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LATE BRONZE AGE: MEDITERRANEAN IMPACTS IN THE WESTERN END OF THE IBERIAN PENINSULA
(ACTIONS AND REACTIONS)¹

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ABSTRACT
While examining the impact of metals over indigenous contexts, the author constructs a perspective about the Western End of the Iberian Peninsula in the Late Bronze Age. Amongst other things, it was possible to account for widespread bronze production, usually domestic, involving modest means of production and aimed at local and regional consumption. Some Mediterranean elements also occur within the same contexts, showing new shapes, functions, styles, materials, technologies, ritual practices, but Mediterranean metals play a minor role. Hybridization as cultural phenomenon is also possible. Some items of Mediterranean filiation are also represented on Warrior Stelae, expressing the role played locally by the «outside» in the reinforcement of social inequalities. All these evidences seem to have been residual, circumscribed to the circle of the elites. So these elements neither expressed pro-Mediterranean acculturation, nor created a profound effect on the lives of the communities.

KEY-WORDS: LATE BRONZE AGE; IBERIAN PENINSULA; MEDITERRANEAN; BRONZE; HYBRIDS; INDIGENOUS COMMUNITIES

Geo-Strategic and cultural placement
During the transition from the 2nd to the 1st millennium BC (XII-IX cent. cal. BC), the Western End of the Iberian Peninsula experienced a profound transformation marked by heterogeneous regional realities. In this dynamic, several communities played with different strategies, as a consequence of the specific cultural heritages shaping them — in fact the area studied does not show homogeneity during the Middle and Late Bronze Age. This resulted from contacts and stimuli assimilated (or rejected) from various sources, or even, and fundamentally, from choices, wishes, practices and actions underlying the materialities we find, in conjunction with the materialities that we can only deduce, intuit, or guess.

One of these actions was the handling of metal (here considered in its broadest sense as having an inclusive dimension with social meaning): procurement, production, consumption, circulation and accumulation. Therefore, this starting point values the indigenous contexts where we have found metal, alongside other exogenous factors which show interaction towards «others», independently of their causes and guidance.

Amongst the external contacts and stimuli, involving a diverse range of elements and being combined at dif-

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ferent paces and intensities, it is possible to identify the presence of the Atlantic, Continental and Mediterranean worlds meeting in the Western End of the Peninsula, during the last two centuries of the 2nd millennium BC and the beginning of the next.

Several authors have acknowledged and characterized such contacts long ago, although from diverse paradigms, the more Eastern-focused analyst sees more Atlantic-focused, and consequentlly we have an extensive scientific heritage on the subject today. As an example, concerning the Mediterranean, both Almagro-Gorbea and Marisa Ruiz-Gálvez always insisted, regardless of their different perspectives, in the importance of the -proto-Orientalizing- and -proto-Phoenician-contacts between the Iberian Peninsula and Eastern and Central Mediterranean.

The crucial role of Central Mediterranean, seeing Sardinia as an intermediary platform in the complex web interwoven between East and West in the Late Bronze Age, was exceptionally well defended by Lo Schiavo (1991, 2008) and Ruiz-Gálvez (1993) and previously approached in the PhD-thesis of Jacques Briard in the 1960s (BRIARD, 1965: 257). Nevertheless, we should not forget that, in addition to Sardinia, -les solidarités méditerranéennes (COFFYN, 1985) also include Sicily and mainland Italy, as stressed by the researcher from Bordeaux. This critical question of the relationship between the Atlantic and the Mediterranean recently received a thorough and extended debate (CELESTINO, ARMADA and RAFEL, 2008).

The geographic placement makes it easy to classify the Western End of the Peninsula as finis terrae (where the land ends and the black and unknown Atlantic begins) or as periphery (for those who, travelling through the blue Mediterranean, reached the border to a limit, i.e., could not go further). However, both concepts —the periphery, the border— aren’t absolute but relational concepts that depend on where we focus. In the narrative here proposed, it is the position of the indigenous communities that will guide us.

If we position ourselves in their place, we see that this area is also a key space from where you could depart, and where several different paths converged or crossed, having little of peripheral. On the contrary, one of the centres of the world was right here, at the right point —a right angle— between two of the most dynamic regions of the time: the Atlantic and the Mediterranean. In a certain way, we can say that (almost) all the paths led or passed through the Peninsular West (VILAÇA, 2007a).

This unique geostategic positioning should be associated to the richness, diversity and complementarity of critical resources. For example, copper ore can be found mainly in the South, but also in the Centre; tin in the North-west, Beira Interior and the Spanish Extremadura; alluvial gold was exploited, for example, in the basins of the Tagus and Douro rivers (Figure 1).

For local communities, the advantage was twofold, either granted by direct wealth produced by controlling ore rich territories, or because the desire for such richness attracted foreigners, outsiders, resulting in new contacts, new knowledge and, therefore, more power. It is clear that the mainland concentrated these resources and the sea was far, however, the ease of movement provided by large rivers (Douro, Vouga, Mondego, Tejo, Sado and Guadiana) shortened the distance. Some of them were navigable for several kilometres and had deep paleo-estuaries, working as an interface between the Atlantic coast and the hinterland. For that reason, it is necessary to account for the importance of mixed routes, maritime, fluvial and by land (VILAÇA, 1995: 426; ARRUDA and VILAÇA, 2006: 32).

In the socio-economic conjuncture of that time, the West End of the Peninsula, and particularly its central region (between the Douro and Tagus, alongside the Beira Interior, Beira Central and Extremadura) became one of the most dynamic regions, displaying local productions, exports, imports and imitations (KALIR, 1988; COFFYN, 1995: 267; CARDOSO, 2004: 177-226, amongst others). This means that those communities, named -margin- or -peripheral-, played an active role in view of the stimuli radiating from the centre (RUIZ-GALVEZ, 1998: 272-273, 2005: 252).

Their action was not only of a recipient in a reflex, but acted as a counterpart, proactively working within the sprawling network of trans-regional, pendular and bilateral movement paths between the Atlantic and the Mediterranean (VILAÇA, 2007a).

