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Origin and sequence of the earliest fibulæ in the Iberian Peninsula

Origen y secuencia de las más antíguas fíbulas en la Península Ibérica

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Abstract

In the present study, a very large amount of Iberian fibulæ are identified, organized, and accounted for. The very most of these fibulæ come from Spanish and Portuguese sites and museums, as well as some others come from the Eastern Mediterranean in spite of their Iberian origin. In principle, they all are dated before the Orientalizing Phenomenon (c. 750 BC), therefore Late Bronze Age stage.

The starting point of this study is the recent statement by some researchers who propose a 13th cent. BC emergence for the fibulæ of the elbow family. This proposal entails an Iberian origin for the fibula – the "Granadan approach".

The study consists of two main parts. The first one is an analysis focused on morphological and stylistic criteria, finding contexts, and foreign parallels. The entire set of fibulæ is classified one by one in seven groups: asymmetric violin-bow family, elbow family, looped family, curved-bow family, pivotal family, double-spring family, and Coimbra type. Once the typological classification is clear, it is argued that only elbow and looped families are trustful Iberian, Late Bronze Age items, while the rest of them must be considered uncertain regarding their nature and chronology.

The second part contains a synthesis to clarify the filiation of the entire series of the Iberian fibulæ. This is, a critical study focused on the origin of the every family and type, their evolution, and the formal and technical relationships each other. The results confirm an Alpine origin for the fibulæ – therefore, foreign origin for the Iberian examples –, a connection between polities of Iberia and abroad before the Phoenician colonization (mainly those from Sicily and the Eastern Mediterranean), and the interaction of communities within Iberia.

Key words:

Typology, fibulæ, Late Bronze Age, Iberian Peninsula, Proto-colonization.

Resumen

En el presente estudio se procede a identificar, organizar y explicar la totalidad de las muy diversas fíbulas procedentes de la Península Ibérica. La mayor parte de ellas han sido documentadas en yacimientos y museos de España y Portugal, aunque también se atestiguan ejemplares hispánicos en el Mediterráneo oriental. En principio, todos los casos documentados preceden al Fenómeno Orientalizante (h. 750 a.C.), es decir, pertenecen al Bronce Final.

El punto de partida de este estudio no es otro que la reciente propuesta de algunos investigadores que sostienen una cronología del s. XIII a.C. para situar el surgimiento de las fíbulas de la familia de codo Esta propuesta, el "enfoque Grandadino", implica un origen hispano para la fíbula.

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El estudio dispone de dos partes. La primera es un análisis basado en criterios morfológicos y estilísticos, en los contextos de aparición y en los paralelos foráneos. El conjunto al completo es clasificado pieza a pieza en siete grupos: familia de arco de violín asimétrico, familia de codo, familia de bucle, familia de arco curvo, familia de pivote, familia de doble resorte y tipo Coimbra. Después de la clasificación aclaratoria, se concluye que tan sólo las familias de codo y de bucle son verdaderamente hispánicas y del Bronce Final; el resto de fíbulas deben tomarse como hallazgos dudosos respeto a su procedente y a su cronología.

La segunda parte consiste en una síntesis para aclarar la filiación de toda la serie de fíbulas hispánicas. Es decir, un estudio crítico centrado en el origen de cada familia y tipo, su evolución y las interrelaciones de las fíbulas en materia de forma y técnica de producción. El resultado confirma un origen alpino para las fíbulas y, por tanto, un origen extranjero para las fíbulas hispánicas; una conexión entre las comunidades de la Península Ibérica y de fuera de este territorio antes de la colonización fenicia (principalmente las de Sicilia y del Mediterráneo oriental); y la interacción entre las comunidades de la propia península.

Palabras clave:

Tipología, fíbulas, Bronce Final, Península Ibérica, Protocolonización.

1. Opening

Fibulæ or brooches were introduced in the Iberian Peninsula during the Late Bronze Age – from now on, LBA.[1] Since then, these artifacts turned into an outstanding item of the archaeological repertoire due to their stylistic heterogeneity and its number. The diversity, growth, and time lapse of these artifacts allows to figure out trade networks, as well as the chronological precision of the finding contexts. These reasons make fibulæ a top item of the pre-Roman Iberian archaeology (Almagro Basch, 1957-1958; 1966a; Cuadrado, 1957; 1963; Schüle, 1969: 142-159, 175-178; Cabré and Morán, 1977; Coffyn, 1985: 255; Argente, 1986-1987; 1994; Ruiz Delgado, 1989; Storch de Gracia, 1989; Carrasco *et al*., 1999; 2012; 2013; 2016; Ponte, 1999; 2002; 2006; Celestino, 2001: 185-210; Torres, 2002: 170-173, 196-205; Carrasco and Pachón, 2006a; Graells, 2014; Mederos and Jiménez Ávila, 2016).

Recently, some researchers have suggested a very high chronology – 13th century BC – for several fibulæ in Iberia basically after some radiocarbon dates obtained from the settlement of Cerro de la Mora (Moraleda de Zafayona, Granada)[2] (Carrasco *et al*., 2013: 47, 49-50, fig. 6; 2014). This proposal means a radical change concerning the whole evolutionary sequence of the series. In this regard, it is also an excuse to study and to discuss not only the fibula at issue, but the entire amount of these artifacts and the relationship within, particularly focused on the Iberian models.

So, this work will start with an inventory and a short analysis of the earliest fibulæ of the series in Iberia until the first half of the 8th century BC – when a major cultural change occurred in many Iberian communities – and also those Iberian found abroad. To do so, they are going to be classified in families according to their morphology. Next, because of their complexity, there will be exposed a short synthesis about their origin and formal evolution, chiefly focus on the Iberian Peninsula.

2. Inventory and typology

There are several criteria to classify the entire series of fibulæ. In this research, fibulæ will be classify according to the shape and to traditional classifications. In this regard, the series of the LBA Iberian fibulæ can be structured in six families –violin-bow, bow, elbow, looped, pivotal, and double-spring– in which distinct

[1] Iberian and European LBA chronology is an open issue. In this study, the major reference is M. Torres's proposal (2008), which stands two phases for LBA III: A/Ría de Huelva Horizon (1050-950/900 BC); B/Baiões Horizon (950/900-825 BC). However, it seems appropriate to enlarge the second stage to mid-8th cent. BC due to the historical changes occurred in Iberia. Thus, LBA IIIB, here also called Peña Negra I Horizon, spans 900-750 BC (Brandherm, 2007: 16). See also Mederos, 1997; Brandherm, 2007; 9-17; Lo Schiavo, 2010: 36-48; Burgess, 2012; Milcent, 2012; Sperber, 2017: 241-298.

[2] Most of the Iberian sites referred in the text belong to Spain. Therefore, if there is no specification in parenthesis or any other in the text, sites are Spanish, not Portuguese.

[3] Coimbra type is not part of any other family because types make families, never the other way around.

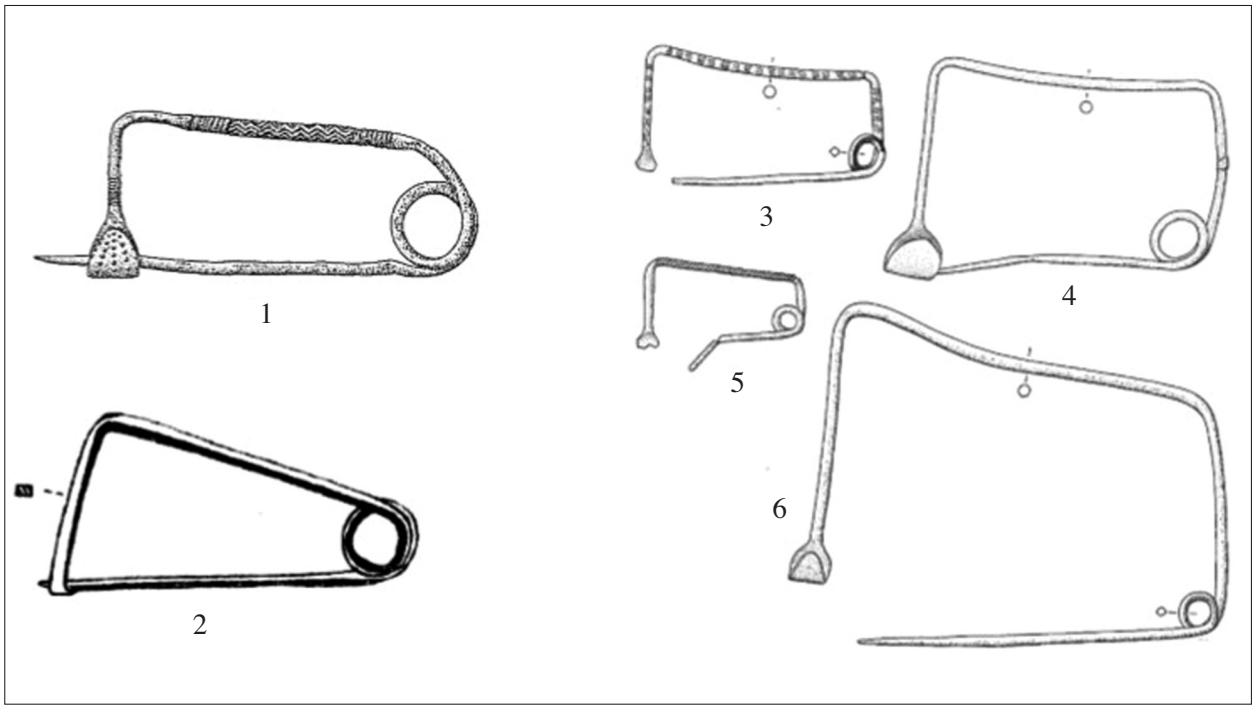

Figure 1. *Fibula of asymmetric violin-bow type: 1. "Cerro del Berrueco" (Delibes, 1981: fig. 1); 2. "Los Pajares" (Mederos & Jiménez Ávila, 2016: fig. 6, modified); 3-4. Molino della Badia; 5. Monte Dessueri; 6. Madonna del Piano (Lo Schiavo, 2010: pl. 369.5283-5285.B) (various scales).*

types, subtypes, and technical-stylistic variants are observed. Besides, there is another type apparently non-connected to any of the referred families: the Coimbra type.[3] The entire series involve tangible examples as well as icons depicted on the stelæ.

There will be enounced the known examples one by one in each family. Later, an analysis regarding the finding contexts, the parallels abroad, the chronology and, ultimately, the cultural filiation root.

2.1. Violin-bow fibulæ

The basic type of this family is that of parallel bow and pin. This model is unknown in the Iberian Peninsula. However, some authors (Delibes, 1981; Coffyn, 1985: 152, n. 57, fig. 56.22; Ruiz Delgado, 1989: 46, fig. 1.1; Storch de Gracia, 1989: 37) have referred an exemplar of a second type of this family in Iberia. This fibula can be classified as an evolved or asymmetric violin-bow type, whose main highlight consists in a bow little oblique regarding the pin. The bow of this item is higher than the coil and excels incise, geometrical decoration that resembles the themes carved on the Atlantic torcs (fig. 1.1).

There are not any news about the discovery of this artifact, not even about its current location. Moreover, it is only known by a drawing. It is credited as part of a wealthy set of artifacts found in the *castro* of Cerro del Berrueco (Ávila-Salamanca) or, at least, around this site. Most of the set has no stratigraphic context due to the mess of the soil, and it contains items from the Copper Age to the Ancient Rome (Morán, 1924; Maluquer de Motes, 1958).

This fibula has no exact parallels, but similar pieces are known in several regions. The best and nearest ones are documented in Sicily. Some of them come from Tomb 15 at Monte Dessueri (Caltanissetta), from Madonna del Piano (Catania), and two from Molino della Badia (Catania), one of these latter with geometric decoration, and all of them dated to the earliest phase of the Pantalica Nord Horizon (1250-1050 BC) (fig. 1.3-6) (Lo Schiavo, 2010: 606-607, pl. 369.5283-85.B). However, the bow of these pieces is clearly higher than the bow of the fibula of "Cerro del Berrueco". Other Mediterranean models with knobs and geometrics on the bow assignable to this family also come from southern Italian Peninsula, and they are located in the necropoleis of Torre Mordillo, Broglio di Trebisacce (Cosenza) and in Tomb 177 at Timmari (Matera), all from the same period (Lo Schiavo, 2010: 89-90, pl. 2.16-18).

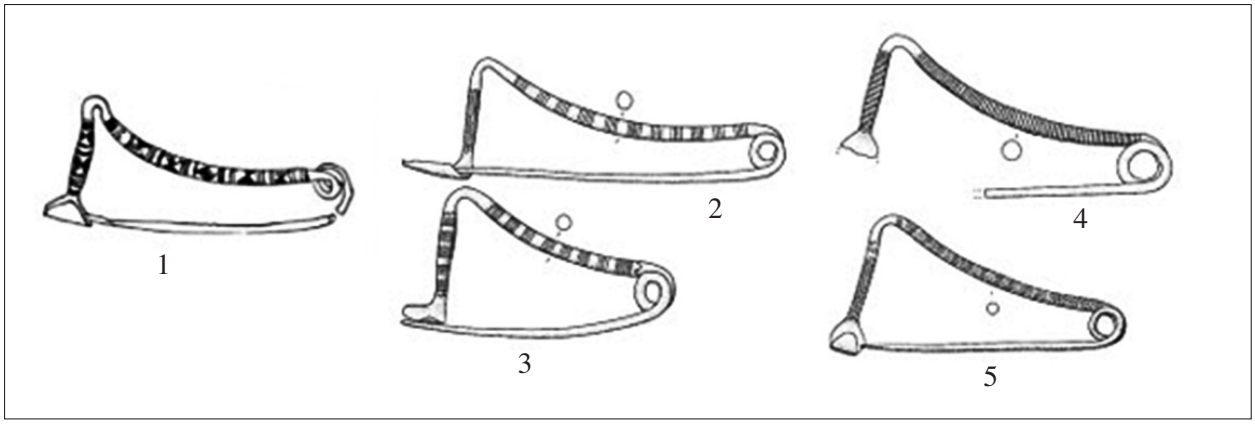

Figure 2. *Fibulae of Cassibile II type: 1. Museo de Valencia (Almagro Basch, 1966a: fig. 3.7); 2-3. Madonna del Piano (Lo Schiavo, 2010: pl. 366.5254-5255); 4. Molino della Badia (Lo Schiavo, 2010: pl. 360.5187); 5. Cassaro (Lo Schiavo, 2010: pl. 360.5189) (various scales).*

In sum, the non-existence of exact parallels with the fibula of "Cerro del Berrueco" does not restrain to create a close connection with other pieces. The Tyrrhenian models work as prototypes for the Iberian piece. Then, a Mediterranean link seems to be clear. The high chronology of the asymmetric violin-bow fibulæ fits other items present in this site, such as the pottery of Cogotas I Culture dated to the second half of the 2nd millennium BC (Abarquero, 2005: 59-68). Besides, this fibula is not the only Mediterranean artifact of the set, whereas there is an adze made of iron of Levantine or Anatolian origin of pre-colonial times (Morán, 1924: 22, fig. 1.13B; Almagro Gorbea, 1993: fig. 1.4).

Aside from the fibula of "Cerro del Berrueco", Celestino (2001: 204, fig. 51) noted another asymmetric violin-bow fibula in the Iberian Peninsula (fig. 1.2). According to this researcher, the fibula comes from the necropolis of Los Pajares (Villanueva de la Vera, Cáceres), but the fibula has no other information and it is not quoted in the major study about this site – by the same author (Celestino, 1999). Due to the poor presentation of the fibula by Celestino and the items found in the site, some authors think that there are not strong enough proofs to validate it (Mederos and Jiménez Ávila, 2016: 120-121).

