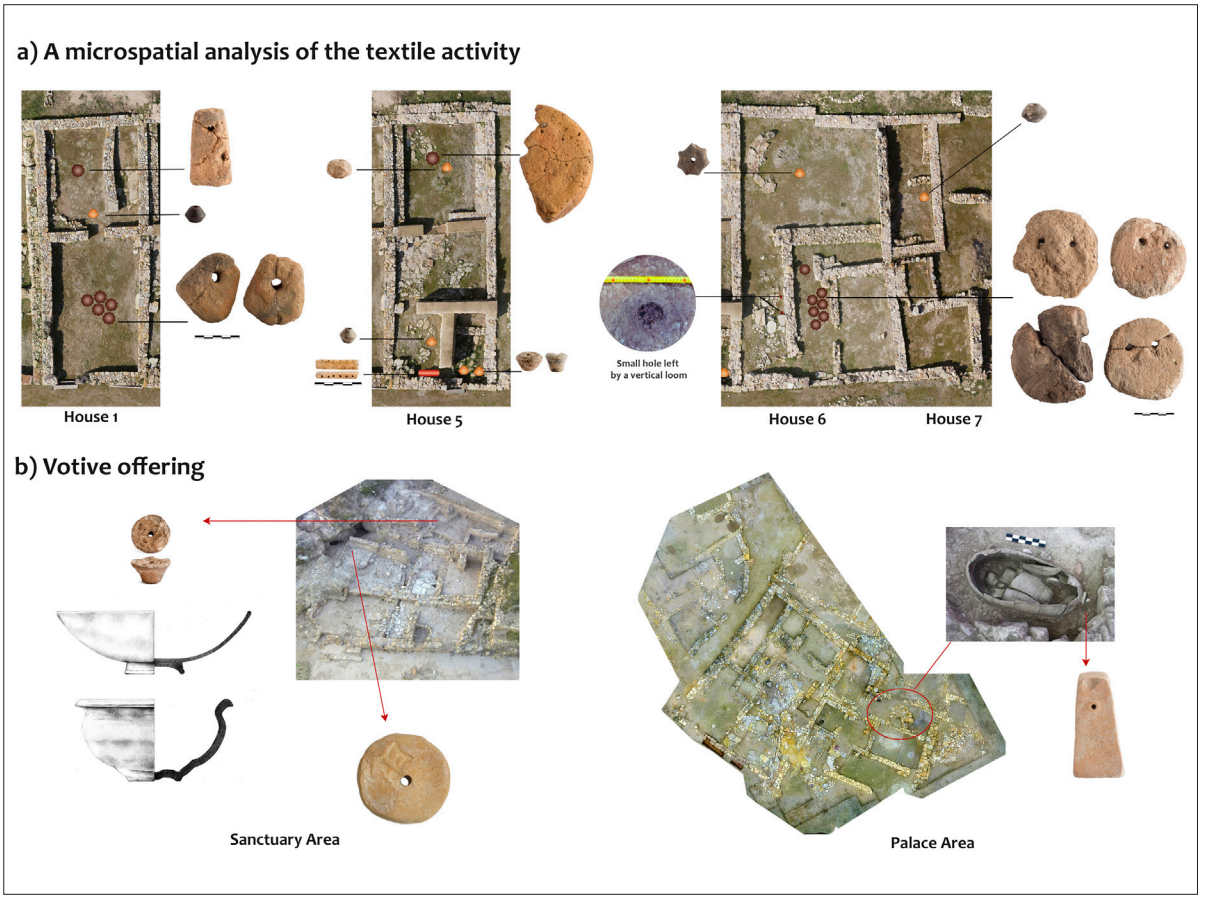


Fig. 5: A microspatial analysis of the textile activity and the ritual dimension of weaving (Image: Authors / IAI-UJA Archive).

House 5 is the same width and length as House 1. At the entrance it has several rooms, including a stable. The courtyard is on the opposite side, i.e. at the back, where the remains of an oven have been documented. This house contained the largest number of spindle whorls (4). In terms of the weight, two groups – 4.9 g and 14.5-17.2 g – indicate that the threads produced here were relatively fine. It is also significant that it was in this house that the bone spacer associated with a possible tablet loom was discovered. It is also significant that it was in this house that the bone spacer associated with a possible tablet loom was discovered. Also in the courtyard of this house two pieces of a circular loom weight were located. It is the largest one documented in this settlement based to its preserved weight and size.