This dynamic, somewhat -enclosed- by Coffyn in his -Groupe Lusitanien- (COFFYN, 1985, 267), is particularly expressive amongst the lead actors of this Seminar, the metals: double-looped palstaves, unifacial palstaves, socketed axes, -Porto de Mós Type- daggers, -Irocanes Type- scythes and rotary spits (Figure 2). To this group we can now add the -tranchets-, presenting a distribution that largely matches them, as will be discussed in 2.2 (VILAÇA, 2010).

Unlike two decades ago, when the high density of finds lead to thinking that Portuguese Extremadura was the epicentre of metal production and circulation, the research at Beira Central and Interior softened that image. For that, it was decisive the development of some research projects focused in the Centre-mainland of the Portuguese territory, from the end of the 80’s and beginning of the 90’s, which revealed valuable information on Late Bronze Age supported by radiocarbon dating. The ambitious excavation plans allowed characterizing the phases of occupation by recurring to a comprehensive strategy aimed at understanding each site and the lives of the communities.
FIGURE 1. Geo-Strategic placement of Iberian Peninsula’s West End.
FIGURA 2. Bronze artefacts of the «Groupe Lusitanien». 1) Vila Boa (Castro Daire) (fot. IPM); 2) Penedos Altos (Alvaiázere); 3) Freixeiranda (Ourém); 4) Travasso (Mealhada); 5) Marługueira (Alvaiázere) (fot. IPAD).
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It is usually in the mainland that we find the most consistent proofs of autonomous productions, as shown by moulds and crucibles from several settlements (Figure 3). These indicate a full integration of metallurgists in local communities, interacting with regional powers, i.e. with the ‘agents of metal circulation’ (VILAÇA, 1995: 420). It is also in the same regions that we can find the biggest and most diverse group of original Mediterranean or Mediterranean inspired items (VILAÇA, 2008). In summary, this framework shows the existence of distant and multidirectional contacts fed by the dynamism of indigenous groups.

Concerning metallurgy, data from excavations at settlements in Beira Interior, such as Castelejo (Sabugal), Monte do Frade (Penamacor), Moreirinha, Monte do Trigo (Idanha-a-Nova), Monte de São Martinho (Caste-lo Branco), Castro de Argemela (Fundão), is compatible with a model of ‘household metallurgy’. Such a model is characterized as follows: broad, familial, modest, small scale, mainly for local or regional consumption. It reveals complete control of bronze metallurgy, with binary alloys of good quality (VILAÇA, 1995: 417; 1998a: 355-356, 358; 2008: 579).

Figure 3. Moulds and crucibles. 1, 3) Cabeço da Argemela (Fundão); 2, 4) Castelejo (Sabugal)
This model was also applied for the region of Beira Central, since data from sites such as Outeiro dos Castelos de Beijós (Carregal do Sal), Crasto de São Romão (Seia), or Santa Luzia (Viseu), revealed a similar level of local bronze practice (SENNA-MARTINEZ and PEDRO, 2000; SENNA-MARTINEZ, 2005).

The reality underlying this model, somewhat scattered through multiple residential foci, is remarkably different from what shows up in other contexts. In those contexts there is a significant investment in the means of production, with high levels of metal storage, showing heavy, voluminous, sophisticated, mass production items and trans-regional circulation, exemplified by the single and unique settlement of Baiões (S. Pedro do Sul) (SILVA et al, 1984; ARMBRUSTER, 2000; 2002-2003; SENNA-MARTINEZ and PEDRO, 2000). When compared to settlements, many bronze hoards show a remarkable quantity of stored metals, leading to the assumption that two levels of activity co-existed in the production of bronze (VILAÇA, 1995: 414-421; 1998a: 358; 2008: 379).

The research projects aforementioned, alongside the re-evaluation of materials from museums (some of which unpublished), allowed the identification of Mediterranean inspired elements in these indigenous contexts. Since this was unknown until then, it forced us to look more attentively to the East.

2. SIGNS FROM THE MEDITERRANEAN

2.1. Previous remarks

In order to answer to the question: What was the role of metals amongst other Mediterranean elements? We have to start by looking at all Mediterranean inspired elements. However, two main questions have to be previously addressed. It is fundamental to discuss what we consider here as Mediterranean inspired elements, and how to identify them.

Here, the meaning of “Mediterranean elements” is not limited to object import or to the adoption of new technologies. In fact, this last situation demands the simultaneous involvement of the master and apprentice, since technology is learnt not copied, i.e., requires seeing and doing (ARMBRUSTER, 2002-2003: 153). In this package one should also include stylistic, conceptual and symbolic elements or aesthetics, ideology, and behaviour codes, alongside all the transformations inherent to any transmission process (KRISTIANSEN and LARSON, 2006: 44).

When dealing with artefacts, it is relevant to notice that their suspected origin from and through the Mediterranean does not mean that their provenance is Mediterranean. In the same way, to consider them as Mediterranean just because of morphological and typological parallels is, clearly, risky.

The problem of distinguishing between originals, imports and the indigenous creations, whether these are extreme mimetic versions, or imitations that show intentional differences to assert identity, requires some ideological subtlety. As known, the distinction of these different situations is not always shown by typological, stylistic and technological analysis, even when wielded by renowned experts. In this respect, the controversy around the famous wheeled cult carts from Baiões is symptomatic, and there are different and contrary proposals to explain it: is it an import from the Mediterranean (RUÍZ-GALVEZ PRIEGO, 1998: 286; and 300), Cyprus, Syria/Middle East (ALMAGRO GORBEA, 1989: 714), Sardinia (ALMAGRO GORBEA, 2000: 714), Phoenicia (GONZÁLEZ DE CANALES, 2004: 249), mainland Italy (COFFYN E SION, 1993: 239), the Atlantic (RUÍZ-GALVEZ PRIEGO, 1993: 50; 1995: 141) or Central Europe/Alpes (SCHATTNER, 2011). Is it of indigenous manufacturing (SILVA et al, 1984: 93-95; ARMBRUSTER, 2000: 182, 2002-2003: 148; BURTRESS, 1991: 380)? Ancient and new arguments made by several researchers on this subject never proved definitive.