However, the shape of the fibula of "Los Pajares" resembles some other asymmetric violin-bow fibulæ. Particularly, there is an undeniable parallel in Tomb 74 at Enkomi dated to the Late Cypriot IIIA (12th century BC) (Blinkenberg, 1926: 54, fig. 2; Giesen, 2001: 42, pl. 4.15). These foreign parallels make the fibula of "Los Pajares" cannot be totally discounted. Anyway, the poor information offered by Celestino does not make it a positive finding, particularly doubtful regarding the place of discovery.

2.2. Elbow fibulæ

These fibulæ are defined by a bow split into two sides because of a fold or elbow of variable angle range and variable position on the bow, always with a straight pin, even though. They make up one of the most numbered families in the LBA in the Iberian Peninsula, and they are the most significant due to their cultural implications, too. Sometimes, they also have been named "Monachil". Their different types – Cassibile II, Cassibile III, and horned – and subtypes show a dense trade network as well as a great variety of factories.

Cassibile II type[4] is defined by its structural simplicity, with a lateral elbow. In Iberia is identified just one example housed in the Museum of Valencia (fig. 2.1) (Almagro Basch, 1966a: fig. 3.7), of unknown provenance – so, perhaps it is a modern acquisition or maybe was found in the east of Spain. Both sides of the bow are decorated by means of geometric incisions. As

[4] Types named after M. Almagro Basch's nomenclature (Almagro Basch, 1957-1958: 200). Cassibile III is also a name given by the same author.

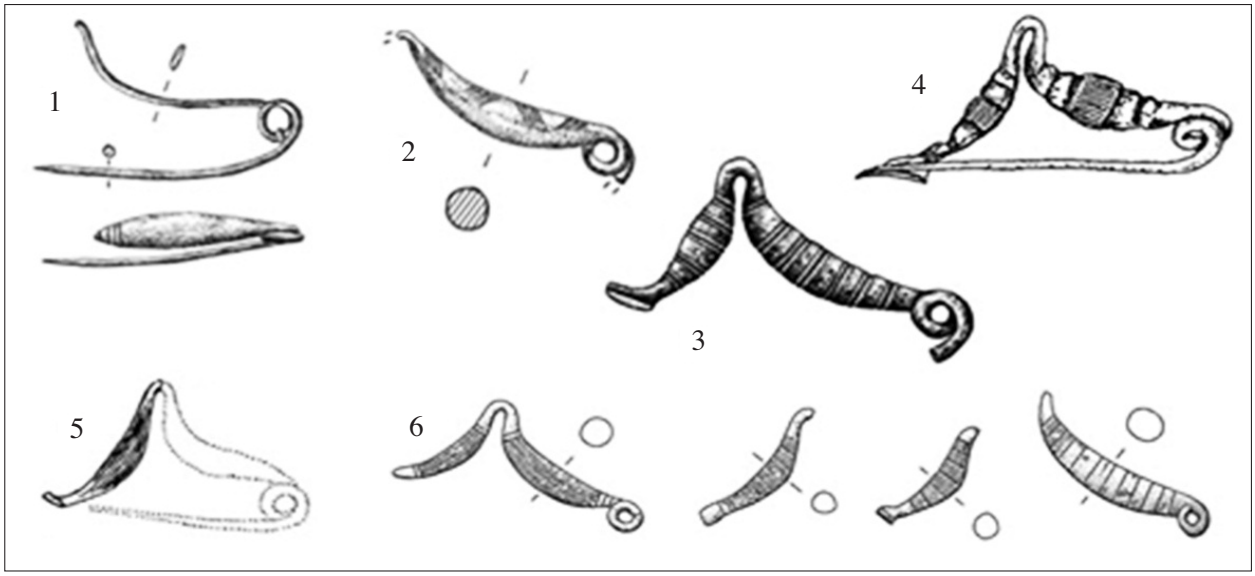

Figure 3. *Fibulae of Cassibile III type (sample): 1. Muralla de Valdehúncar (Carrasco et al., 2013: fig. 3.6); 2. Los Concejiles (Carrasco et al., 2013: fig. 3.8); 3. Cerro de la Muralla (Esteban, 1988: fig. VII.7); 4. Ría de Huelva (Almagro Basch, 1957: fig. 1.1); 5. Ría de Huelva (Almagro Basch, 1966a: fig. 4.3); 6. Castelluccio (four examples) (Lo Schiavo, 2010: pl. 368.5279.B-E) (various scales).*

long as the elbow is not very pronounced, the fibula could be a transitional model between asymmetric violin-bow type and the rest of the elbow family.

It is in Sicily, again, where the closest and the most similar parallels are documented, sometimes plain, sometimes with geometrics or parallel lines incised on the bow. In the necropolis of Molino della Badia there are four examples (fig. 2.2-5) (Lo Schiavo, 2010: 593-594, pl. 360.5187-88, 5190, 5194), one of them with a very marked elbow, plus another fibula of this type in Tomb 11 at Cassibile (Syracuse) (Lo Schiavo, 2010: pl. 360.5196). Also in Lipari (Aeolian Islands) is documented a similar example (Lo Schiavo, 2010: 593, pl. 360. 5191). Aside from those, there is a variant with twisted bow (Lo Schiavo, 2010: 591-592, pl. 359). All of them seem to be dated to the beginning of the Cassibile Horizon (1050-900 BC) or even little earlier.

Cassibile III type in Iberian Peninsula shows a remarkable diversity regarding shapes and decorative styles. The most noteworthy feature of this type is a clearly marked and folded elbow. Two main branches can be determined after the position of the elbow, so it can be sided or centered. Besides, according to stylistic criteria there can be identified four variants for each model: plain, fluted, incised –geometric pattern–, and molded.

Starting with the lateral-elbow or regular Cassibile III fibulæ, all the Iberian examples are located in the Atlantic façade (fig. 3.1-5):

Plain. Los Concejiles (Lobón, Badajoz) (Vilaça *et al*., 2012: 148-150, fig. 18.1; Carrasco *et al*., 2013: 42-43, fig. 3.8) and La Muralla (Valdehúncar, Cáceres) (Barroso and González Cordero, 2007: 17, 22-23, fig. 5.11).

Fluted. Ría de Huelva hoard (Almagro Basch, 1957: fig. 1.10; 1957-1958: fig. 2) and Cerro de las Agujetas (Pinos Puente, Granada) (Carrasco *et al*., 2013: 38-39, fig. 1.8).

Incised. Los Concejiles (Vilaça *et al*., 2012: 148-150, figs. 18.2, 19; Carrasco *et al*., 2013: 42-43, fig. 3.7) and Cerro de la Muralla (Alcántara, Cáceres) (Esteban, 1988: 283, fig. VII.7, pl. VI).

[5] The database consists in six wooden samples taken from spear sockets. The results are as follows (2σ range): CSIC-202: 2830±70 BP: 1255-901 cal. BC; CSIC-203: 2820±70 BP: 1210-826 cal. BC; CSIC-204: 2800±70 BP: 1206-810 cal. BC; CSIC-205: 2810±70 BP: 1208-815 cal. BC; CSIC-206: 2820±70 BP: 1210-826 cal. BC; and CSIC-207: 2820±70 BP: 1210-826 cal. BC (Almagro Gorbea, 1977: 524-525). The combined radiocarbon date is as follows: 2817±29 BP: 1004-926 cal. BC (1σ), 1049-901 cal. BC (2σ). The results were calibrated using OxCal 3.10 Program with the 2004 calibration curve (Torres, 2008: 136-137).

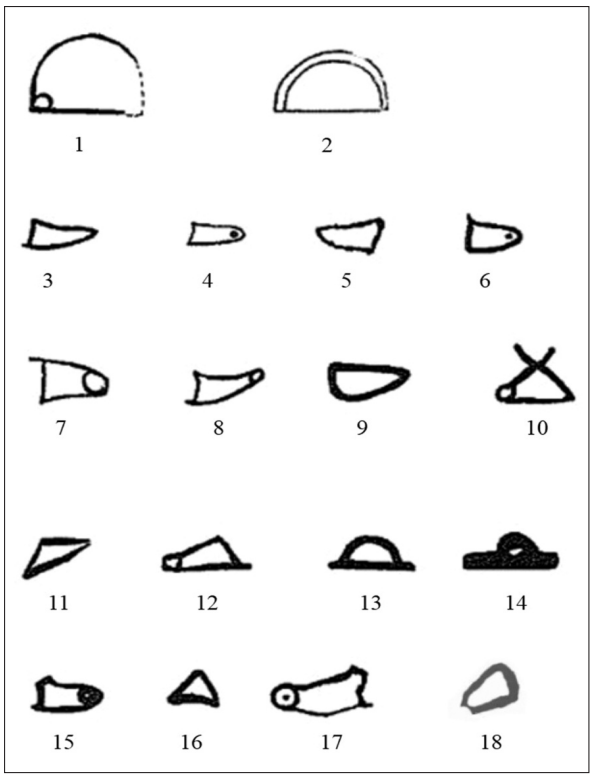

Figure 4. *Fibulae depicted on the steles. Curved-bow fibulae in first row and, perhaps, the last two depictions of fifth row; horned fibula in last position of third row; the remaining models depict elbow fibulae. 1. Valencia de Alcántara III; Salvatierra de Santiago II; 3. Torrejo el Rubio I; 4. Brozas; 5. São Martinho II; 6. Cabeza de Buey I; 7. Esparragosa de Lares I; 8. Quintana de la Serena; 9. Almargen; 10. Torrejón el Rubio II; 11. Las Herencias I; 12. Alamillo; 13. El Viso VI; 14. Zarza Capilla I; 15. Monte Blanco-Olivenza; 16. Ategua; 17. Ervidel II; 18. Cabañas del Castillo (Harrison, 2004: fig. 7.22; Rodríguez González and González Bornay, 2018: fig. 8 - detail).*

Molded/Ría de Huelva model. Ría de Huelva hoard (Almagro Basch, 1957: fig. 1, 1-5, 8; Ruiz Gálvez 1995: lám. 11.21-25) and La Requejada (San Román de la Hornija, Valladolid) (Delibes, 1978: 236, fig. 7).

The fibulæ from Ría de Huelva hoard and La Requejada are the only ones found in specific contexts. The rest of them are casual surface findings. However, the fibulæ from Los Concejiles are related to LBA items.

Within this subtype, Ría de Huelva model has to be highlighted. It is named so after this ritual hoard of metals composed by dozens of spears and swords – particularly a big amount of Ría de Huelva type swords – plus several other items (Almagro Basch, 1940; 1957; Ruiz-Gálvez, 1995). As part of the hoard, five almost complete fibulæ and obvious remains of another one of Ría de Huelva model are documented. There is also a chance for other three fragments which could be included in this group (Almagro Basch, 1957: fig. 1.6-7, 9; Ruiz-Gálvez, 1995: lám. 11.26, 28-29).

The Ría de Huelva hoard as well as the referred settlements above are dated to the LBA IIIA – Ría de Huelva Horizon – due to the artifacts they share, mostly weapons and pottery. After the six radiocarbon dates obtained from the Ría de Huelva hoard, this period is focused on 11th-10th centuries BC.[5] Analyses performed on the examples of the hoard reveal a high content in tin, thus consistent with the Atlantic bronze metalwork of this period (Rovira, 1995).

The fibula found in La Requejada looks practically identical to those from Ría de Huelva, and it is located in a ritual context, too. It comes from a pit with an inhumation of a family group together with several high valued items, as a silver necklace. The burial is placed in the inner side of a settlement with huts typical of Cogotas I Culture of the LBA. However, the fibula was found in a filling level of the pit, under the burial itself (Delibes, 1978). Two radiocarbon dates were obtained from a bone and a charcoal samples. Both dates have a high standard deviation; besides, no one of them are calibrated. Thus, the dates can be disregarded.[6]

The fibula of Cerro de la Muralla has rare incisions, which makes it unique. These incisions are hollowed marks along the bow, which make the fibula look like a caterpillar. Hence, it seems suitable to consider it as an intermediate model connecting Sicilian Cassibile III type to the Ría de Huelva model. The key feature of this latter is the presence of moldings, which makes a difference concerning regular Cassibile III type. Because of the uniqueness of the Cerro de la Muralla exemplar, the exclusive distribution of Ría de Huelva model in the Iberian Peninsula, and the chemical composition of them, they both were

[6] In any case, the results are as follows: bone sample of skeleton no. 3: I-9603: 2820±150 BP: 870 BC; charcoal sample: I-9604: 2960±95 BP: 1010 BC (Delibes, 1978: 237). The calibrated results are as follows: I-9603 (bone): 2820±150 BP: 1431-592 BC (95.4 %); I-9604 (charcoal): 2960±95 BP: 1290-1026 BC (68.2 %), 1414-928 BC (95.4 %). The dates were carried out with OxCal 4.3 software using the IntCal 13 calibration curve.

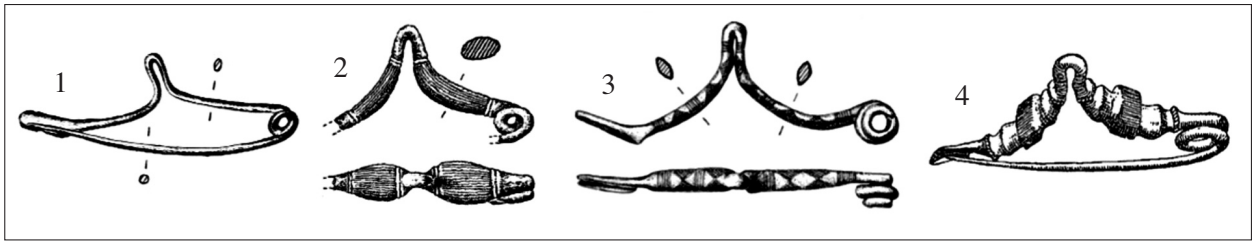

Figure 5. *Fibulae of Cassibile III type, central elbow subtype: 1. Las Muelas (Carrasco et al., 2013: fig. 2.9); 2. El Coronil (Carrasco et al., 2013: fig. 2.5, modified) 3. Cerro Alcalá (Carrasco et al., 2013: fig. 2.11); 4. Museo Arqueológico de Barcelona (Burgos-Palencia) (Almagro Basch, 1957: fig. 27.1) (various scales).*

made in a western peninsular workshop.

Sicily and the Aeolian Islands are the regions where the best parallels come from, even shape and styles. Thus, a great number of regular Cassibile III type fibulæ are found in the necropoleis of Cassibile, Madonna del Piano, Molino della Badia, Lípari, Castelluccio (Ragusa) (fig. 3.6) and Tombs 57, 69 and 74 at Monte Dessueri (Lo Schiavo, 2010: 595-601, pls. 361.5199-367.5269). These parallels are dated to an early stage of the Cassibile/Ausonius II Horizons, therefore contemporary to the Iberian examples.

Also, certain icons are carved on several stelæ that look like lateral-elbow fibulæ (fig. 4) (Celestino, 2001: 191-192; Harrison, 2004: 161-163). They allow to date these stelæ to the LBA IIIA. The icons are those of Alamillo (Ciudad Real), Brozas (Cáceres), Ervidel II (Beja, Portugal), Las Herencias I (Toledo), Monte Blanco-Olivenza (Badajoz), São Martinho II (Castelo Branco, Portugal), and Torrejón el Rubio I (Cáceres) stelæ. With reservations, the triangular icons on Almargen (Málaga), Ategua (Córdoba), Cabañas del Castillo (Cáceres), Cabeza de Buey I (Badajoz), Écija III, Esparragosa de Lares I (Badajoz), Quintana de la Serena (Badajoz), and Solana de Cabañas stelæ can also being included as lateral-elbow fibulæ or, at least, as elbow fibulæ.

Concerning central-elbow fibulæ, they all were likely made in the Iberian Peninsula (fig. 5). It is notable the assembly in the Southeast, although they are also found in the western side of this region:

Plain. Cerro de la Encina (Monachil, Granada) (Carrasco *et al*., 2013: 38, fig. 2.7), Las Muelas (Almedinilla, Granada) (Carrasco *et al*., 2013: 39, fig. 2.9), *Lancia* (Mansilla de las Mulas, León) (Schüle, 1969: fig. 39.a; Carrasco *et al*., 2013: 40-41, fig. 3.3) and Peña Negra (Crevillente, Alicante) (González Prats, 1989: 475; Carrasco *et al*., 2013: 40, fig. 3.1).