The last of the houses analysed here, House 6, shares its western wall with the previous house and is identical in size, 14 m long and 9 m wide. During the phase we are studying, it was divided into five spaces, four of them covered and with a semi-covered courtyard at the back, where a star-shaped spindle whorl was found, as well as an oven, probably for baking bread. In this case, the rooms are on each side of a passageway that starts at the entrance. In terms of textile activity indicators, here we were able to document a set of weights that differ from those already described. They correspond to the group that has not been subjected to firing. They are round with two holes, weighting between 500-580 g and with heights between 10-11.7 cm. What is significant in this case is the presence next to one of the walls, also near the entrance, of two small post holes in the floor, with a distance between them of some 70 cm, that could correspond to the width of a vertical loom. This is an important fact as, with those measurements, we can estimate the width of the loom and even the width of the pieces of fabric made on it.

THE RITUAL DIMENSIONS OF WEAVING

For a comprehensive view of the implications of the archaeological record associated with the textile activities in this *oppidum*, we need to include some aspects linked to ritual practices. The ritualisation of domestic items with diverse uses was common in the Iberian societies. Thus, spindle whorls and loom weights are attested in numerous places of worship, sometimes in large numbers. Examples of this include the territorial sanctuaries of Collado de los Jardines (Santa Elena, Jaén), La Cueva de la Lobera (Castellar, Jaén) and El Cerro de los Santos (Montealegre, Albacete) (Sánchez Gómez 2002; Rueda 2011). In these cases, a very extensive record of the loom weights is related to the offering of the artefact itself, and what it could represent symbolically. We also find infrastructure related to fabric weaving as a sacred activity in the sanctuaries themselves. In the case of spindle whorls, their extensive documentation in places of worship, within which coming of age rites played an important role, links them to the symbolisation of the transformation from childhood to adulthood, which involves leaving behind the characteristics and activities of youth (Rueda 2013a). In the specific case of textile production, it would also have symbolised the adoption of a different role in the control of specific activities, such as weaving. Occasionally, the iconography provides us with exceptional testimonies of this activity, which is linked to the female sphere, for example, in Sant Miquel de Llíria (Valencia). In fact, this image is one of few iconographic testimonies of Iberian period that shows a feminine scene revolving around textile activity. There are two protagonists. To the right, a woman in profile view is depicted seated in an highly decorated chair. She is located opposite to a loom from which a set of threads hangs. The woman holds in the hand what has been interpreted as a flower. On the other side of the loom, a young woman (characterized by the braided hairdo finished off in a ring) is spinning, holding a spindle and a ball in each of her hands (Izquierdo and Pérez Ballester 2005: 94-95; see also Prados Torreira and Sánchez Moral in this volume).

However, the map of symbolic manifestations with which these finds are associated is much richer and the recent discoveries in Puente Tablas contribute to our understanding of the specific processes linked to diverse contexts and meanings. One of them is related to the palace, specifically to the production area that served the palace, in which of particular relevance is a large oven with preserved semicircular stone base. It would have been infrastructurally important for this area because its dimensions are unusually large and, instead of being located in a public space as in other Iberian sites, it was located in a private one, i.e. the palace. Its construction was preceded by a very particular ritual: the deposition of an amphora sealed with a plaster stopper, next to which a loom weight was placed. The physical-chemical analyses to determine the amphora contents indicate the presence of vegetable fats, which would suggest that it contained some type of vegetable oil – without doubt, a product of considerable value in the productive context of the third century BC. We may, therefore, be looking at the foundation ritual of an important and recognisable feature of the palace.

Another of the contexts takes us to the Puerta del Sol sanctuary, a place of worship organised around a complex mythology of a female divinity. This area would have been used for a series of rites that defined the aristocratic cult of an Iberian lineage for the late fifth century and the first half of the fourth century BC (Ruiz *et al*. 2015). The sanctuary covers an area of 300 m^2 and is divided into three terraces, two of them with a clear ritual function. The middle terrace, which has been defined as the main ritual area, included an exceptional find: a unique loom weight with a lotus flower stamped on it not found in any other Iberian context. At its western end, there are four small caves and a paved platform with three small libation altars that correspond to three of the four caves facing the complex. The caves, as a liminal space in the symbolic sense, are differentiated and physically separated from the built area with a small stone wall. It is a boundary, a *témenos*, that cannot be crossed. Indeed, no offerings have been documented inside the caves. This contrasts with the votive record of the platform and courtyard of this terrace, in which there is the noteworthy presence of pottery storage vessels – amphorae, together with small cups. Also worthy of mention is the discovery in the same area of a two Attic black-figure cups and a red-figure krater. The latter depicts an initiation rite in the presence of a statue of a goddess, probably Aphrodite or Artemis. This piece is therefore linked to the rite carried out in this area, although we are still unable to specify its exact function. Nevertheless, its intriguing iconography, which integrates perfectly into the symbolic context of this sanctuary, indicates its possible importance in the celebration of rituals. Another indication is its deposition in the worship context, together with the ceramic votive offering mentioned above (possibly foundational),

as the sanctuary was intentionally dismantled at the beginning of the fourth century BC and subjected to a major restructuring that included sealing off the caves and this terrace. The commemoration of aspects and artefacts (liturgical or not) must have been intentional, sealing them in their final place of use and deposition.