Obviously, determining the origin of raw-materials through provenance analysis is an invaluable resource that can help overcoming some limitations —Lead isotope analysis will soon be applied to the case of Baiões— however, not all limitations can be overcome, neither this can be done all the times.

In this respect, we should remember the case of amber. At the West End of the Iberian Peninsula amber is found as necklace beads in at least four sites: Quinta do Marcelo (Almada), Penedo do Lexím (Mafra), Moreirinha and Baiões. In the last two, the necklace beads where analysed by Infrared Spectroscopy and shown to be succinite, therefore, having a Baltic origin (VILAÇA et al, 2002). The certainty, however, ends there.

Was this amber collected in the Baltic or is it possible that it came from secondary deposits further to the west, such as those from the eastern coasts of England and Scotland, the Netherlands and Denmark, swept by ocean cur-
Figure 4. Fibulae and razors. 1) Santa Luzia (Viseu); 2) Beja (region); 3) Baleizão (Beja); 4) Castro Piresetas (Alcobaça).
rents due to its lightness (BECK e SHENNAN, 1991: 15-18). How did it arrive? By whose hands did it pass? Did it come by the shortest and most direct route, or was it part of more sinuous and distant paths along the Mediterranean (VILACA et al., 2002, 2007a: 158-159)? As an example, we should not forget that there was Baltic amber amongst the load of the famous Uluburun shipwreck. Since its dispersal goes from the Baltic to Portugal and from there to Syria (MUKHERJCE, 2008), should we speak of an amber route or preferably of routes?

The West and East, North and South, were not closed worlds but exactly the opposite. They meant contact, sharing, incorporation, transference, transformation and re-contextualization, i.e., cultural interaction. Thus, it is not always easy, and perhaps correct, trying to «separate the waters» of the Atlantic «from the waters» of the Mediterranean (VILACA, 2008: 372), because, during the transition from the 2nd to the 1st millennium BC, there was already a long past contaminating them. A process accelerated during the Late Bronze Age. If, in the West End of the Iberian Peninsula, the Atlantic connections were an archetypical reality, perpetuating cultural complicities that started long before, then it is only around the year one thousand BC that there is a more expressive approach to the Mediterranean world, based on the specific assimilation of certain items by the indigenous elites.

An «archaic globalization» process was in motion, structured by inter and trans-regional routes, some far-reaching, encompassing many regions. It is possible to pinpoint several classical examples to show the dispersal of artefact types, of their functions and of the ideas behind their materialization. However, at a certain point, we cannot say if they are Atlantic or Mediterranean, but only that they come from a permeable world revolving around an axis, the most important or visible axis, the metals (PARE, 2000). In fact, the power of metals is enormous. To their intrinsic value one has to add four basic characteristics: metals are storable, durable, changeable and portable.

2.2. Faces of Mediterranean presence
In the narrative here proposed, Mediterranean-inspired materialities can be either physical or figurative. These are iconographic representation of imported, copied and recreated artefacts, such as the Warrior, or Southwest, Stelae; new technologies (lost-wax); new materials (iron, opaque glass, as well as amber and ivory); metrological systems; and also ideas, rituals, practices, tastes, styles, which were not only different but exotic (VILACA, 2008).

FIGURE 5. Stelae from the Beira Interior. 1) Baraçal 2 (Sabugal); 2) Aldeia Velha (Sabugal); 3) Pedra da Atalaia (Celorico da Beira).
Amongst tangible artefacts, those related to body makeovers, its appearance and adornment, stand out: fibulae, ivory combs, tweezers and razors (Figure 4) probably contributed to the creation of a different identity (TREHERNE, 1995: 111), and to a new symbolic aesthetics code (RUIZ-GÁLVEZ PRIEGO, 1998: 282).

Since they are often forgotten, it is necessary to emphasise the affinities with the Italic Peninsula, particularly with the region of Tuscany. In that region, there is a significant concentration of razors with "bitaglienti com manico"...
Nevertheless, Late Bronze Age craftsmen from the Atlantic world already knew and practiced such a technique, as Sardinia, and, from there, to the Iberian Peninsula (LO SCHIAVO, 2001: 137; RUIZ-GÁLVEZ PRIEGO, 2005: 262). The lost-wax method is linked to Mediterranean craftsmen, namely Cypriot, who introduced it (alongside iron) to that will achieve the utmost importance in the production of bronze artefacts during Late Bronze Age and onwards.

However, recently advocated a different perspective (SCHATTNER, 2011). Continuing with the case of Baiões, the distinctive decorative style of the miniature wheeled cult carts reveals a Mediterranean influence that, according to Almagro Gorbea (1989), displays a Syrian-Cypriot tone. Other authors, however, recently advocated a different perspective (SCHATTNER, 2013). This style, composed of painted motifs, used the lost-wax method (ARMBRUSTER, 2002-2003), a technique that will achieve the utmost importance in the production of bronze artefacts during Late Bronze Age and onwards. The lost-wax method is linked to Mediterranean craftsmen, namely Cypriot, who introduced it (alongside iron) to Sardinia, and, from there, to the Iberian Peninsula (LO SCHIAVO, 1991: 137; RUIZ-GÁLVEZ PRIEGO, 2005: 262). Nevertheless, Late Bronze Age craftsmen from the Atlantic world already knew and practiced such a technique, as
Figure 7. Spits, flesh-hooks and a sheep tibia pierced by one of these objects. 1) Cachouça (Idanha-a-Nova), 2) Marzugueira (Alvaiázere), 3) Solveira (Montalegre) (fot. Bottaini), 4) Castro de Ratinhos (Moura) (adapt. after Berrocal-Rangel & Silva, 2010).
shown by the rotary spits with zoomorphic decoration of Atlantic making, found at Alvaiázere (ALMAGRO GORBÉA, 1974: fig. 1), Baiões (SILVA, 1979: Est. V) and Cachouça (Idanha-a-Nova) (VILAÇA, 1990).