Fluted. El Coronil (Seville) (Carrasco *et al*., 2013: 37, fig. 2.5).

Incised. Cerro Alcalá (Torres, Jaén) (Carrasco *et al*., 1980: 226, fig. 4.12; 2013: 39-40, fig. 2.11), Cerro de la Encina (Schüle, 1969: fig. 39.b; Carrasco *et al*., 2013: 37-38, fig. 2.6), and La Muralla (Barroso and González Cordero, 2007: 17, 22-23, fig. 5.10).

Molded/Moraleda model. Cerro de la Miel (Moraleda de Zafayona, Granada) (Carrasco *et al*., 1985: 296, 298, fig. 22.102), Casa Nueva (Carrasco and Pachón, 2001: 237, fig. 2.1), Cerro de los Allozos (Montejícar, Granada) (2 examples) (Carrasco and Pachón, 1998a: 430-431, fig. 2.1-2, pl. I), Puerto Lope (Moclín, Granada)/Íllora (Granada) (Carrasco and Pachón, 1998b), Guadix (Granada) (Carrasco and Pachón, 2002: 177, fig. 2.2), Cerro de los Infantes (Pinos Puente, Granada) (Mendoza *et al*., 1981: fig. 12.f; Carrasco *et al*., 2012: 315, fig. 1.2-3), Laias (Barbantes, Orense) (Carrasco *et al*., 2012: 312, 314 fig. 1.1), and Castillo de Guadajira (Lobón, Cáceres) (Mederos and Jiménez Ávila, 2016: 116, figs. 1-2). The fragments of Abrigo Grande das Bocas (Rio Maior, Santarém, Portugal) (Carreira, 1994: 81, pl. XXXIII.1) and that said of Burgos-Palencia kept in *Museo Arqueológico de Cataluña-Barcelona* (Almagro Basch, 1940: fig. 60.2; 1957: 39, fig. 27.1; Fernández Manzano, 1986: fig. 42.5) can also be included in this group.

The very most of these fibulæ are surface findings or isolated artifacts related to the referred sites. Still, some of them are linked to certain LBA III features, such as the geometric-patterned fibulæ of La Muralla and Cerro Alcalá. This latter seems to be particularly interesting due to an almost closed elbow, in line with the Cypriot type fibulæ, and its double-coil spring.

On the contrary, the fibulæ of Cerro de la Miel, Peña Negra, and one exemplar of Cerro de los Infantes come from well-known stratigraphic

contexts.

The fibula of Cerro de los Infantes was found in Stratum 3 of Trench 23, which is part of the Level III of the site. Sherds of local LBA III pottery were found in this stratum next to Tartessian burnished ware (*cerámica de retícula bruñida*) very usual in Level III. The items provided by Level III are definitely prior to the earliest Phoenician artifacts in the site, which are dated to the 8th century BC. So, the fibula of Cerro de los Infantes must be dated to 9th century BC or even a little bit earlier (Mendoza *et al*. 1981, 176-178 fig. 12. 13).

The fibula of Peña Negra belongs to the lowest stratum of the settlement or Level I placed right next to a dwelling wall and under a garbage pit in Trench G of Area II (González Prats 1989, 470; 1992, 249). Together with the fibula, in Level I were found several stone structures and some other items such as a broken cast of a carp's tongue sword – probably Monte Sa Idda type (Ruiz-Gálvez, 1990: 316-317). This level works as a reference for the Iberian LBA IIIB (900-750 BC).[7]

The fibula of the settlement of Cerro de la Miel comes from the upper part of Stratum A6 (Trench 4), which is the lowest of the site and the floor of a hut, just above the bed-rock. A carp's tongue sword – Huelva type – belongs to the same stratum (Carrasco *et al*., 1987: 17). The features of A6 Stratum are mainly LBA regional pottery plus a sherd of bronze knob decorated Tartessian pottery (*cerámica decorada con botones de bronce*) (Carrasco *et al*., 1985; 1987: 23-53). This latter reveals a chronology of the turn 2nd-1st millennia BC. However, the site provided a wood sample from a pole that points out a larger chronology, spanning 16th-10th centuries BC.[8] An "old wood effect" plus a wide standard deviation seem appropriate reasons to explain this range.

So, a date spanning 10th-9th centuries BC seems suitable for central elbow subtype, then contemporary to lateral elbow fibulæ. Nevertheless, the discoverers of the centered-elbow, plain style fibula of Las Muelas suggest a 13th century BC for it after its morphological simplicity, its chemical composition – almost pure copper – and, above all, the radiocarbon date obtained in Cerro de la Mora applied to the fibula of nearby Cerro de la Miel, where a Moraleda model fibula was found (Carrasco *et al*. 2013: 47; 2014: 106, tab. 4).[9]

The suggested arguments of the Granadan approach can be easily refused:

First, the present typology shows the mutual relationship among items involving shape, style, chronology, and geographical dispersion. In typology, items become concepts in order to clarify and to understand certain real issues and processes. Types are useful as long as they are flexible. Therefore: a) single items should be avoided; b) some items can last in time as residual items, so types do not fizzle out all of a sudden. Typology works as a tool or a mean, never as a target itself. Concerning artifacts, types are just concepts and ideas, so morpho-technical differences of artifacts could be just random, unintentional modifications made by the artisans. Thus, morpho-technical simplicity or complexity do not determine at all a typological sequence.

Second, the chemical composition could be an absolute or complementary criterion for a typology. Regarding the fibula of Las Muelas, the lack of moldings or any other complex technical feature allows the use of just copper in the making process. On the contrary, moldings require a material of different composition. It would be necessary a tin-copper, or lead-copper, or tin-lead-copper alloy to produce a very fluid metal when melted. Thus, in this case shape and style determine the chemical composition, which has nothing to do with chronological issues.

Third, it is true the sample – a piece of charcoal – for the referred radiocarbon date of Cerro de la Mora was taken from a similar level to that of the fibula of Cerro de la Miel belongs to. It is true that the large standard deviation – 90

7 The database consists in three charcoal samples. The results are as follows (2σ range): CSIC-360: 2690±50 BP: 933-791 cal. BC; CSIC-484: 2670±50 BP: 922-776 cal. BC; and CSIC-410: 2580±50 BP: 834-539 cal. BC. The results were calibrated using OxCal 3.10 software with the 2004 calibration curve (Torres, 2008: 140).

8 UGRA-143: 3030±110 BP: 1411-1128 cal. BC. (1σ range), 1505-974 cal. BC (2σ range). The results were calibrated using OxCal 3.10 Program with the 2004 calibration curve (Torres, 2008: 138)..

9 The sample consists in a piece of charcoal taken from a hut floor. The result is as follows: UGRA-263: 2990±90 BP. 1σ (68 %): 1382-1334 cal. BC (16 %), 1324-1115 cal. BC (84 %) (57.12 % out of the total range); 2σ (99.95 %): 1432-976 cal. BC (99.95 %), 951-950 cal. BC (0.05 %). The sample was tested in University of Granada in 1987. The results were calibrated using Calib. 6.1.0 Program (Carrasco et al., 2014: 106, tab. 14).

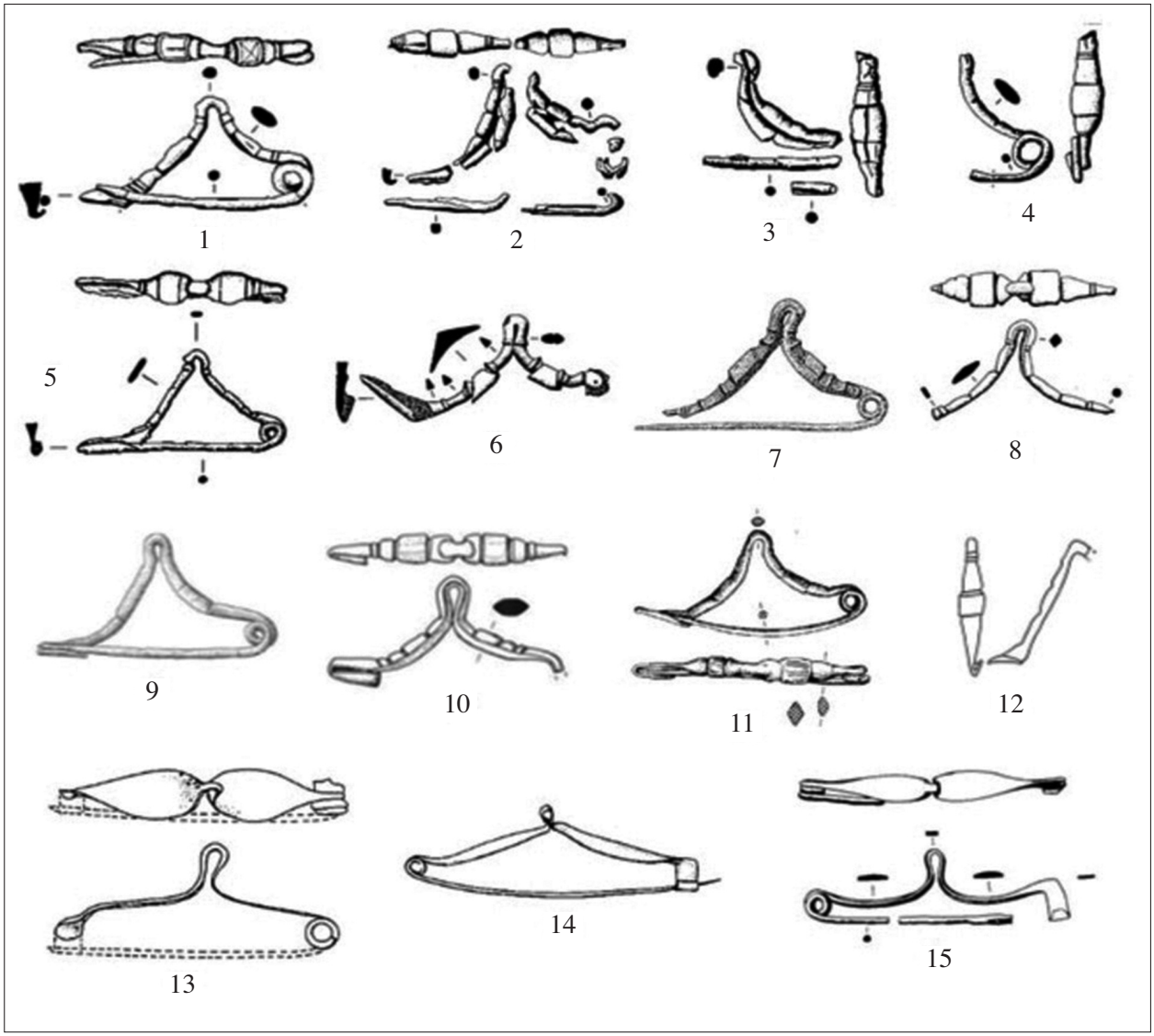

Figure 6. *Fibulae of central elbow subtype in the Eastern Mediterranean (1-12) and the Aegean (13-15): 1. Tomb 523 at Amathus (Giesen, 2001: pl. 44.1); 2. Tomb 13 at Amathos (Giesen, 2001: pl. 43.3); 3. Tomb 229 at Amathus (Giesen, 2001: pl. 43.1); 4. Tomb 243 at Amathus (Giesen, 2001: pl. 43.2); 5. Kourion-Cesnola Collection (Giesen, 2001: pl. 43.4); 6. Tomb 3 at Ayia Irini (Giesen, 2001: pl. 44.3); 7. Seminario de Historia Primitiva del Hombre de Madrid (Almagro Basch, 1966b: fig. 70.6); 8. Larnaka-Periedes (Giesen, 2001: pl. 44.2); 9. Megiddo (VA stratum) (Müller-Karpe, 1980: pl. 134.C.4); 10. Megiddo (IVA/L-2 stratum) (Blockmann & Sass, 2013: fig. 15.14.537); 11. Achziv (Mazar, 2004: fig. 28.1); 12. Samaria-Sebaste (Crowfoot & Kenyon, 1957: fig. 102.1); 13. Tomb 3 at Palia Perivolia (Popham et al., 1979-1980: pl. 249.6); 14. Tomb 13 at Toumba (Popham et al., 1979-1980: pl. 173.13.15); 15. Tomb 38 at Toumba (Popham et al., 1982: fig. 8.38.43) (various scales).*

years – is uncomfortable. However, it is also true that the 2σ range covers a LBA chronology which includes a LBA IIIA chronology in line with the molded exemplars of the Ría de Huelva hoard. Range indicates probability, therefore the fibula locates outside the most probable cluster, but a less probable cluster cannot be excluded. Thus, radiocarbon dates also support a LBA IIIA chronology (1050-900 BC).

And fourth, a high chronology for the fibula of Cerro de la Miel would mean a high chronology for the whole Stratum A6. However, there would be a big problem concerning the bronze knob decorated pottery and the Huelva type sword. The referred pottery style clearly starts in LBA III and endures the first stage of the Orientalization Phenomenon in light of other archaeological sites (Torres, 2002: 125-130, 135-137). It is hard to

define a sharp chronology for this style, but certainly the upper limit cannot go beyond 1050 BC. The Huelva type sword belongs to the first stage of the Atlantic carp's tongue swords, and this family works as a top item in LBA chronology.[10] The start of Carp's Tongue Horizon is contemporary to Ha B1-2, therefore 11th-10th centuries BC.[11]

The Granadan approach does not deny a LBA III chronology for some elbow fibulæ, but pushes back the beginning of the series as well as consider this family as an Iberian invention. If the fibulæ of Cerro de la Miel and Las Muelas can actually be dated in the 13th century BC, the entire sequence of fibulæ in Europe and Asia should be changed, which also would involve the chronology of the total amount of archaeological artifacts related to them. Moreover, if this date is accepted, the technological evolution of Eurasian societies as well as the social networks that support them, together with the sequence of the economic situations and other socio-ideological issues should deeply be reinterpreted. So, a high chronology for those fibulæ and consequently the Granadan approach must be refused.[12]

Moraleda model fibulæ are rich in tin (Carrasco *et al*., 1999: tabs. 1, 2; 2012: tab. 1; 2013: fig. 5), in line with Ría de Huelva model. It is the only Iberian group whose dispersion involves the Eastern Mediterranean (Ruiz Delgado, 1989: 62; Mederos, 1996: 98-101; Carrasco and Pachón, 2006b; Torres, 2012: 462-464; *contra* Guzzo, 1969). A total of twelve examples are known, eight of them in Cyprus, whereas other four in the Levant (fig. 6.1-12; fig. 7). They are not identical within, in such a way the angle range of the elbow and its height regarding the pin vary.

In the Levant, a couple of Moraleda model fibulæ are located in Megiddo, the first one in Stratum VA (Loud, 1948: pl. 223.78), and the other one in Stratum IVA/l-2 (Blockman and Sass, 2013: 900, fig. 15.14.537). A third one in Tomb 1 at Achziv (Northern District, Israel) (Mazar, 2004: 113, fig. 28.1), and the last one comes from Room C at *Samaria-Sebaste* (Nablus, West Bank-Israel) (Crowfoot and Kenyon, 1957: 441, fig. 102.1). This latter is broken and hard to classify properly, but it has moldings with accuracy. The finding contexts are dated between 10th-9th centuries BC.

Regarding the fibulæ of Cyprus, five of them are found in Tombs 13, 229, 243, and 523 at *Amathus* (Limassol) (Giesen, 2001: 179-180, pls. 43.1-3, 44.1), and in Tomb 3 at Ayia Irini (Lassithi) (Giesen, 2001: 180, pl. 44.3), whereas the other three pieces are of unknown provenance, attributed to Kourion (Limassol) (Blinkenberg, 1926: 248, fig. 298; Giesen, 2001: 179, fig. 43.4), and Larnaca (Buchholz, 1986: fig. 2.b; Giesen, 2001: 180, pl. 44.2), plus a last one discovered in the former University of Madrid, but native to the island (Almagro Basch, 1966b: fig. 70.6; Guzzo, 1969: 302-303). They do not look the same each other because of the variations of the angle range of the elbows. After their finding contexts, sometimes hard to date, they belong to a period spanning Cypro-Geometric I-III (1050-750 BC).