In fact, remembrance rituals are often integrated into the Iberian religious space in diverse ways. The last context to be discussed at Puente Tablas must have been part of this area of commemoration, linked to this sanctuary. In the third century BC, a small underground deposit was documented directly in the sediment that seals and covers the area of the sanctuary, specifically on its upper terrace. It is a small assemblage made up of two pottery cups and a decorated spindle whorl. This context is linked to the aforementioned reoccupation phase of the third century of the *oppidum*. In this phase the occupants continued to use key areas, such as the palace and the same houses that were inhabited in the fourth century BC, but not the sanctuary, that continued abandoned. Nevertheless, in different areas we document re-founding and commemoration rituals (House 7), with areas that still survived in the collective memory, half a century after the town had been abandoned.

CONCLUSIONS

Regarding the textile activity, we are witnessing an increase in the production of fabrics in the Middle Iberian Period for Iberian Area. Considering the increase of sheep cattle and the presence of traces of vegetable fibers and textile manufacturing tools, this process is also visible on a smaller scale in Puente Tablas. This suggests that there would have been a major demand for cloth. Nevertheless, understanding how textile production was organised in the settlement is complicated, particularly since much of the site is still unexcavated. However, in the light of the information we have obtained, we can offer hypotheses that will go some way towards reaching this objective.

The first inference concerns the diversity of fabrics that were likely produced. This, as we have indicated, can be inferred from the raw materials used (wool and flax) and the types of thread that the inhabitants appear to have been making (of diverse thicknesses and strengths), in accordance with the different groups of spindle whorls we have found. Likewise, we can point out that the textile production took place in domestic spaces, where other activities of the group inhabiting them were carried out. In light of the data referred to in the previous sections, we could hypothesise a certain specialisation in the work, at least as far as textile production in these houses is concerned. The different shapes and weights of the loom weights, as well as the find connected to tablet weaving, with clear differences between the analysed contexts, suggest differentiated types of production. If we consider the fact that these houses are in the same block, we could infer the social relations of those who inhabited those spaces. It is entirely possible that they could have worked together on the production of different types of textile goods, especially considering that such fabrics were not just for clothing but also for domestic textiles, such as bed linen, furnishings, hangings, etc.

On the other hand, in some houses, possibly corresponding to certain social levels (e.g. House 2), no elements linked to this production were documented. If such production was carried out in a differentiated manner in other units it could indicate a certain level of organisation and control.

Other aspects that would be worth researching in depth through specific studies are those linked to the learning and initiation practises in textiles activities. Images like the one mentioned above, from Sant Miquel de Llíria, show the use of spinning elements associated with young girls (Izquierdo y Pérez Ballester 2005), which refer us to aspects related to education and transmission of knowledge linked to different weaving processes. Another matter is to assess the role that miniatures can play in the transfer of knowledge and of symbolic aspects related to textile activity and the female gender in Iberian societies (López-Bertrán 2015). As has been analysed for other Iberian sites, such as La Bastida de les Alcusses, the miniatures that allude to domestic items and contexts contribute to the transmission of values related to diverse aspects (the resources of the land, the use of arms, banqueting, etc.), among which we find those linked to behaviours fixed in the «'ideals of gender', fundamental for building social persons» (López-Beltrán and Vives-Ferrándiz 2015: 11-12). Closely related to this sphere would be the ritual and symbolic area that, as we have previously indicated, is introduced in a very personal and active manner in the space of the *oppidum*. Once again, the religious space, which essentially alludes to these activities, is constructed heterogeneously and is rich in nuances.

Within this space, these finds (primarily spindle whorls and loom weights) are incorporated and sometimes do not correspond strictly to their function, but are symbolic, alluding to the house, the family, the initiation or prosperity. On the other hand, we should not lose sight of the direct relationship attested in these Iberian societies between the attire, status and social identity. For example, in the iconographic language of the Cástulo sanctuaries (Collado de los Jardines and La Cueva de la Lobera), the form of dress, as a social and ritual mark full of symbolism, was an active element in the ceremonies (Rueda 2013b). These contexts highlight the importance, formally and informally, of the composition of the attire, which is involved in the configuration of the body as a social construction and space of memory, and helps us to deduce aspects related to religious and social identities. In summary, and related to the subject of this article, these aspects allow us to evaluate the transference of the textile production and uses to other spheres, jolting us out of our theoretical positioning and traditional preconceptions that restricted this activity to the sphere of the house and a strictly domestic reading.

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