Undoubtedly Mediterranean is the decorative style shared by Cypriot and Sardinian tripods and by another artefact type. These artefacts are shaped as handles, but their functionality is unknown (VILAÇA, 2004; 2008) (Figure 8). I think that they could be used along other perishable elements, such as leather straps or wooden pieces, secured through rings and small spikes, and used to pull, lift, upend or hang something.

Again, it is in Sardinia that we can find the best parallels to such objects, namely in the hoard of Monte Sa Idda (Cagliari, Sardinia), allowing Taramelli to suggest, although uncertainly, that these could be bow stretchers (TARAMELLI, 1921: 59). A similar object was recently added to the Portuguese and Sardinian specimens, widening the geographic distribution of this artefact type in the Peninsula. The piece, found in the hoard of Las Lunas (Toledo), is similar but shows rougher manufacturing than the remainder (URBINA MARTÍNEZ e GARCÍA VUELTA, 2010).

We should look towards the Mediterranean again when dealing with another artefact coming from an entirely indigenous context in the centre of the Portuguese territory. The artefact is a bronze pair of tongs coming from the hoard of Freixianda (Ourém), dated to the IX cent. BC, published by Coffyn (1985: pl. XLIX-5) (Figure 9). Strangely, the image published is quite different, both in shape and size, from the real artefact, and we do not know how to explain that fact (VILAÇA, 2007b: fig. 25 and 26 a; VILAÇA et al, in Press).

This type’s morphology has Mediterranean prototypes (LO SCHIAVO et al, 1985: 23-25) and is extremely rare in the Atlantic World at the Late Bronze Age. It is unique in the Late Bronze Age Iberian Peninsula, but there is another exemplary in the bimetallic hoard of Heathery Burn Cave (Durham, United Kingdom) (EVANS, 1881: 185; BRITTON, 1971).

At the Portuguese hoard of Freixianda, artefact typology (a Porto de Mós Type-dagger, four socketed axes, a unifacial axe, a chisel, a piece of melting slag) and chemical analysis reinforce the idea that the objects are indigenous productions, characteristic of Late Bronze Age metallurgy from the Portuguese territory (GUTIÉRREZ NEIRA et al, 2011; VILAÇA et al, in Press).

Some researches that have been studying this type of objects postulate for their use during metallurgical activities. The metallurgist would use them to handle burning artefacts, such as holding crucibles or withdrawing objects.
FIGURE 9. Hoard of Freixianda (Ourêma) with a pair of tongs.
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from their moulds (COGHLAN, 1975: 97-98). Also, the use of pairs of tongs could be crucial while handling vessels full of acids, another essential material at a bronzer workshop (ARMBRUSTER, 2000: 60). Such actions, however, could be performed by pairs of tongs made out of wicker, wood or another perishable material, with the advantage that these would be cheaper and better thermal insulators. This would explain the rarity of pairs of tongs made out of bronze in a period of intense and dynamic bronze production, as was the Late Bronze Age. Other authors argue that such pairs of tongs would be used for iron working (GIARDINO, 2005: 90). This does not match very well with the artefact here studied because the shape of its extremities is not adequate to firmly and safely hold an object. In fact, they are very different from those found at later contexts when iron forging is fully established. Therefore, the pair of tongs from Freixianda is, above all, an intrusive piece: a peripheral tool when considering bronze metallurgy. It is alien to the workshops of local craftsmen, rare in Late Bronze Age contexts from the Western world, contrasting with all other artefacts from the hoard (all of which are typologically characteristic of the Centre of the Portuguese territory). Thus, the assumption of its importing should not be discarded. If the artefact was not imported, the concept might have been. Nevertheless, it is also clear that by being a rare piece of unique morphology, it can easily be a Western production (its chemical composition is similar to all other artefacts from the hoard) that was based on Mediterranean models. One way or another, imported or locally made, this pair of tongs is strange to the western world, revealing a resemblance to Mediterranean matrices, which is not a surprise, having in mind all other contemporary testimonies from the Portuguese territory here reminded, and sharing the same tone (VILAÇA, 2007a; 2008; VILAÇA et al, in Press).

Other materials linked to the questions here discussed are: amber, already discussed, ivory, glass and iron, the latter deserving serious attention.

In the beginning of the 90’s, Almagro-Gorbea (1993) made notice of the first iron objects found in the Iberian Peninsula, amongst which there was a piece from Bomões (SILVA et al, 1984). He overviewed all the known artefacts, revealing a wide geographic dispersal and the existence of several examples coming from the peninsular mainland, i.e. far from any coast, and particularly far from the Mediterranean coast. It is true that some iron objects registered by Almagro had an imprecise chronology. The poorly known finding contexts lowered their relevance as evidence of ancient Pre-Phoenician chronology. However, due to his questioning and reflective thought, this work became a reference in studies about the subject.

This theme also held the attention of Ruiz-Gálvez (1993, 1995, 1998), concerning the presence of iron in the deposit of Huelva and at the settlement of Peña Negra I (Alicante). His relevant considerations have enriched the discussion about Eastern-Western relations. At the same time, my own excavations in habitats from Beira Interior provided the first iron artefacts found in well-defined stratigraphic contexts, dated by C14, thus revealing occupations ranging from the end of the 2nd- beginning of the 1st millennium BC (VILAÇA, 1995: 349-352). Some time later, in Beira Central, a similar situation arose during excavations at Outeiro dos Castelos de Beijós (Carregal do Sal), with the discovery of three small iron blade fragments and two unclassifiable pieces (SENNA-MARTÍNEZ, 2000).

It is worth reiterating that the knowledge from the Beiras regions, due to the archeological context of the data contexts and their dating, was essential to support the idea of an early circulation of iron in peninsular indigenous contexts during the Late Bronze Age (VILAÇA, 1995). This issue received a first comprehensive study (VILAÇA, 2006) more recently reassessed (VILAÇA, 2015).