In Cyprus, Moraleda model experiences a formal evolution, which results in an endemic, new type: the Cypriot type (fig. 8.1) (Giesen, 2001: 179-208, pls. 45-59). The main difference in relation to Moraleda model consists in a remarkable rounded knob instead of a regular elbow.

The Moraleda model fibulæ do not occur anywhere else in the Mediterranean or the Atlantic. In spite of that, just a couple remarks. On the one hand, three odd fibulæ made of bronze and gold, flatted bow, and centered elbow are identified the Ægean (fig. 6.13-15), in concrete in Tomb 3 of Palia Perivolia (Popham *et al*., 1979-1980: 142-143, pls. 239.h, 249.6), and in Tombs 13 and 38 of Toumba at Lefkandi (Popham *et al*., 1979-1980: 175, pls. 173.13.15, 231.c; 1982: 217, 237, fig. 8.38.43, pl. 33.d). Such pieces are dated to the Late Proto-Geometric and Subproto-Geometric II (950-850 BC) (Pare, 2008: 93). The morphological singularity points out a local manufacture, but still it seems reasonable to consider an Iberian filiation root. On the other hand, Cypriot elbow type fibulæ travels to the West, probably immersed in the Greek colonial

[10] Brandherm and Moskal-del Hoyo, 2014.

[11] UGRA-143: 3030±110 BP: 1411-1128 cal. BC. (1σ range), 1505-974 cal. BC (2σ range). The results were calibrated using OxCal 3.10 Program with the 2004 calibration curve (Torres, 2008: 138).

[12] See also an interesting refutation in Ruiz-Gálvez, 1990: 330-336.

process. Only a few examples are documented abroad, some of them showing little variants (Cunisset-Carnot *et al*., 1971; Duval *et al*., 1974: 35, 331, fig. 31.1-2; Lo Schiavo, 1978: 42-44 fig. 6.3; Sapoura-Sakellarakis, 1978: 135, pl. 55.1721, 1723-24; Storch de Gracia, 1989: fig. I-13.I-2).

If Cassibile III type is the most important group of fibulæ during the LBA in Iberia it is not only because of the great amount of them, but because of the inner evolution and, above all, the presence in the Eastern Mediterranean.

The third type of elbow fibulæ is marked by the inclusion of horns or appendages. Again, it occurs in the tangible repertoire and in the iconography as well (fig. 8.2-3).

The only tangible horned fibula in the Iberian Peninsula is a piece housed in the *Museo Arqueológico Nacional*, whose provenances seems likely the Spanish provinces of Soria of Guadalajara, in the eastern limits of the Meseta (Almagro Basch, 1966a: fig. 3.6). Finding circumstances are unnoticed. It has no decoration, and its structure resembles a Cassibile III type fibula. From the top of the elbow come out two horns ended in a tiny knob each one. Likewise, there is only one icon of this type carved on Torrejón el Rubio II stele (Cáceres) (Celestino, 2001: 195, 331; Harrison, 2004: 195). It is showed together with an anthropomorphic figure which excels a diadem and a belt, plus a odd object interpretable as a comb or as a calcophone.

Three parallels abroad are known, found in Sicily and in the Italian Peninsula. They are documented in the necropoleis of Madonna del Piano and Castelluccio, as well as in Tomb 181 at Torre Galli (Vibo Valentia) (fig. 8.4-7) (Lo Schiavo, 2010: 605, pl. 368.5279.F-80). They present incisions and flutes, and they are dated to the Torre Galli Horizon (950-850 BC). Although it cannot be assert with accuracy, a Tyrrhenian origin seems plausible for horned type.

There is also a variant for the horned type. Moreover, it could be seen as a new type of elbow fibula. In any case, it is hard to classify, but it accurately pertains to the elbow family. The fibulæ said of Villamorón (Burgos) (Almagro Basch, 1966a: fig. 3.9) and that one of the necropolis of San Antón (Villaluenga de la Sagra, Toledo) (Walid and Pulido, 2010: 229, fig. 6) have a single big horn or round knob on the top of the elbow, and they also present incisions on the bow (fig. 8.8-9). Although the fibula of San Antón has no direct context, the necropolis is properly attributed to the Early Iron Age. The shape of these latter shows close connections to the Cypriot elbow type, or even to the pivotal family, therefore contemporary to the other horned examples.[13]

2.3. Curved-bow fibulæ

Curved-bow or arch fibulæ are just defined by a semicircular bow. In the *Museu Municipal Pedro Nunes* (Alcácer do Sal, Setúbal, Portugal) two fibulæ of this family of unknown finding context or any discovery information are documented, both said of the necropolis of Olival do Senhor dos Mártires placed in Alcácer do Sal (Ponte, 1985: 139-140, figs. 1-2; 2006: 424-425). Also, there are several depictions on the stelæ that seem to represent curved-bow fibulæ.

Both of the tangible fibulæ have a thickened, geometric themed bow, plus a double-coil spring. That is why this type is called "thickened". The first fibula evidently belongs to the leech type (fig. 9.1) (Schüle, 1969: 153, pl. 109.22; Ponte, 2006: 111-116),[14] while the second one is smaller, just a regular model showing a structural square outline (fig. 10.1) (Ponte, 2006: 116-120).

These two fibulæ are properly attributed to the necropolis of Olivar Senhor dos Mártires, as long as they are part of the collection of the museum of Alcácer de Sal. However, the very most of the items found in Olival Senhor dos Mártires belong to the Orientalizing Period, but there are a few items from earlier times. In this sense, these two fibulæ together with a looped piece can be considered rare findings in the site, although not false (Gomes, 2015: 330-331, fig. 1.2). In any case, it is necessary to look abroad to fix the chronology and the filiation root of the fibulæ.

The main gathering of the thickened pieces occurs in the Alpine-Italian axis. Starting from the South, regular thickened type fibulæ make up the

[13] According to the excavators of the site (Carrasco et al., 1987: 88), half-a-dozen elbowed fibulae were found in the settlement of Cerro de la Mora-Cerro de la Miel. However, the only certain fibula from this site is the referred in the current text.

[14] A leech type fibula is noticed from Castelo de Arraiolos (Évora, Portugal) (Arruda, 2008: 363). Unfortunately, there is no more information about that.

largest set within the curved-bow family, particularly in Reggio Calabria and Campania (Lo Schiavo, 2010: 128-174, pls. 28.250-69.677). Of all, perhaps the most similar to the Portuguese one could be a piece situated in Tomb Osta 33 at *Cumae* (Naples) (fig. 10.2) (Lo Schiavo, 2010: 174, pl. 69.677). This tomb is dated to the I Fe IB/Torre Galli B Horizon (900-850 BC) (Lo Schiavo, 2010: 171). In Northern Italian Peninsula appears a larger variety of these fibulæ, particularly of regular thickened type. Out of the multiple findings in the region, the most similar ones come from the necropolis of Este (Padova), likely dated to the 8th century BC (fig. 10.3-4) (Eles Masi, 1986: 66, pls. 37.565-38.575).

Leech type fibulæ also have a large representation in southern Italian Peninsula, where the sets from Capua (Caserta), *Cumae*, and Suessula (Caserta) are remarkable (Lo Schiavo 2010: 260-276, pls. 128-134). In this latter site the two best formal and stylistic parallels with the leech piece of Olival do Senhor dos Mártires are found (fig. 9.B.2-3) (ídem: 276 pls. 133.1648, 134.1650). Finding contexts are unknown, but both are datable to *Veii* IIB Phase (first half of 8th century BC) (Lo Schiavo, 2010: 276, pls. 133.1648, 134.1650). In the South of France thickened fibulæ are also attested, chiefly leech type (Duval *et al*., 1974: 15-21). The examples of Avignon (Vaucluse) (fig. 9.4) (Duval *et al*., 1974: 21, fig. 11.3) and of Isère (Duval *et al*., 1974: 21 fig. 11.5) are the closest to the leech type fibula of Olvar do Senhor dos Mártires.

Last, in the *Museo Etnográfico y Arqueológico Dr. Joaquim Manso* (Nazaré, Leiría, Portugal) another curved-bow fibula is housed in, whose finding context is unnoticed – just said from the settlement of Pirreitas (Alcobaça, Leiría) (Ponte, 1984: 89-91, fig. 1; 2006: 120-123, 425). This fibula belongs to a different type than the former ones, and it is classified as thickened-and-disc. The main feature is a circular plate coming out from the catch-holder, which shows two swastikas, two squares, several lines, and dots incised on it. The bow has moldings, and the spring has four coils (fig. 11.1).

Thickened-and-disc type is very abundant in southern Italian Peninsula, mainly in the necropoleis of Pontecagnano and Sala Consilina, in Salerno – the area where they type comes from (Lo Schiavo, 2010: 180-193, 244-255, 276-278, pls. 71.691-84.790, 106-120, 135.1653-136.1675). No identical examples to that of Pirreitas can be recognizable. However, the disc of the fibulæ of the same type in Tomb 580 at Pontecagnano is amazingly similar (fig. 11.2-3) (Lo Schiavo, 2010: 188, pl. 80.750-751). Again, the tomb is dated to the I Fe IB/Torre Galli B Horizon (Lo Schiavo, 2010: 189). There is another interesting example attributed to Pont-Rompu (Hérault, France) (Graells, 2014: 243-245). It is an exceptional finding in the south of France that could be interpreted as a first step for an Atlantic spread or as a second and final step after the Atlantic distribution starting from the Iberian Peninsula. This latter option seems more likely.

Regarding depictions, curved-bow fibulæ might be represented on El Viso I, El Viso VI (both in Córdoba), Zarza Capilla I (Badajoz), Salvatierra de Santiago II, and Valencia de Alcántara III (both in Cáceres) stelæ, all of them from the complex series (Celestino, 2001: 191) (fig. 12.1-4). The Valencia de Alcántara III icon is the clearest, but also looks incomplete due to the destruction of the stele. The remaining icons are just semicircles, two of them apparently with an elongated pin.[15] Perhaps no-one of them is an actual fibula, or maybe they outline another type of these artifacts. Anyway, an interpretation as curved-bow fibulæ seems the most feasible.

As it happens to the elbow fibulæ carvings, types cannot be identified. Nevertheless, the figure of Valencia de Alcántara III stele seems to reproduce a simple type, without moldings or knobs. The icon shown on Salvatierra de Santiago II stele looks similar to this model.

Outside the Iberian Peninsula, simple type appears elsewhere Europe and Western Asia. It is the most widespread type and one of the most numerous, indeed. Once again, the nearest parallels are located in Sicily, where hundreds of them are known (Lo Schiavo, 2010: 94-174, pls. 3.31-69.677). Some of the earliest examples are documented in the necropoleis of Catagirone (Catania) and Monte Dessueri (Lo Schiavo, 2010: 95 , pl. 3.32-33), assigned to the beginning of the Pantalica Nord Horizon (1250-1050 BC). In the

[15] Sebastián Celestino (2001: 194) interprets some of these icons as Acebuchal type fibulae (Ruiz Delgado, 1989: 139-153; Storch de Gracia, 1989: 217-236).

Figure 7. *Dispersion of the Moraleda model fibulae (central elbow subtype) in eastern Mediterranean (only accurate places): 1. Amathus; 2. Ayia Irini; 3. Achziv; 4. Megiddo; 5. Samaria-Sebaste.*

transition to the Cassibile Horizon (1050-900 BC) many more are documented, such as the set the found in the necropolis of Pantalica Nord (Syracuse) (Lo Schiavo, 2010: 112-114, pls. 13.98-15.124), and even many more during the fullness of this stage, like those from Molino della Badia, from Tombs 1, 6, 7, and 46 at Madonna del Piano, and in Tomb 70 at Cassibile (Fig. 12.5) (Lo Schiavo, 2010: 117-119, pls. 21.164-22.176).

2.4. Looped fibulæ

The compositional features that characterize the looped or "*ad occhio*" or "*ad arco serpeggeante*" or "serpentine" fibulæ are a straight pin and the loop in the bow, which does not work as a spring. Iberian examples can be classified in two types, Ponte 1a and Ponte 1b –names given by a top researcher, Maria S. da Ponte (Ponte, 2006: 86-88, fig. 15, cuadro 6)[16]–, basically depending on the diameter of the spring and on the position of the loop. The peninsular distribution of this family is mostly focused on the western side.

Ponte 1a type is defined by an elongated shape and a centered loop near the pin, then looking like a triangle (fig. 13.1-2). Some of these fibulæ excel geometrics or lines incised, some others are plain. They are identified in Roça do Casal do Meio (Sesimbra, Setúbal, Portugal) (Spindler and Ferreira, 1973: 84, 87-89, fig. 10.d), in the settlements of Cabeço do Crasto de São Romão (Seia, Guarda, Portugal) (Gil *et al.,* 1989: 237-240, fig. 5.7002), Nossa Senhora da Guia (Baiões, Viseu, Portugal) (Kalb, 1978: 123, fig. 10), Soto de Tovilla II (Tudela de Duero, Valladolid) (Quintana and Cruz, 1996: 21-22, fig. 5.10), Perales del Río (Getafe, Madrid) (Blasco, 1987), Mola de Agrés (Agrés, Alicante) (Gil-Mascarell and Peña 1989: 131-135, fig. 3), Cerro del Berrueco (Salamanca) (Almagro Basch, 1966a:

16 The definition of Ponte 1a and Ponte 1b types as types was made by other researchers using a different nomenclature. Actually, Ponte 1a type was not precisely defined, but identified many times as "similar to the fibula Roça do Casal do Meio" – not in vain was the first item discovered of the type. That is why it also could be called "Roça do Casal de Meio type"; or due to the formal uniqueness and the main gathering in Portugal, they could also being called "Portuguese type". Concerning Ponte 1b type, Lo Schiavo calls these fibulae "Fibule serpeggianti con occhiello e staffa da spirale a disco", while Eles Masi calls it "Fibule serpeggianti con staffa a disco di lamina". Because of the length of Lo Schiavo's and Eles Masi's nomenclatures, the short "Ponte 1b" seems preferable. In order to ensure consistency, "Ponte 1a" seems also preferable.