Similarly to most other elements within the Mediterranean realm, the first iron artefacts come from settlements. In the north of Portugal, there are the cases of São Julião (Vila Verde, Braga), providing a small falcate-like blade (BIETTENCOURT, 2000: 27, 36 and Est. LXI-8 and 9, CN-1), and Quinta do Marcelo (Almada), where a waste pit, labelled Est. LXI-8 and 9; CIV-1), and Quinta do Marcelo (Almada), where a waste pit, la-

In the Beiras, two settlements deserve to be highlighted: Morcarinha and Monte do Trigo, both in Idanha-a-Nova (Figure 10a and 10b). The first provided eight iron objects, mostly curved blades, from the occupation layer (VILAÇA, 1995: 236, 573-574, 2008). As to Monte do Trigo’s eleven objects, they have particularly interesting contexts, showing up spread in five groups, i.e. they were true hoards, resulting from deliberate acts of selection and hiding, related to fire. In three cases the depositions were bimetallic, comprising iron and bronze pieces. Group A gathered
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Figure 10A. Iron artefacts in Late Bronze Age contexts. 10a) Moreirinha (Idanha-a-Nova). 10b) Monte do Trigo (Idanha-a-Nova).
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two fragments of iron blades and half a bronze ring, group C comprised four iron blade fragments, two bronze blade fragments, and two bronze rings, group D brought together one fragment of iron blade and thirteen small bronze convex studs, possibly from a wide leather belt.

As mentioned before, iron is also present in the exceptional assemblage that brought international fame to the site of S.Tº da Guita, in Baãos (SILVA et al., 1984: 170; ALMAGRO, 1993: 84). The bimetallic artefact is a chisel with a bronze socket and an iron blade, attached by the casting-on technique (ARMBRUSTER, 2002-2003: 146). When compared to its original physical conditions, it is clear that this chisel is now severely damaged, not showing the same 3.8 cm blade length as before (SILVA et al., 1984: 83 and Fig. VII-3).

In total there are 28 records of iron objects, usually broken. Typologically they can be systematized in decreasing order as follows: knife blades (19), saw blades (4/5) and chisels (1). The blades show rectangular and straight back (Moreira, Monte do Triño), a curved back (Monte do Frade, Moreira, Quinta do Marcelo), or are falcatate-like, as in São Julião. Some show rivet holes without the lost rivets. Several blades, from Moreira and Monte do Triño, have a serrated edge (in one case with teeth) indicating their possible use as saws.

All these examples are working tools with low functional variability. This is conceptually different from the reasoning behind two ornament pieces (one of them bimetallic: iron and gold) from the Treasure of Villena (Aliante), where iron was appreciated as a noble metal and because it was exotic (ALMAGRO GÓRIBA, 1993: 88; RUÍZ GÁLVEZ PRIEGO, 1993: 50; 1998: 276, 296).

The knives prevail, but these are tools without a previous tradition in the Peninsular West predating the Late Bronze Age. Even at that time, they are still quite rare, as Coffyn notices (1985: 178). It was already stressed (VILAÇA, 2006: 95) that this situation is remarkably similar to what happened in Eastern Mediterranean (Cyprus, Greece) during the transition Bronze/Iron (XII cent. BC), or in Italy, where knifes are the most common iron objects. In fact, knife blades are true novelties, both in shape and material. Moreover, the fact that they are tools does not mean that they had a practical, common, everyday use, and it is quite believable to assign them a ritual and sacrificial meaning (ALMAGRO GÓRIBA, 1998: 88).

It is also necessary to comment on bimetalism, since it is considered characteristic of early iron introduction by some researchers (WALDBAUM, 1980: 85; SNODGRASS, 1980: 345). Bimetalism can be seen in the artefacts themselves, or it can characterize some depositional contexts.

The chisel from Baãos speaks for the first situation since it has a bronze socket and an iron blade. Apparently, two out of the three objects from Quinta do Marcelo also have bronze rivets (MELO e SENNA-MARTINEZ, 2000: 101), despite the fact that they are not noticeable in the drawings published (CARDOSO, 2004: 213). Similar cases, showing iron blades and bronze rivets, seem to become common during the 1st Iron Age (VILAÇA, 2006, 2013).

Technologically, the preservation of bimetallic artefacts is difficult, because the combination of iron and copper alloys enforces the corrosion of iron. This metallurgical practice can be interpreted as revealing poor craftman knowledge of iron properties and characteristics (GIARDINO, 2000: 104).

Concerning bimetallic contexts, they are also present. As stated, at Monte do Triño, buried inside the wall and subject to fire, there were three hoards (Groups A, C and D) presenting bronze and iron objects alongside (VILAÇA, 2006, 2013). This situation, combining bronze and iron tools in the same depositional contexts, and probably reflecting a deliberate intention of hiding, may indicate that both metals had the same value or that their colours were ritually and symbolically valued.

Extending the observation geographically, and recalling some second generation evidences, i.e., from the beginning of the Iron Age, it is noticeable that some iron objects have the same shape than indigenous bronze productions. This can be seen, for example, in the lugger axe from Campepojeir (Granada) (ALMAGRO, 1993: 83), in the sickles from Quinta do Almazar (Cáceres, Setúbal) (VALÉRIO et al., 2003: 352) and from Castro de Torroso (Galicia) (PEÑA SANTOS, 1992: 38-40), and in the socketed axe from S. Julião (BETTENCOURT, 2000).

The copy of indigenous prototypes is an interesting theme; opening up the possibility that some iron artefacts were locally made by mimicking what was known. In these first moments, it is possible that pig iron, or half-finished products, were the only materials available. They could be used to make copies of bronze objects, without a true control of iron metallurgy (ALMAGRO GÓRIBA, 1993: 88; GÓMEZ e MOHEN, 1981: 54-55, 379; PLEINER, 1980: 380). The use of a new metal to make old artefacts could lead to increasing social prestige but does not imply an increase in technological efficiency.