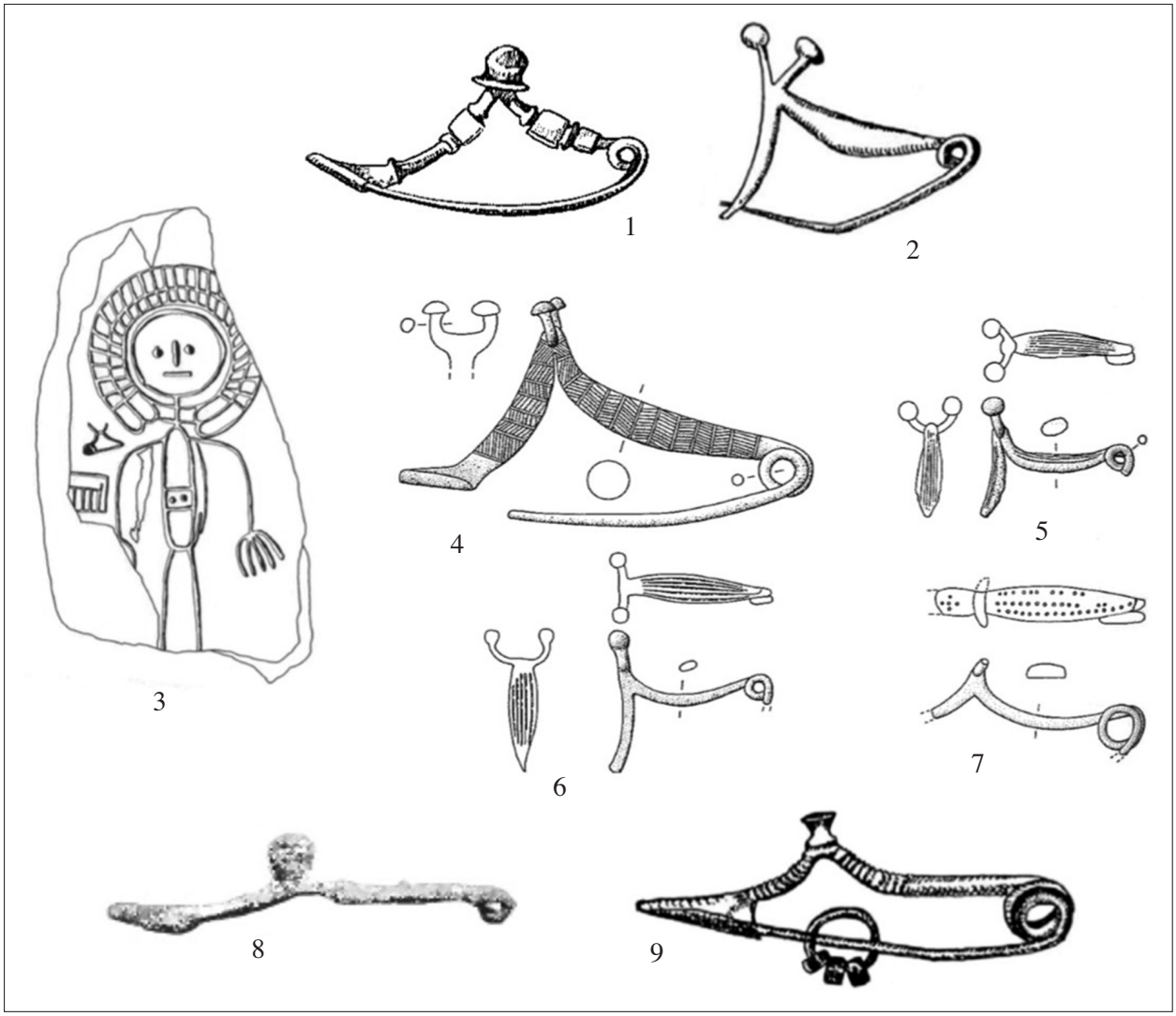

Figure 8. *Cypriot type fibula and horned type fibulae: 1. Cypriot type fibula of Tomb 65 of Tamassos Museo (Almagro Basch, 1957: fig. 22.1); 2. Museo Arqueológico Nacional de Madrid (Almagro Basch, 1966a: fig. 3.6); 3. Torrejón el Rubio II stele (Celestino, 2001: 331); 4-5. Madonna del Piano (Lo Schiavo, 2010: pl. 368.5279.F-G); 6. Castelluccio (Lo Schiavo, 2010: pl. 386.5779.H); 7. Torre Galli (Lo Schiavo, 2010: pl. 386.5780); 8. San Antón (Walib and Pulido, 2010: fig. 6, modified); 9. Villamorón (Almagro Basch, 1966a: fig. 3.9); (various scales).*

fig. 3.3), Ratinhos (Moura, Beja, Portugal) (Berrocal-Rangel and Silva, 2010: 306-307, figs. 112, 143.30), Cabeço da Argemela (Fundão, Castelo Branco, Portugal) (Marques *et al*., 2011-2012: fig. 18), and in the Baleizão hoard (Beja) (Vilaça and Lopes, 2005: figs. 1-2).[17]

Within this type, the fibulæ of RCdM, Ratinhos, Nossa Senhora da Guia and Mola de Agrés deserve special attention separately due to the well-known contexts and the features related to the fibulæ. The remaining examples show an alike chronology, and their nuances are not quite different from these four.

The burial site of Roça do Casal do Meio is a megalithic monument that contains two tombs (Spindler y Ferreira, 1973; Harrison, 2007;

[17] There are other examples documented in Portugal, but the absence of images and the simple and sparing descriptions in the publications obstruct an in-depth analyses. They are located in Quinta do Marcelo (Arruda, 2008: 360, fig. 1.4), Lavra (Porto) (Arruda, 2008: 361), Alcácer do Sal (Setúbal) (Arruda, 2008: 362) and, perhaps, in Nossa Senhora da Cola (Beja) (Ponte, 1986b: 76 , pl. 1; Arruda, 2008: 365).890 cal. BC (2σ) (Torres, 2008: 137).

Soares, 2014). The fibula, as well as the other artifacts from the burial, is part of the funerary goods. The fibula is associated to a belt brooch and a tweezer, both of bronze, from Tomb 2, while Tomb 1 contains an ivory comb, a tweezer, a ring of bronze, and bones of two rams and two goats. Besides, three pottery vessels were also part of the common funerary goods. Two ^{14}C dates taken from the burial revealed a chronology of LBA IIIA (1050-900 BC).[18]

The fibula of Ratinhos is a fragment that comes from Stratum IIc of Trench B1 that was interpreted as a filling level to build a wall (*tercera línea de muralla*). The stratum belongs to the Phase 2 of this site, and it contains many sherds of regional pottery, particularly interesting and numerous those of *Lapa do Fumo* style of LBA III. Obviously, these items were not in use when the wall was built. Phase 2 is dated after a two samples of wood and charcoal from two different strata –those of the upper (IIc) and the lower (IId) huts of the phase– spanning late-13th century BC-mid 9th century BC.[19] The wall was built at the very end of Phase 2, so Stratum IIc –therefore, the looped fibula, too– is dated around 10th-9th centuries BC.

The fibula of Nossa Senhora da Guia has no decoration. Although the fibula is a surface finding in Trench 3, and it belongs to a small site where many and diverse bronze artifacts were found, aside from several pieces of *Lapa da Fumo* style pottery. Some of them –a wheeled stand, metal bowls, a rotary spit, and the fibula – make evident an interaction between Mediterranean and Atlantic communities (Kalb, 1978; Silva *et al*., 1984; Ruiz-Gálvez, 1993). This single-stage site is dated to the 9th century BC after the radiocarbon dating.[20]

The fibula of Mola de Agrés is, by far, the most different of Ponte 1a type. It was found in a mixed level of a terrace, in such a way it is impossible to define a stratigraphy. However, the presence of Cogotas I Culture and Urnfields Culture pottery, Tartessian pottery, and a fragment of an ivory comb with geometrics point out a chronology focused on the LBA III, which can be enlarged involving former and later stages (Gil-Mascarell and Peña, 1989: 137-141). The fibula has geometric decoration, a very prominent, higher loop, and extra coils in the loop as well as in the spring – not a double-spring model, though.

Morphologically, the closest parallels with Ponte 1a type are located in Tombs 3 and 119 at Cassibile, Tomb 47 at Monte Dessueri, Tomb E55 at Cozzo San Giuseppe di Realmesse (Enna, Italy), and in several burials at Castiglione among many other sites, all of them Sicilian and dated to the Cassibile Horizon (1050-900 BC) (fig. 13.3-4) (Lo Schiavo, 2010: 612-616, pls. 372-374). They all look like elbow fibulæ of Cassibile III types, revealing typological families as contemporary variations. This similarity seems to confirm an inner Tyrrhenian evolution, in light of some other looped pieces that look similar to Cassibile II type (Lo Schiavo, 2010: 611-612, pl. 371.5299-5307).

In the Tyrrehnian Circle several triple-loop fibulæ are documented, and all of them are dated to the Torre Galli B Horizon (900-850 BC) (Lo Schiavo, 2010: 738-741, pls. 522.6446-524.6686). The central loop is double coiled, like the Mola de Agrés piece. However, the significant shape difference between them makes clear that there are not formal derivations in any sense.

Besides Ponte 1a type fibulæ, two looped examples of different typology dated to the LBA are documented in Portugal. They belong to Ponte 1b type (fig. 14.1-2). The first one come from the settlement of Pirreitas (Ponte, 1984: 95 no. 2; 2006: fig. 1.1b1), while the second one comes from the necropolis of Olival do Senhor dos

[18] Surprisingly, the correspondence sample-tomb is unknown. The database consists in two bone samples. The results are as follows (2σ): GrA-131501: 2760±40 BP: 982-828 cal. BC; GrA-131502: 2820±40 BP: 1053-892 cal. BC (Vilaça and Cunha, 2005: 52 tab. 1). The combined radiocarbon date is as follows: 2790±28 BP: 898-806 cal. BC: 978-901 cal. BC (1σ), 1010-890 cal. BC (2σ) (Torres, 2008: 137).

[19] The database consists in two charcoal samples. The results are as follows (2σ range): Sac-2230: 2820 ±90 BP: 1220-810 cal. BC (93,4 %), 1260-1230 (2,0 %); and Sac-2288 (2660 ±40 BP: 910-780 cal. BC (95,4 %). The results were calibrated using OxCal 4.1.03 software (Soares and Martins, 2010: tab. 24).

[20] The database consists in three seed samples. The results are as follows (2σ range): GrA-29.095/S: 2745±40 BP: cal. 993-979 BC; GrA-29.097/S: 2680±40 BP: 906-796 cal. BC; and GrA-29.098/S: 2650±35 BP: 895-787 cal. BC. The combined radiocarbon date is as follows: 2688±22 BP: 898-806 cal. BC (Vilaça, 2008: 385). There is a fourth sample from a piece of charcoal disregarded after the high standard deviation plus the nature of the sample – not reliable enough compared to the seeds (GrN-7484: 2650±130 BP: 1125 (806) 406 AC, in Kalb, 1974-77: 141).

Mártires-Alcácer do Sal and it remains severely fragmented (Ponte, 2006: fig. 1.1b2). The main differences concerning the former type consist in a wider diameter for the spring and a lateral loop. The pin is straight, the bow is arched inwards, and both pieces are decorated be means of parallel incisions. By the way, any of the two examples have not finding contexts, but still they are credibly attributed to the referred sites.

The catch-holder of the fibula of Pirreitas is broken, but still a growing plate can be observed, making it so similar to the example of Olival do Senhor dos Mártires. This nuance allows to recognize two fibulæ of Cairano (Avellino, Italy) (fig. 14.3) (Lo Schiavo, 2010: 627, pls. 380.5417, 381.5420) as exact parallels, whose catch-holder is a wide, spiral plate. In the southern half of the Italian Peninsula as well as in Lazio similar examples are documented (Gierow, 1966: 326-327; Lo Schiavo, 2010: 623-627, pls. 378.5389-381.5421), plus several other variants. All of them are dated to Torre Galli Horizon. In Zanica (Bergamo, Italy) another one is known with a narrower plate (fig. 14.4) (Eles Masi, 1986: 200, pl. 162.2127). This latter is typologically related to the examples of Fontanella Grazioli (Mantova, Italy), Fratessina and Bissone Pavese (Pavia, Italy) (Eles Masi, 1986: pl. 162.2126, 2128, 2132), therefore pointing out a spread northwards for this type.

Because of their amount, looped fibulæ make up one of the largest family of these artifacts, second only by curved models. Not in vain, the geographical widespread of looped family spans basically the Mediterranean and the Balkans. A great and varied assembly of these pieces is located in Sicily and the Italian Peninsula (Lo Schiavo, 2010: 607-741, pls. 370-524.6686). That is why it seems true to suppose looped fibulæ were entered in the Atlantic from the Central Mediterranean.

Despite certain nuances, Ponte 1a type fibulæ are defined by the central and low loop, except for the Mola de Agrés example. Plus, these fibulæ are made of tin-rich bronze (Blasco, 1987: 20; Gil-Mascarell and Peña 1989: 143-144; Carrasco *et al*., 1999: tab. 2). These formal and chemical features involve a mark in relation to the Mediterranean parallels. Therefore, a local production can be suggested, in accordance with Atlantic high content of tin bronzes (Rovira, 1995; Figueiredo *et al*., 2010: fig. 1).

2.5. Pivotal fibulæ

Also known as fibulæ "*de pivote*", this family is by far the most problematic group of fibulæ in the considered series. It is so because of the uncertain archaeological contexts for many of the items as well as because of the lack of truly parallels. The family is defined by two elements: a structure made of two pieces – the pin works also as a pivot – and the knobs or protuberances on the bow and on the pin; so pivotal fibulæ do not have a spring, but a joint (Almagro Basch, 1966a: 219-221, figs. 4-5; Carrasco *et al*., 2016). Iberian pivotal fibulæ belong to only one type, the Iberian type, which includes several subtypes and the usual four styles.

It has been suggested a LBA III (1050-750 BC) chronology for the earliest examples of this family (Castro, 1994: 140-141; Rafel *et al*., 2008: 253-255; López Cachero *et al*., 2009: 221; Graells, 2014: 250; Carrasco *et al*., 2016: 134-140). This chronology seems to be right, but it is hard to precise the stage when and the area where this family emerged.

There are at least three molded examples (fig. 16.1-2, 4). These are the two fibulæ kept in the *Instituto Valencia de Don Juan* (Almagro Basch, 1957: 40, fig. 29.2-3; Schüle, 1969: 146, figs. 48-49, pl. 174.27, 41; Carrasco *et al*., 2016: 120-121, fig. 4.1-2), and the third one housed in the *Museo Arqueológico Nacional* of Madrid (Almagro Basch, 1957: 40, fig. 29.1). Besides, there are two intriguing and curious items worth mentioning. Thus, the first one is a fragment that apparently came up in the recent years housed in the same *Instituto* (fig. 16.3) (Carrasco *et al*., 2016: fig. 4.3), while the second one is a fragment housed in the *Museo Arqueológico de Cataluña-Barcelona*, which presumably can be classify as a pivotal fibula (fig. 16.5) (Schüle, 1969: pl. 174.28). The provenance for all of them is unknown, but they all are assigned to the Northern Meseta. They clearly resemble the Cypriot elbow type, as well as the Ría de Huelva and the Moraleda models. That is why they could fit a LBA III chronology.

Also, the fibulæ from the settlements of Fuente Estaca (Embid, Guadalajara) (Martínez Sastre, 1992: 76-77; Castro, 1994: 141), Palermo (Caspe, Teruel) (Álvarez Gracia, 1985: 299), and Cerro de la Mora (fig. 16.6) (Carrasco *et al*., 1985: 299; 1987: 88; 2016: 139), plus the necropoleis of Can Piteu (Sabadell, Barcelona) (López Cachero 2005: 447, figs. 83, 102.1-2, 5), and Agullana (Gerona) (Toledo and Palol, 2006: 183) seem to belong to the oldest series. There are some other examples,

but their archaeological contexts are far from being reliable – surface findings and unnoticed findings (Graells, 2014: 293-293; Carrasco *et al*., 2016: 120-124). Apparently, the first three fibulæ are the oldest ones, dated to the 10th-9th centuries BC, while the other ones are dated to the 8th-7th centuries BC. The reasons that support a very early 1st millennium BC chronology are not based on well-calibrated or well-ranged dates, or not even on radiocarbon dates, but on rational assumptions, such as correlations to other levels.[21] Nevertheless, it seems properly to accept a chronology focused on the 8th century BC or maybe little earlier for the very early fibulæ, once the Agullana fibulæ are so dated with accuracy (Toledo and Palol, 2006: 241-246; Barceló, 2008: 77-83; López Cachero and Pons, 2008) and it also matches with the LBA III levels of the referred sites.

No-one of the whole Iberian pivotal fibulæ have exact parallels abroad to confirm a chronology. This clearly points out the autochthonous origin of this type and, perhaps, of the whole family. But molded style fibulæ, because of the moldings and the central knob, look similar to the Cypriot elbow type fibulæ of a different family. Still, in the Italian Peninsula several pivotal fibulæ are documented. They have a two-piece structure and a pivot pin, but they also have a loop on the bow and a circular plates at the end of the catch-holder, therefore the Italian pivotal models bring together features of different families (fig. 16.7-8). They all are dated to the Torre Galli Horizon (950-850 BC), probably to the end of it (Eles Masi, 1986: 210-211, pls. 162.2131-163.2139; Lo Schiavo, 2010: 635-661, pls. 387.5477-415). Also, some pivotal fibulæ from Cyprus can be also mention from different sites dated to the Cypro-Archaic I (750-600 BC), perhaps little earlier (Buchholz, 1986: 336-237, fig. 7). In this cases, the joint is visibly different than the Italian and Iberian ones.

2.6. Double-spring fibulæ

These fibulæ are defined by the two springs of several coils in the edges of the bow and by the lack of a regular spring at the origination of the pin. They are also called Tossal Redó type, although it is not a type, but a family (Almagro Basch, 1966a: fig. 11; Ruiz Delgado, 1987-1988; 1989: 69-118; Storch de Gracia, 1989: 154-192; Argente, 1994: 51-58, fig. 6, mapa VI; Giardino, 1995: 331-332, figs. 121.B, 124; Ponte, 2006: 95-111).

Some of the oldest examples of this family in Iberia are those of Tombs E-351 and E-207 bis at Agullana (Toledo and Palol, 2006: 182-183, fig. 198.9), Quinta do Marcelo (Almada, Setúbal, Portugal), Quinta do Almaraz (Almada), Abrigo Grande das Bocas (Vilaça and Arruda, 2004: 30), Corôa do Frade (Valverde, Évora, Portugal) (Arnaud, 1979: 65, fig. 6.7), Les Moreres (Crevillente, Alicante) (González Prats, 2002: 106-109, 142-143, 251), Peña Negra (González Prats, 1979: 141, fig. 97.47), the *kārum* of Huelva (González de Canales *et al*., 2004: pls. XXXVIII.4-5, LXIV.4-5), Trayamar (Algarrobo, Málaga) (Niemeyer and Schubart, 1968: fig. 13), Phase 2 of Castro de Ratinhos (Berrocal-Rangel and Silva, 2010: 304, fig. 143.1-3). They all are located in the peripheral areas of the Iberian Peninsula.

It is not easy to specify the moment of emergence of this family. It is clear, though, the series start in a last stage of the Bronze Age. In this regard, the examples of Castro de Ratinhos, Huelva and Peña Negra seem to point out a beginning for the series focused on the late 9th century BC, perhaps the first half of the 8th century BC.

The oldest models are the simplest of the series of double-spring fibulæ: just a wire, two springs, and a long catch-holder. This simple type could be denominated Tossal Redó. As time goes on, there are certain innovations, such as a flat, geometric bow, or a bilateral spring (fig. 15) (Ruiz Delgado, 1989: 92-95). Actually, a major part of the double-spring fibulæ date to the Orientalizing Period onwards, when they enlarged their dispersion all over the Iberian territory (Argente, 1994: 53-56; Torres, 2002: 197; Rafel *et al*., 2008: fig. 17).

The dissemination areas of the double-spring fibulæ extend to southern France (Duval *et al*., 1974: 38-41), Sardinia (Lo Schiavo, 1978: 39-42, figs. 7.1), the Italian Peninsula (Lo Schiavo,

[21] Martínez Sastre (1992: 77) only points out a radiocarbon date of "800±90 a.C." for Fuente Estaca, while Castro (1994: 141) confirms a "920 cal." for it. However, there are no further details about the sample, or the calibration, or the ranges. Álvarez Gracia (1985: 299) points out "c. 850" for the context of Palermo where the fibula was found. Again, details are missing.

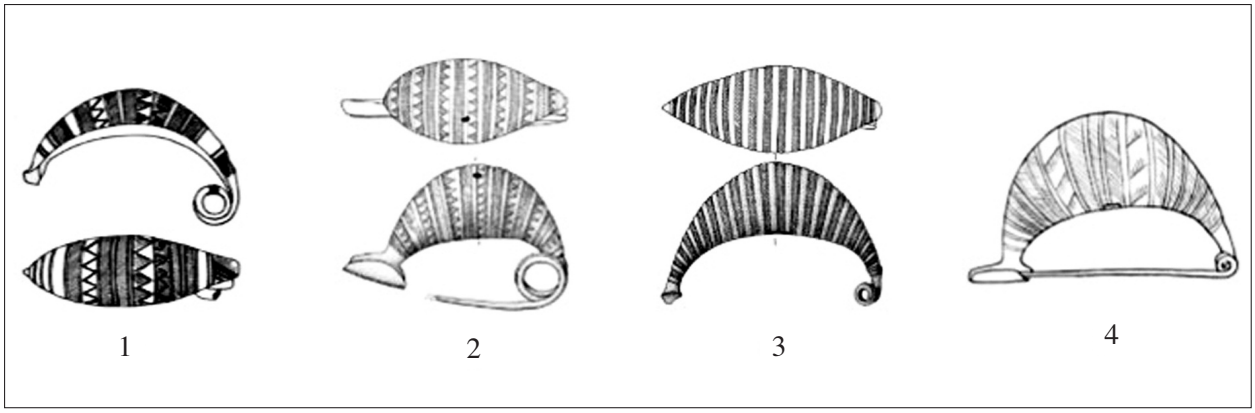

Figure 9. *Fibulae of leech type: 1. Olival do Sehor dos Mártires (Ponte, 1985: fig. 1); 2-3. Suessula (Lo Schiavo, 2010: pls. 133.1648, 134.1650); 4. Avignon (Duval et al., 1974: fig. 11.3) (various scales).*

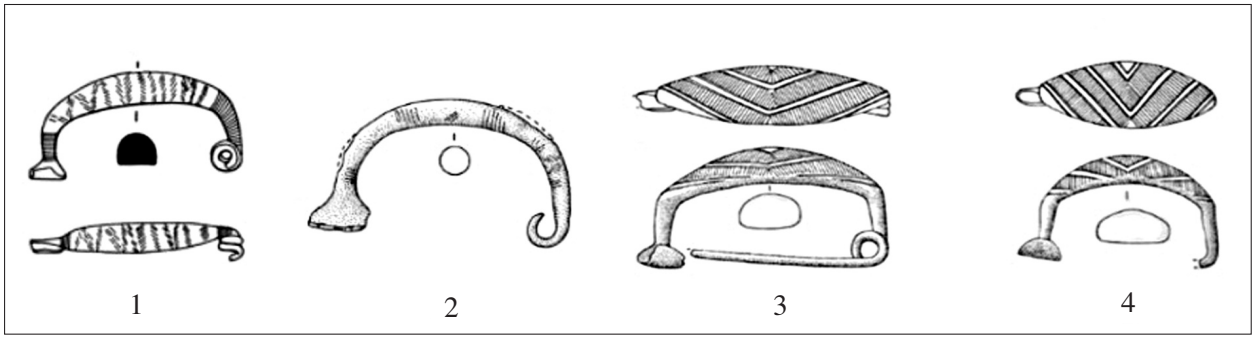

Figure 10. *Fibulae of regular thickened curved-bow type: 1. Olival do Senhor dos Mártires (Ponte, 1985: fig. 2); 2. Tomb Osta 33 at Cumae (Lo Schiavo, 2010: pl. 69.677); 3-4. Padova (Eles Masi, 1986: pl. 38.574-575) (various scales).*

1978: fig. 7.2), Sicily (Schubart and Niemeyer 1976: 226, n. 315), northern Africa (Argente, 1994: 52), and the Ægean (Storch de Gracia, 1989: 185) – always sporadically, though.

2.7. Coimbra fibulæ

There are six strange fibulæ whose features make them a singular type, apparently not linked to any known family. That is why they should be classified and analyzed separately. Maria S. da Ponte, who was a pioneer on the identification and study of these fibulæ, calls them "Ponte 2". However, because of the dispersion area the type seems more appropriate to call them "Coimbra type".

Coimbra type is basically defined by a two-piece structure in which the upper piece is the bow and the catch-holder and the lower piece is a folded pin. The pin is inserted in a perforation on the edge of the upper piece, so Coimbra fibulæ do not have a spring, but a joint[22] (fig. 17) (Storch de Gracia, 1989: 148-152; Ponte, 2006: 91-95, 423, fig. 18). No-one of the examples has certain archaeological context. Still, the location of the peninsular items seems reliable, and maybe the Italian one, too.

Three of them come from the foundations of the Roman city of *Conimbriga* (Condeixa-a-Velha, Coimbra, Portugal), in particular under the Flavian *forum*. Therefore, these fibulæ were produced before the Roman times, which is coherent to some other features of the site (Alarcão *et al*., 1976: 2-17; Alarcão and Etienne, 1977: 17-25). One of these examples is still

[22] Ponte also calls these fibulae "sen mola", "without spring". But there are quite a lot of types and families without spring, like the pivotal fibulae. In any case, the mechanism used to join the pin to the body in a fibula can determine several "kingdoms" of fibulae. Still, there is no need of a common filiation for the fibulae within each kingdom.

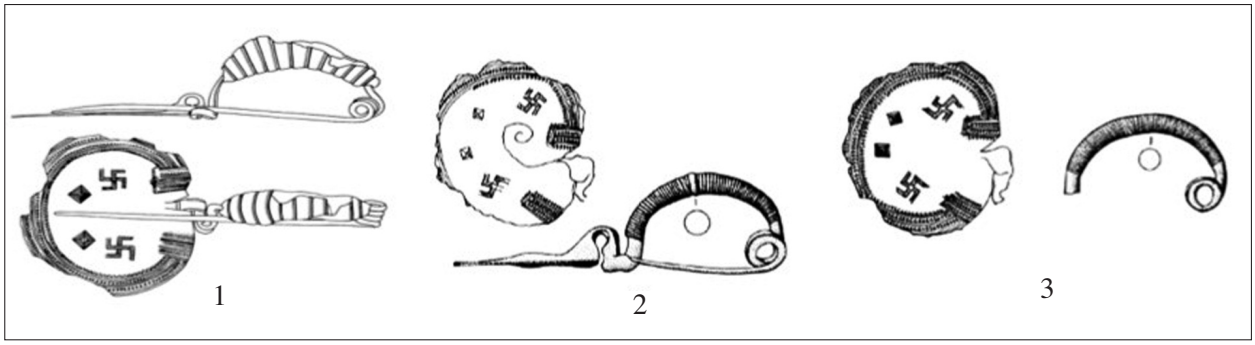

Figure 11. *Fibulae of thickened curved-bow-and-disc type: 1. Museo Etnográfico y Arqueológico Dr. Joaquim Manso assigned to Las Pirreitas (Ponte, 1984: fig. 1); 2-3. Tomb 580 at Pontecagnano (Lo Schiavo, 2010: pl. 80.750-751) (various scales).*

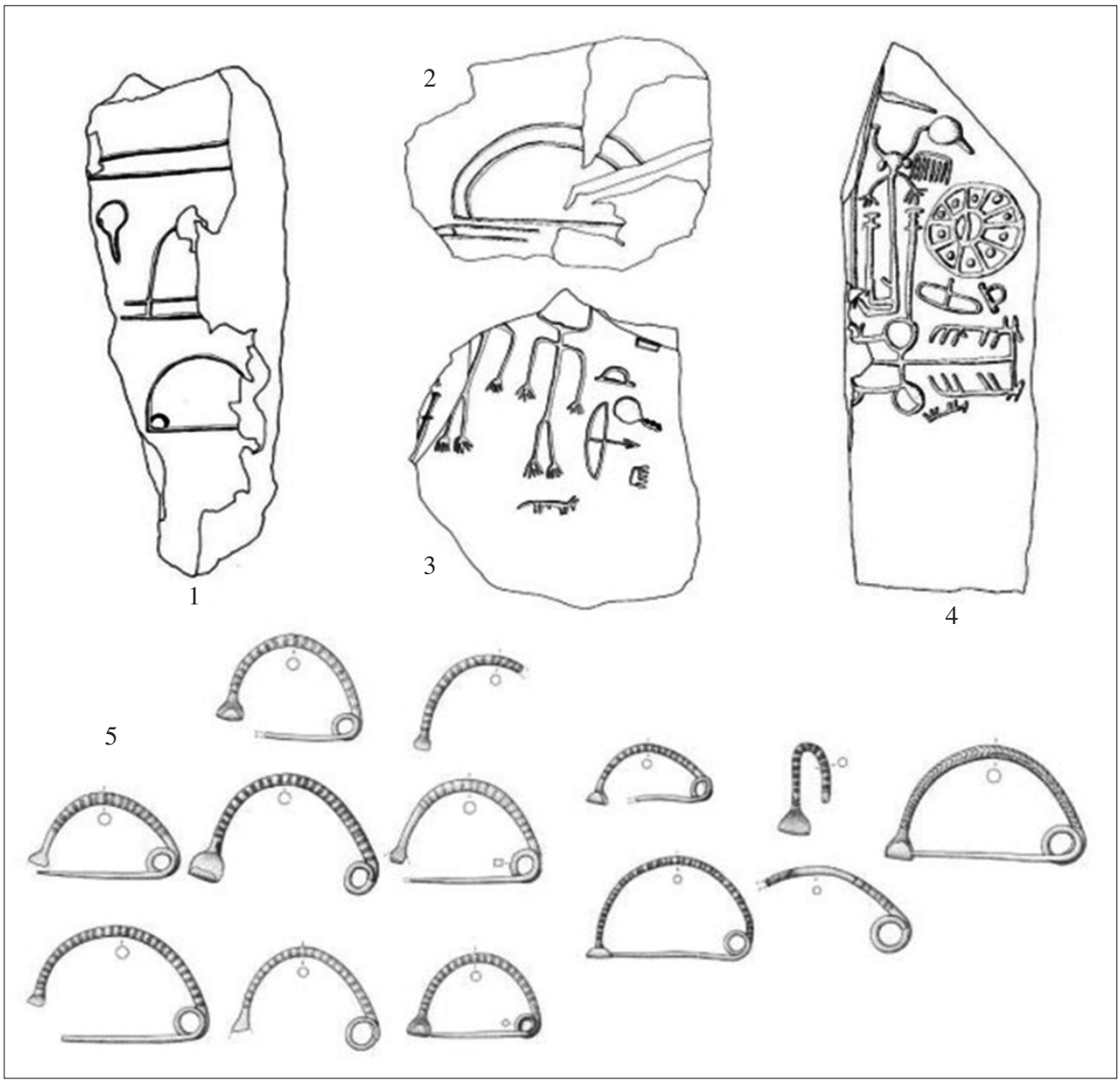

Figure 12. *Fibulae of simple curved-bow type and parallels: 1. Valencia de Alcántara III stele (Celestino, 2001: 337); 2. Salvatierra de Santiago II stele (Celestino, 2001: 344); 3. El Viso VI stele (Celestino, 2001: 402); 4. El Viso I stele (Celestino, 2001: 394); 5. Curved-bow fibulae from Sicily of the Cassibile Horizon (Lo Schiavo, 2010: pls. 21.164-22.176).*

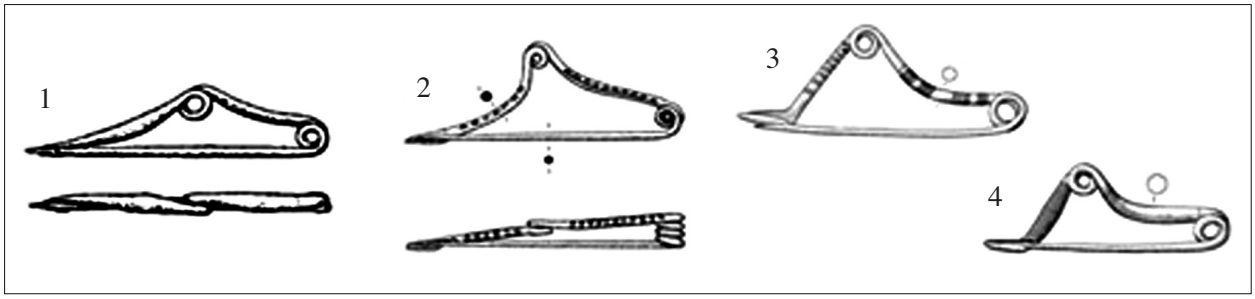

Figure 13. *Fibulae of Ponte 1a type and parallels (sample): 1. Roça do Casal do Meio (Spindler & Ferreira, 1973: fig. 10.d); 2. Mola de Agrés (Gil-Mascarell & Peña, 1989: fig. 3); 3. Tomb 119 at Cassibile (Lo Schiavo 2010: pl. 372.5310); 4. Tomb 47 at Monte Dessueri (Lo Schiavo, 2010: pl. 372.5312) (various scales).*

complete (Ponte, 1973a: 367-368, pl. I; Alarcão *et al*., 1979: 110, pl. XXIV.1), while the other two are the upper and the lower pieces, respectively (Ponte, 1973b: 165-166, pl. I.2-3). Another upper piece comes from Santa Olaia (Figueira da Foz, Coimbra) (Ponte, 1980), and a fifth one comes from Écija (Seville), this latter showing vertical incisions and a more complex joint (Storch, 1989: fig. II-5.D). There is another complete fibula made of bronze and iron in the *Museo Nazionale Etrusco di Villa Giulia* at Rome apparently obtained from the Etruscan city of *Falerii Veteres* (Viterbo) (Åberg, 1930: fig. 194).