4. When several pieces unquestionably belonged to the same object, they were counted as one; therefore, the number of fragments is higher. A detailed description of each piece can be found in VILAÇA, 2006: 84-92.
The hypothesis that the adoption of iron is due to technical superiority should become secondary. In fact, test analysis of five objects from Moreirinha, Monte do Trigo and Cachouça revealed rough, soft iron productions, low in carbon, and showing quite low micro-hardness values, meaning that the first irons have a similar, or even lower, hardness, if compared to good bronze artefacts. This moves us away from a «revolutionary image» which explained the adoption of iron based on technological advantages (VILAÇA, 2006).

In this sense, it is not incorrect to interpret the first iron objects as prestige items, because the raw material is unknown, exotic. Ritual contexts such as those of Villena and even Monte do Trigo, merge in this perspective. Nevertheless, it is also necessary to underline that, although iron was a novelty, this does not imply its immediate appreciation and adoption (SØRENSEN, 1989: 187). Apparently, Iron was also rejected in the waste pit of Quinta do Marcelo in the IX cent. BC. Adding to that, several contexts show that bronze production was very important in the beginning of the Iron Age. Therefore, iron does not bring clear technical advantages neither does it replace bronze. Instead, it is incorporated with different meanings and intentions. The indigenous communities show different responses, choices and attitudes towards that metal.

Finally, it is necessary to comment on the origin of these early irons. As stated, all researchers dealing with this subject, where I count myself, consider them to have Mediterranean origin. However, we cannot rule out the role of Atlantic and Continental routes — already emphasized here regarding amber circulation — since, from the Bronze Age onwards, iron appears in several sites of non-Mediterranean France. An example is the nail from the flanged axe found at the hoard of Ygos-Saint-Saturnin (Landes) recently reassessed (GÓMEZ DE SOTO e KEROUANTON, 2009). Similarly important is the new results from Hartshill (South of England) proving local iron production in the X cent. BC (COLLARD et al., 2006).

This situation was not found at Portuguese sites hitherto, and we expect a correction of the new information about the finding of an iron slag at S. Julião, which would confirm its production at the Portuguese Atlantic coast (TORRES, 2008: 67). In fact, the excavation supervisor never mentions its finding, stating that there is an introduction of iron objects, without indicators of their manufacturing (BETTENCOURT, 2000: 123).

In this long journey through the Mediterranean elements found at Late Bronze Age indigenous sites, we have yet to mention the weights (Figure 11). This subject was discussed in 2002 and later further deepened with the systematization of data from the Centre and South of the Iberian Peninsula’s West End (VILAÇA, 2011b). Other researchers, amongst whom I would like to emphasize Marisa Ruiz-Galvez (2000, 2005, 2008), also reflected upon this subject in the last decade.

Just as most objects here discussed almost all the weights came from settlements. Sometimes they are single weighing units, with less interest, despite the possibility that more may lie in unexcavated areas. In certain situations, however, we find true sets of weights, as in the case of Pragança (Cadaval) or Baleizão (Beja).

Balance scales only appear in Iron Age contexts, but it is possible that they were used previously, made out of perishable materials, such as wood, cane or fabric, as happened in Old Egypt and other parts of the world (PETRUSSI, 1992: 70). In ancient French contexts from the Late Bronze Age, there are bone and antler beams used as balance scales (PEAKE et al., 1999). Dirk Brandherm (2008-2009, 29) proposes a new interpretation for a triple ring with a bar, found in the deposit of Ría de Huelva (RIUZ-GALVEZ PRIEGO, 1995: Fig. 18-92), as a beam from a balance scale. I do not think plausible.

Typologically, weights have various shapes (discoid, half-conical, spherical, and octahedral), which can show up together in the same contexts (Pragança, Baúes, Monte do Trigo, Baleizão). There is no obvious explanation for that, although we acknowledge that different shapes can express different messages (VILAÇA, 2003, 274). We should remember that different weight systems found at Uluburun were interpreted as being used to weigh different products (PULACK, 2000, 263). However, I do not believe this case can be applied to the realities here analysed.

Particularly intriguing are two octahedrons for which I do not know parallels; one came from Monte do Trigo and the other from Baleizário (Figure 11 and 12). The purity of shape and volume of that geometric solid reveals true geometric concepts, expressed by representing multi-opposing and multi-connected planes, which, cognitively, is undoubtedly remarkable!

In what concerns the metallurgy of weights, the chemical composition of the examples analysed is in total harmony with other metals from the Late Bronze Age at the Centre of the Portuguese territory (VILAÇA, 1997b).
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VALÉRIO et al., 2006), and, broadly, with the Peninsular West. Despite some uncertainty, I would say that this factor should be considered when attributing them an indigenous creation (VILAÇA, 2003: 261).

For many situations, the metrological study revealed that the weight values are not random, representing coherent weights with multiples and submultiples, all based around the unit of 9.4 g, equivalent to the Ugaritic or Syrian standard of 9.3/9.4 g (RUIZ-GÁLVEZ PRIEGO, 2000, 2008; VILAÇA, 2003, 207-268, 2011b). These are the cases, for example, of Pragança, Monte do Trigo and Baleizão (Figure 11 and 12).

According to several researchers, in the second half of the second millennium BC, this standard was an international reference in the eastern Mediterranean and surrounding regions, co-existing with at least five different correlated and mutually recognizable weight systems in the port of Ugarit (RUIZ-GÁLVEZ PRIEGO, 1998: 313). This unit is equivalent to the Egyptian kdt of 9.4 g; it was used in Cyprus, and it was found at the Uluburun (PARISI, 1971: 22-23; PETRUSO, 1984; PULACK, 2000). Its replacement takes place at around 1200 BC, following the fall of the Mycenaean world, by the Hittite or micro-Asian shekel of 11.75 g, soon to be followed by the Phoenician shekel of 7.9 g (GALÁN e RUIZ-GÁLVEZ PRIEGO, 1996; RUIZ-GÁLVEZ PRIEGO, 1998: Ch. 7).