The Italian fibula is not included in the catalogues of Sundwall (1943) or Eles Masi (1986), or Gierow (1966: 314-328) and no news about its finding circumstances are known either, so the fibula has be carefully considered. In any case, bimetallic items are rare, but most of them belong to the early stage is of the use of iron (Waldbaum, 1982), therefore this combination could point out a LBA chronology. There is another bronze-iron artifact not far from Coimbra dated to the LBA IIIB (900-750 BC) (Silva *et al*., 1984: 83, pl. VII.3) which could support an assignation to the same chronology. The knob on the pin of the Etruscan fibula points out a different workshop than the Iberian examples, as long as the Italian pivotal fibulæ show the same or, at least, a similar feature.

Aside from the chemical composition, two other reasons support a high chronology. The first one is the structural similarity between the Coimbra type and the pivotal family. Both are made of two pieces, but the joint and the other features are very different. The second reason is the similarity to the Alcores type fibulæ in the Iberian Peninsula, dated to the beginning of the Orientalizing Period (750 BC onwards) (Ruiz Delgado, 1989: 119-137; Storch de Gracia, 1989: 194-216). The profiles of both types are close, looking like a rectangle, but the Alcores type is made by one piece. However, any of those three reasons are not positive proofs to ensure a chronology or even a filiation. That is why Coimbra type has to be excluded from the pivotal family, regardless of whether it really is part of it or not.

Only six fibulæ are known of this type, of which three were found in the same site, Conimbriga, and a fourth one in the nearby area. This is a good reason to state a Conimbrigan origin. Écija is placed in the core of Tartessos, where most of the Alcores fibulæ come from (Torres, 2002: fig. VIII.27). Again, this points out to an early Orientalizing stage for Coimbra type. The *Falreii Veteres* fibula is a unique example in Italian Peninsula, however in this region several pivotal fibulæ are known dated to the referred chronology – some of those have a folded pin with knobs (Eles Masi, 1986: 210-211, pls. 162.2131-163.2139; Lo Schiavo, 2010: 635-661, pls. 387.5477-415). So, Coimbra fibulæ could be native to Italy, in particular to Etruria. But Italian bows are certainly different than those of Coimbra type. Therefore, is the *Falerii Veteres* fibula a single creation of an Etruscan artisan? Was it really found in the area of Etruria?

So, in light of these data and doubts two statements can be affirmed: a) a Conimbrigan origin seems more reasonable than any other origin; and b) it seems quite accurate a pre-Roman chronology, but Coimbra type cannot be assigned to any determined period.

2.8. Doubtful classification

There is also a large set of bow fragments of doubtful classification in the Iberian Peninsula (fig. 18.1-5). Most of them are suitable for elbow and

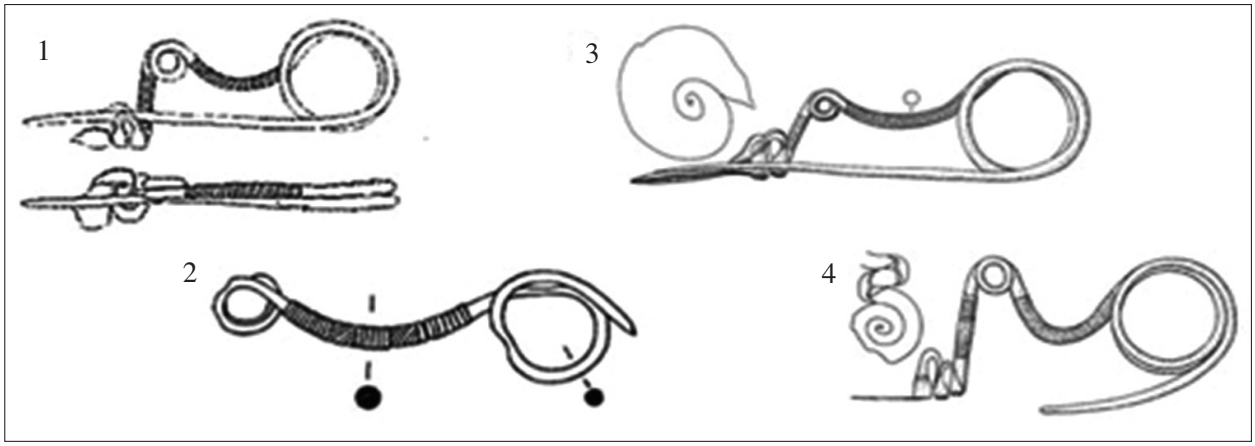

Figure 14. *Fibulae of Ponte 1b type: 1. Las Pirreitas (Ponte, 2006: 422, no. 5); 2. Olival do Senhor dos Mártires (Ponte, 2006: 422, no.6); 3. Cairano (Lo Schiavo, 2010: pl. 380.5417); 4. Zanica (Eles Masi, 1986: pl. 162.2127) (various scales).*

violin-bow families, and for Ponte 1a or simple double-spring types. Besides, there is also a very old pin found in the settlement of Cerro de la Miel (fig. 18.6) (Carrasco *et al*., 1985: fig. 22.103). Once again, these unclear fragments can be classified according to the stylistic features in four groups:

Plains. Abrigo Grande das Bocas (Carreira, 1994: 83, fig. 9.1), Canto Tortoso (Gorafe, Granada) (Carrasco *et al*., 2013: 39, fig. 2.9), Santa

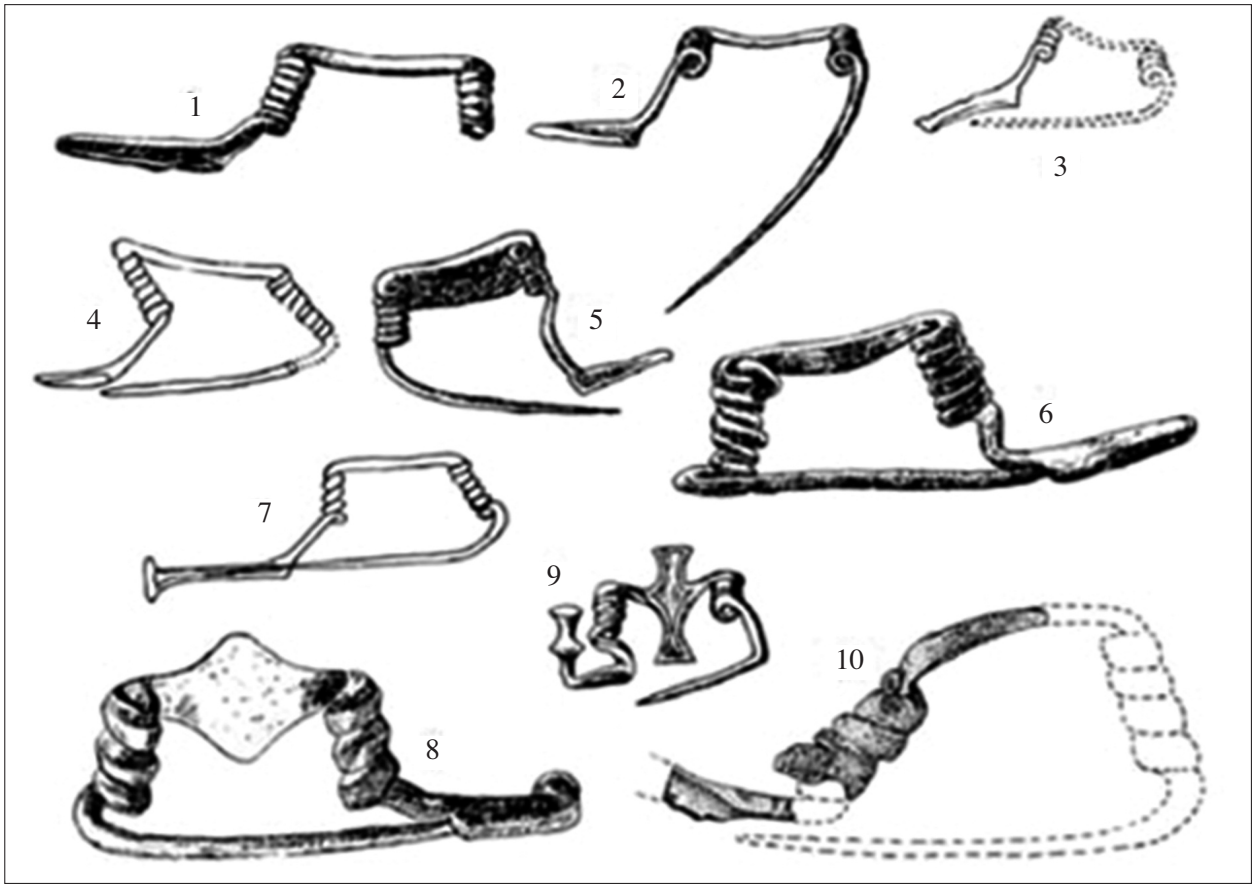

Figure 15. *Double-spring fibulae: 1. Tossal Redó (Teruel); 2, 5. Los Alcores de Carmona (Seville); 3. La Pave (Pyrénées Orientales, France); 4, 7. Cortes (Navarra); 6, 8. Lara (Burgos); 9. Miraveche (Burgos); 10. Carrascosa del Campo (Cuenca) (Almagro Basch 1966a: fig. 10) (various scales).*

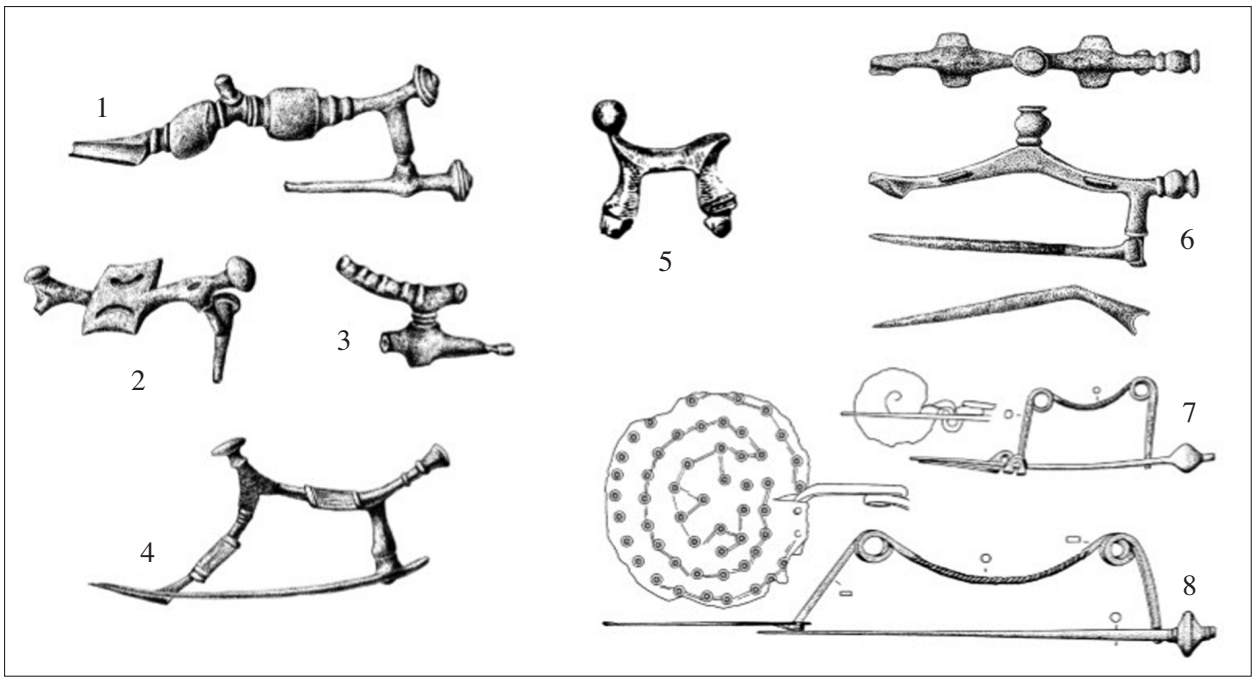

Figure 16. *Pivotal fibulae: 1-3. Instituto Valencia de Don Juan (Carrasco et al., 2016: fig. 2.1-3); 4. Museo Arqueológico Nacional de Madrid (Carrasco et al., 2016: fig. 2.4); 5. Museo Arqueológico de Cataluña-Barcelona (Schüle, 1969: pl. 174.28); 6. Cerro de la Mora (Carrasco et al., 2016: fig. 7.4); 7-8. Italian type from Tombs 49 and 46 at Incoronata (Matera, Italy) (Lo Schiavo, 2010: pl. 390.5496-97) (various scales).*

Luzia (two examples) (Ponte and Vaz, 1989: 181, pl. I.1-2), Castelo dos Mouros (Viseu) (Vilaça, 2008: 385, fig. 4.7), Monte do Trigo (Idanha-a-Nova, Castelo Branco, Portugal) (Vilaça, 2008: 387, fig. 4.5) and Peña Negra (2 examples) (González Prats, 1989: 475; Carrasco *et al*., 2013: 40, fig. 3.2).

Flutes. Mondim da Beira (Tarouca, Viseu) (two examples) (Ponte, 1986a: fig. 1; Carreira, 1994: 82-83, fig. 9.2-3; Carrasco *et al*., 2013: 43-44, fig. 4.2-6) and Nossa Senhora da Cola (Ourique, Beja, Portugal) (Ponte, 1986b: 76, pl. 1; 2002: fig. 1.1c; Carrasco *et al*., 2013: 44, fig. 4.8). They definitely correspond to Cassibile II or III types.

Incisions. Talavera la Vieja (Cáceres) (Jiménez Ávila and Cordero, 1999: 183-184, fig. 4.3), Las Lunas (Yuncler, Toledo) (Urbina and García Vuelta, 2010: 181, fig. 4.L-10), Monte Airoso (Penedono, Viseu) (Vilaça, 2008: 382, fig. 4.3), and Cerro de las Agujetas (Carrasco *et al.,* 2012: 317, fig. 1.6).

Moldings. Nossa Senhora da Cola (Ponte, 1986b: 76, pl. 1), La Cildad (Sabero, León) (Celis, 1999), Yecla (Silos, Burgos) (González Salas, 1945: pl. XIX; Fernández Manzano, 1986: 128-131, fig. 42.4), Guadix (Carrasco and Pachón, 2002: 177, fig. 2.1), Guadix/San Miguel (Carrasco and Pachón, 2002: 177, fig. 2.3; Carrasco *et al*., 2002: 367-368, fig. 12), Casa Nueva (Pinos Puente, Granada) (Carrasco *et al*., 2012: 316 fig. 1.5), Cerro de las Agujetas (Carrasco *et al*., 2012: 317-318, fig. 1.7), Cerro del Berrueco (Salamanca) (Maluquer de Motes, 1958: 86-87), Las Arnillas (Moradillo de Sedano, Burgos) (Delibes *et al*., 1986: fig. 14), and Talavera la Vieja (Cáceres) (2 examples) (Jiménez Ávila and Cordero 1999: 183-184, fig. 4.1-2). Obviously, they all belong to Ría de Huelva or Moraleda models of Cassibile III type. The fragment of Las Arnillas perhaps belong to a pivotal fibula rather than to an elbow fibula.