The case of Monte do Trigo is particularly interesting not only because it is well dated (XI-X cent. BC), but also because it revealed an unusual find: a double weight, linking two almost concentric parts, one smaller and discoid and another, larger and bi-half-conical. The explanation for this is unclear. In fact, we do not know whether they constituted two independent weights that were joined by post-depositional processes (it comes from a coal rich layer, showing evidence of high temperatures that could explain the adherence of two weights), corresponding to two independent weights during its use, or whether their unity was intentional. In the last case, the junction can be ex-
plained by the need to correct a certain value. Another hypothesis could be that, facing the absence of one piece from a set of weights, two weights were assembled to work as a substitute with the desired value.

The weight set from Baleizão is also remarkable due to its almost perfect metrological coherence, probably linked to its finding in a closed context, suggesting contemporary use (VILACA, 2011b). This is a bimetallic hoard composed by 31 artefacts (or fragments) made of gold (a necklace, a bracelet, a ring, an ingot, two twisted wires, four small blades) bronze (three axes, seven weights, a fibula and ten rings) and a ring in some transparent material resembling quartz. The assemblage is also composed of several pottery sherds from the vessel that held the remaining materials and the chronology proposed dates from the X-IX cent. BC (VILACA and LOPES, 2005).

The combination of a set of small weights in the same context, alongside an ingot and gold fragments, enhances the idea that light weights could serve to control small amounts of high value goods or raw materials, namely gold. It can also suggest that the weights were not exclusively used to weigh products of high value during socio-economic transactions. The control of metal weight was also necessary in the technological realm, i.e., during the work of the metallurgist who had to measure, weigh, and control the metal for the crucible.

It is possible that other high value goods, such as ivory and amber, also circulating as raw material (VILACA et al, 2002: 77-78) were weighed in low quantities. In fact, the small size of the known weights indicates light weighing: the smaller, from Praia de Armação, has 1.82 g, and the biggest, from Monte do Trigo, has 37 g. Other plausible products, although perishable and leaving no evidence, could have been: salt, oils, resins, dyes, drugs, plants of prophylactic or medicinal value, etc.

Evidently, the inspection of high-value goods with an international standard of fixed value, whether at the

![FIGURE 12. Weights compatible with Mediterranean weighing systems around the Syrian standard of 9.3/9.4 g. Baleizão (Beja).](image-url)
level of the production processes, or while trading in supra-regional networks, was limited to a few people, powerful, knowledgeable or with high social status. The finding contexts reveal that they show up amongst the indigenous communities, also related with Warrior Stelae. Therefore, it is not surprising that, in some stelae we can also find depictions of weights, as Celestino proposed (2001: 181).

3. THE METALS AND THE NATURE OF MEDITERRANEAN SIGNS

Along this paper I mentioned several times that much of the available information offers high contextual quality and chronological security. It is supported by more than 50 radiocarbon dates, allowing us to place the data around the first millennium BC. (VILAÇA, 2008) (Figure 13). We also saw several evidences that evoke a Mediterranean proximity to the West End of the Iberian Peninsula. It is probable that the process underlying this intercultural process was complex and varied, and it is certainly impossible to capture in its entirety. Anyhow, it is possible to identify certain actions that created ‘bridges’ towards the ‘other’. This is reflected in the ‘hybrid’ objects (Figure 14): exotic shapes of indigenous incise decor, like the bowl from Biaioes and some fibulae; local creations matching international value, like the weights; old artefacts made out of new materials, like some iron objects of Early Iron Age. In this last case, we may be facing a significant manifestation of key practices such as re-use or imitation which could be interpreted as specific manifestations of past people’s attitudes to their past (LUCAS, 2005: 117).

Now, it is time to answer to the question previously posed. What was the role of metals in all this process? A possible answer is: They seem to have played a small, residual, episodic and socially limited role. Understanding this role as small is a consequence of the fact that a big part of their presence is immaterial, coming from pictorial representations found in stelae. It is also small, not because of the quantity of the real objects handled and that we have found, but due to their unimpressive volume. Whether made of bronze, or iron, these objects are usually small (fibulae, tweezers), and, considering the metal, they are exceptionally light. Only Biaioes sit aside from this picture and, even so, its case is unclear, since the real provenance of the metals has still to be determined.

We can say that the transportation of metal and other Mediterranean elements, independently of the hands that brought them —based on multi-ethnic agents, Levantine, Sardinian, or from the Iberian Peninsula, as Ruiz-Gálvez argues in several texts— would not entail added accommodation or transport costs. It would only require a bag to store them, alongside other small items, possibly made of glass, amber, and ivory. In that universe, indigenous communities were totally indifferent to the exogenous pottery that will be so important, I would even say, overwhelming, in the next phase (‘Orientalizing’). As to pottery, the investment relies upon indigenous productions, such as the Biaioes/Santa Luzia Type, or the pattern burnished ‘Lapa do Fumo Type’, based on a technique and style also found in Sardinian shapes (askos) decorated by ‘stralucido’.

Despite the wide diffusion of all these elements in the West End of the Peninsula, if we analyse each case —and it should be noted that the distribution is almost exclusive to settlements (the funerary context of Roça do Casal do Meio is still unique)— we find that their concentration is never high. They show up scattered, one here, two or three there, never revealing intense circuits supported by systematic routes fed by the accumulation of metal. Therefore, one can state that metals had a residual and episodic role.

The exception goes to Biaioes, resulting in an unavoidable fact, at least for now: the Mediterranean reflects upon the Peninsular West End as having two faces: Biaioes and the rest (Figure 15). If we only consider the economy and a movement coming from the Mediterranean to the Iberian Peninsula, it is not possible to assign a key role to metals. These, having an irrelevant weight and volume, like everything else (tweezers, fibulae, iron, decorative style, amber), gravitate preferably around realms of stylistic, symbolic or ritual nature.

However, when considering a movement from the Iberian Peninsula to the Mediterranean, the situation seems different. The metals found, or their models, are usually large and heavy items, such as weapons and working tools —Huelva Type— swords and Carp’s Tongue— swords, axes, daggers, sickles, rotary spits, etc. This enhances the idea, defended by Lo Schiavo in several papers, that Sardinia was the Mediterranean market for the Atlantic bronze, i.e., for the Iberian Peninsula.

Metals (and other items) role is socially limited because its consumption, handling and exhibition seem to be restricted to some people. Usually, these artefacts relate to body makeovers, its appearance and adornment, reflecting new clothing habits and fabrics (CÁCERES GUTIÉRREZ, 1997), and the valorisation of the individual image, cre-
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...ating a dialogue between objects, symbols and people. Fibulae and tweezers, alongside razors, contributed to the creation of a different identity and a new "symbolic code of aesthetics" (RUÍZ-GÁLVEZ PRIEGO, 1998: 282). Other artefacts are strictly ritual, used specifically in banquets and conspicuous consumption. There are no weapons or working tools, and even the knives probably had a ritual or sacrificial use, hence, a limited one.

In summary, Mediterranean metals were imported and handled but are irrelevant in weight and volume. They are socially limited because their use is restricted to few people, despite having an unrivalled value given off by the exoticism of new shapes, functions, techniques and aesthetics.

On the other hand, the marginality of Mediterranean elements, either native or inspired in their prototypes, in peninsular bronze deposits is symptomatic, as I demonstrated in a recent study (VILAÇA, 2007b). Although hoarding is a pan-european phenomenon, it is also true that, at a local and regional scale, it translates voluntary actions, selective and carefully controlled by indigenous communities. These would hardly acknowledge their identity in those exotic items, resisting to the Mediterranean factor. Hoards contents are genuinely peninsular, regional and communitarian productions.

**Figure 13.** C14 dates for Portuguese contexts with elements of Mediterranean filiation.
4. CONCLUSION

I consider that neither metals nor the other Mediterranean novelties deeply affected or interfered with the cultural processes of the communities as a whole. Everything happened amongst the indigenous elites and possibly amongst the agents of metal circulation (VILAÇA, 1995: 420) or contact agents. These, in a spiralling process of emulation, deeply rooted in time, had already started to identify themselves with their supra-regional peers. At the same time, inside the communities, this coming together with the external element had another effect: to accentuate social stratification.

In a certain way, such coming together can be seen as a survival strategy for small, scattered, powers. They controlled work, production and interregional exchanges but were individual, vulnerable and somewhat unstable. Therefore, it makes sense to include them in a model of growing interaction between autonomous and competing but not militarized socio-political units, while having resorted to warrior symbolism as a means of protection or inhibition (VILAÇA, 1998b: 213-214).

The memorial marks of this net of regional powers were set in a distribution grid of stelae significantly implanted in Beira Interior, and western Extremadura, always depicting weapons. The strong visual impact given off by these landmarks allowed a double reading, therefore, a dubious one, depending whether the recipient was a community member or a foreign. At the community level, the entity and power represented meant protection and defence, despite and because, they were at a different level beyond the community. At an external level, the entity and power symbolically present in and through the stelae were an offense and intimidation.
This distribution along the territory, necessarily and unavoidably linked to settlements (and other landmarks such as metallic hoards), made sense. Settlements did not concentrate wealth; it showed up throughout the territory, wealth was the territory (VILAÇA, 1999). Critical resources such as metals—tin, gold and some copper—were scattered out there and sometimes found together, as in Beira Interior. Territory allowed the establishment of routes or corridors to access them, or opened doors to other worlds. The axis of the Tagus, and probably also of the river Zêzere, as circulation corridors between the coast and the mainland (from Extremadura – Beiras), or vice versa, are critical to the understanding of the changes that this region experienced in the passing of the millennium (VILAÇA, 1995: 410; VILAÇA e ARRUDA, 2004: 36-37). Nonetheless, other mainland routes, through river valleys (such as the Guadiana), or by land (radiating from the Spanish Extremadura and Andalucía), are equally decisive to understand the opening and cultural integration of those communities to different cultural trends, including the Mediterranean (VILAÇA, 1995: 410-411, 2008: 398-399).

The emergence of elites, controlling long-distance exchanges and metal routes, reflects individualized powers, scattered, vulnerable and unstable. The competition would be huge, and every effort would be worthwhile. Namely, the resource to handling and exhibiting exotic goods, such as the Mediterranean, or to ritualized supra-regional practices and symbolic codes of behaviour (maybe not always fully understood). This would be done in order to achieve, maintain and legitimize power, at a time when, to be «well born» was probably not enough to possess it. However, this «survival» process showing clear signs of stratification, eloquently testified by stelae, seems to disappear in the next phase, the «Orientalizing phase». With the presence of the Phoenicians, it is restructured and meets new geographies. A new paradigm of society was in the making, urban, politically centralized and Mediterranean.

That social scenario also reflects upon the world of the dead, even though this situation is least known (VILAÇA, in Press). In fact, alongside the absence of weapons, the absence of Mediterranean influences in this realm...
is one of the most notorious aspects found in Late Bronze Age funerary contexts. This is shown in the cases of: Monte de São Domingos (Idanha-a-Nova) (CARDOSO et al., 1998), Paranho (Tondela) (CRUZ et al., 1997), Alpiarça (VILACA et al., 1999) and many other funerary sites studied in the last years. The monument of Roça do Casal do Meio (Sesimbra) is still the exception in many aspects and also in this one (VILACA and CUNHA, 2005).

To conclude, the active role of communities, capable of selecting and rejecting, is obvious. Overall, the elements linked to the Mediterranean realm found at indigenous, pre-Phoenician, contexts, are diverse and not an epiphenomenon. All those evidences seem to be residual, limited to the circle of the elites and, most of the times, short-lived and scattered in space. Such elements were specific, not expressing any pre-Mediterranean acculturation process that implied deep repercussions into communities’ lives. This means that they are not elements of communitarian identity, but, on the contrary, they are elements to archaeologically identify the elites.

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