Aside from all those unclear fragments, there are also two interesting, worth noticing pieces, both from the eastern limit of the Meseta.

Thus, in the necropoleis of La Cabezada-Los Mercadillos (La Torresaviñán, Guadalajara) a curious fragment of bilateral-spring fibula is attested together with many other items, some of them also bilateral-spring examples (fig. 19.1) (Cabré and Morán, 1977: 124, fig. 18.2; Argente, 1994: 490, 492, fig. 103.922). The fragment is lost in the current times, but still a couple, different drawings remain. According to the authors, the drawings are reconstructions, so both are hypothetical. In both drawings a triple-coil,

bilateral-spring are noticed, and also a looped bow. This latter does not look like the referred looped fibulæ, but as a bow decorated by means of consecutive double loops or ridges, looking like a wiggly wire.

This sort of decoration cannot be related to any of the Iron Age artifacts which apparently go with, either to any other Iron Age fibula from the Iberian Peninsula or the nearby abroad (Schüle, 1969; Duval *et al*., 1974; Guzzo, 1972; Eles Masi, 1986; Mohen, 1980; Binding, 1993; Argente, 1994; Milcent, 2004; Lo Schiavo, 2010). However, similar bows of violin-bow fibulæ are known Sicily, the Alps, and eastern Europe during the beginning of the LBA, like those from Kleinstetteldorf (Lower Austria) (Betzel, 1974: 23-26, pl. 3.33), Peschiera del Garda (Verona, Italy), and the Fratessina hoard (fig. 19.2-5) (Eles Masi, 1986: 8-9, pl. 2.47-51).

In light of this, several options can be suggested for this Mesetan fibula. It could be a mere coincidence, in the sense of artisans are creative people. It could be a wrong reconstruction due to the bad conservation status of a non-confirmable item. It could be two pieces instead of one, whereas the bow belong to an older fibula – after all, the information of the finding is confuse, and it unclear the precise site the fibula came from. As long as further information does not exist, the fibula cannot be classified with accuracy. Moreover, it is not possible to confirm if the fibula really was like the remaining drawings.

The second uncertain fragment is a piece of wire that shows two loops and the catch-holder (fig. 19.6) (Martínez Naranjo, 1997: 167, fig. 6; Blasco *et al*., 2007: 111-113, pl. 2). It was found in the settlement of La Era de Locón II (Balbacil, Guadalajara) during surveys activities. The settlement is a single-stage site, and because of the discovered items it is dated to the very end of the Bronze Age or beginning of the Iron Age, *c*. 8$^{\geq\geq}$ century BC.

Like the former fibula, the conservation status of the La Era de Locón II piece does not enable to

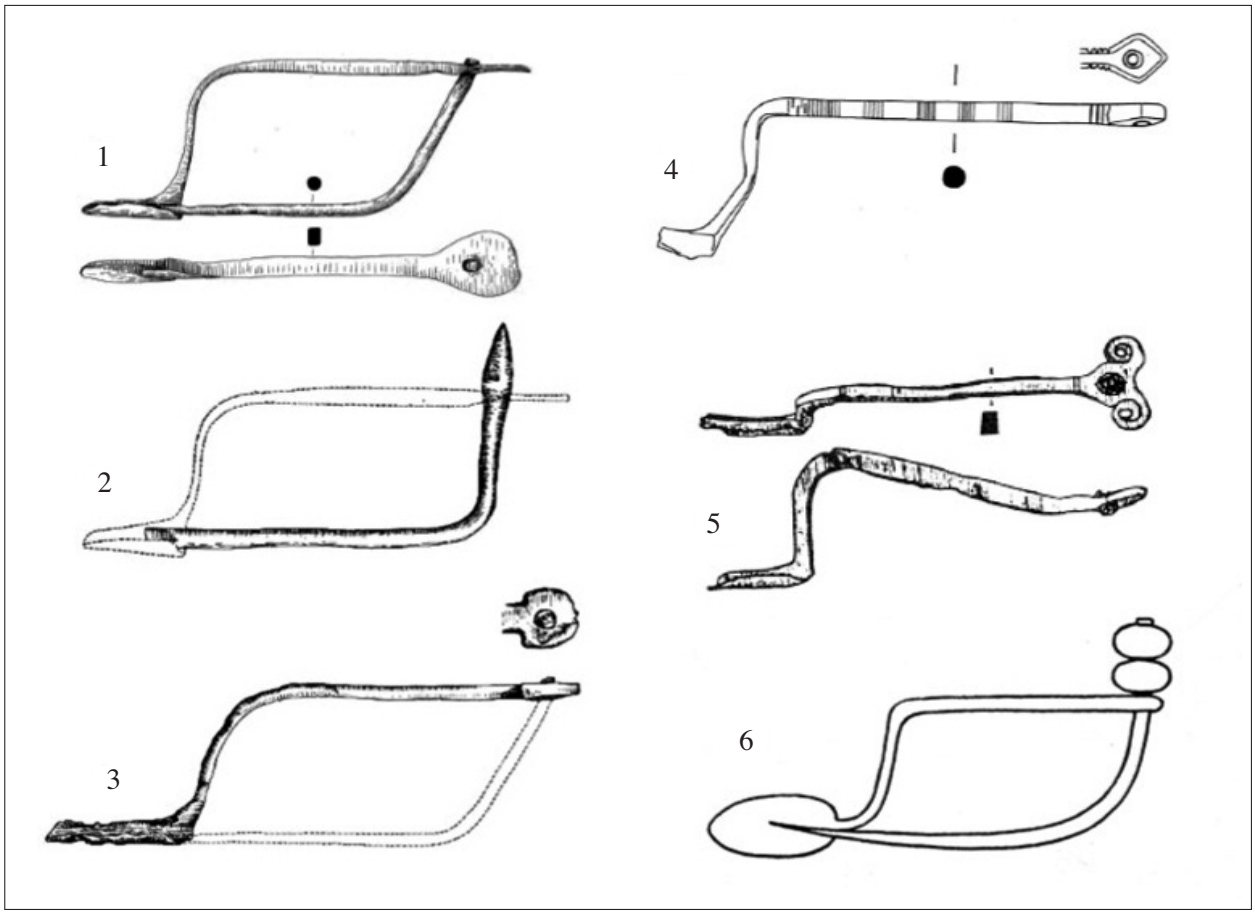

Figure 17. *Fibulae of Coimbra type: 1-3. Conimbriga (Alarcão et al., 1979: pl. XXIV.1; Ponte, 1973b: pl. I.2-3); 4. Santa Olaia (Ponte, 1980); 5. Écija (Storch de Gracia, 1989: fig. II-5.D); 6. Falerii Veteres (Åberg, 1930: fig. 194) (various scales).*

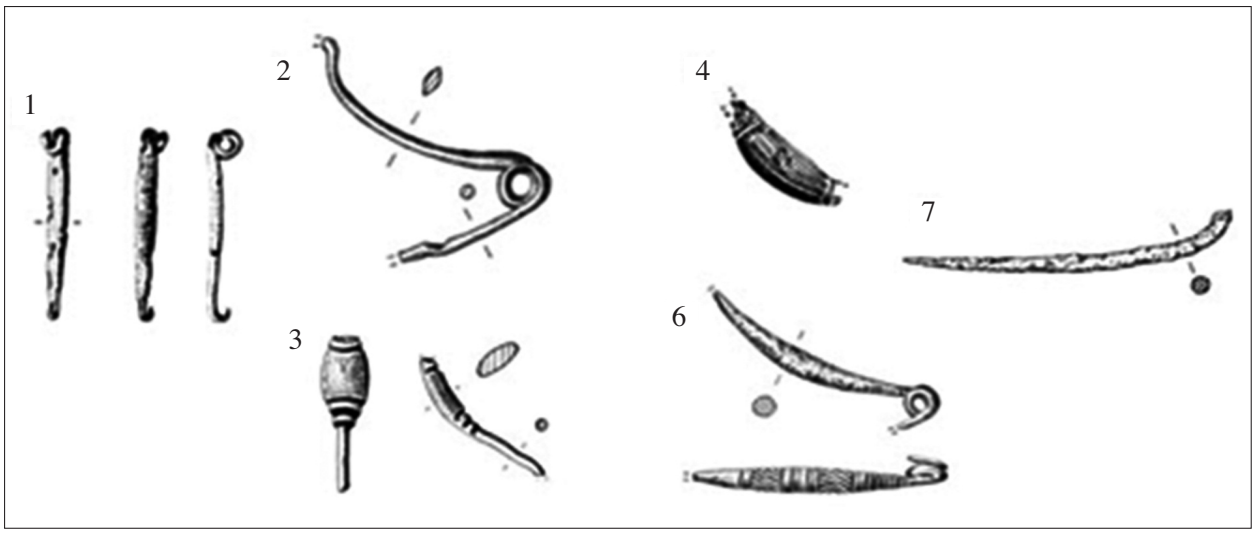

Figure 18. *Doubtful fragments (sample): 1. Santa Luzia (Vilaça, 2008: fig. 4.6); 2. Canto Tortoso (Carrasco et al., 2013. fig. 2.9); 3. La Cildad (Celis, 1999: fig. 2); 4. Nossa Senhora da Cola (Carrasco et al., 2013: fig. 4.8, modified); 5. Talavera la Vieja (Carrasco et al., 2013: fig. 3.4); 6. Pin of Cerro de la Miel (Carrasco et al., 1985: fig. 22.103) (various scales).*

precise a type. It has to be considered a free creation of an artisan, although some foreign parallels can cautiously also be proposed. Therefore, it could be a looped fibula with a long catch-holder imported from Sicily or southern Italian Peninsula, or maybe inspired by examples from these areas, all of them dated to the I Fe IB/Torre Galli B Horizon (900-850 BC) (Lo Schiavo, 2010: 736, pl. 522.6640-6643). It can also be pointed out a fibula from Castel di Noarna (Trentino, Italy) (fig. 19.7) (Eles Masi, 1986: 9, pl. 2.51A). Another similar and complete example of unknown context – probably Italian – is collected by Sundwall (1943: 156, fig. 237). The chronology of these two last pieces is uncertain, but they can be assigned to the LBA IIIA (1050-900 BC) because of the several loops they excel on the bow. Last, it could be a fragment of an Etrurian one-coil triple-loop fibula, like that from the necropolis of Poggio alla Guardia at Vetulonia of little later chronology (fig. 19.8) (Sundwall, 1943: 157, fig. 239).

As long as it is not absolutely clear the object itself, the fragment housed in the *Museo Arqueológico de Cataluña-Barcelona* should be also included in this uncertain group. However, it seems quite truly it pertains to a pivotal fibula.

2.9. Recapitulation

In light of the current analysis, it can be conclude that only Cassibile III and Ponte 1a types are true Iberian findings of LBA, and both clearly appeared in the same situation of pre-/protocolonial connections (11^{th}-9^{th} cent. BC). In addition, pivotal family and double spring family are also Iberian, but both came up after the former ones.

Ponte 1b type and curved-bow family attested in Iberian Peninsula are not accurate items. The first one because of the uncertain archaeological context, while the second one because of the hard-to-define icons that could be taken as a proof, together with the doubtful archaeological contexts of some exemplars. It is not accurate that the icons pointed out as curved-bow fibulæ are true fibulæ. Also, Ponte 1b and curved-bow fibulæ could be introduced in the Iberian museums in recent times, the same as the violin-bow exemplars of "Cerro del Berrueco" and "Los Pajares", as well as the Cassibile II fibula of *Instituto Valencia de Don Juan*.

Last, Coimbra fibulæ are the strangest fibulæ in this study. They represent a unique model with formal similarities to some Italian fibulæ, but they are not true parallels. The chronology as well as the filiation is not clear at all.

3. Origin and sequence

Fibulæ constitute the most sensitive item to morphological (and stylistic) changes. This condition enables to use them as an "index fossil" to create a typology and a chronological sequence, this is, as an authentic genealogical tree or even a taxonomy (fig. 20). Or both, as long as a typology, genealogy and taxonomy share

several conceptual items.[23] In spite of the formal relationship within, fibulæ, as any other artifacts, cannot be understood as mere derivations one another, but as creations of artisans or art pieces. This means formal items and features are results of subjective, arbitrary, and capricious work of artisans.

The early emergence of the fibulæ in the LBA and their diversity, together with their Iberian distribution (fig. 21), make possible to discover the routes of cultural exchange.

3.1. Origin of the primary fibulæ

The nearest fibulæ of similar designs to those of Iberia come from the Tyrrhenian Circle, basically Sicily and the South of the Italian Peninsula. Since the beginning of the LBA, this area becomes the greatest core of fibulæ in the Mediterranean (Lo Schiavo, 2010). Nevertheless, there are two other early cores of accumulation, developing, and diffusion of fibulæ: the Alpine area and the Nordic area (Beltz, 1913; Alexander and Hopkin, 1982).

Due to the primitive distribution, the typological development and the archaeological contexts, it seems true to state that the Northern region of the Alps is the very first core of these items. From this area they spread out in a short time towards Scandinavia, to the North, and towards the Mediterranean, to the South. The earliest type of fibula is that of violin-bow, circular or rhomboidal section (fig. 22.4), which derives from the perforated pins (fig. 22.1, 2) (Alexander, 1973; Alexander and Hopkin, 1982: 401-405). This Alpine type quickly disseminated over the bordering regions and reached two other areas that, same time, will become two dispersion cores: Danube-Dinarides and the Ægean. Regular violin-bow fibula is the only type in common for the three initial cores. In each one of them, this first type experiences a self-evolution and it will expand to other territories.

Also, in the Alpine region emerges second type, the two-pieced fibulæ with spirals (fig. 22.2) (Betzler, 1974: 31-41, 49-60, pls. 3.51-5.83, 7-10) that disseminates towards the Nordic Circle (Beltz, 1913: 667-680; Laux, 1973). These fibulæ are unknown in the Mediterranean, where there are more austere types, but larger in shape variety. All this means that northern and southern fibulæ have a certain evolutionary line each one, basically and primarily defined by the number of compositional pieces: one or two. The earliest Iberian fibulæ are related to those of the Sicilian tradition.

In the Iberian context, the first fibulæ systematically studied were those found in the Ría de Huelva hoard. They were declared the earliest of the entire Iberian series as well as a foreign item (Almagro Basch, 1940: 138-139; Guzzo, 1969). Excluding the asymmetric violin-bow fibula of "Cerro del Berrueco",[24] an evaluation of the oldest examples lead to suggest a double origin for them (Almagro Basch, 1957-1958: 199-201; 1966a: 219, fig. 3; Blasco, 1987: 24; Argente, 1994: 46), according to which the pieces with moldings and those with central elbow came the Cyprus-Levantine area, while the plain pieces have a Sicilian origin. From then on, some researchers proposed an eastern provenance for the first peninsular fibulæ, where they went out from to Sicily and Iberia (Hencken, 1957; Schubart and Niemeyer, 1976: 226; Almagro Gorbea, 1989: 283; 1998: 85).

However, the widest accepted option endorses that only Cassibile II and III types come from Sicily, indeed, while the pieces with moldings and central elbow are Iberian evolutions from the Sicilian models (Birmingham, 1963: 102 ss.; Guzzo, 1969: 306-307; Mederos, 1996: 101; Torres, 2002: 171; Carrasco and Pachón, 2006b).

Of course, a third option asserts that the Iberian fibulæ have not any genealogical relationship with the Sicilian fibulæ (Carrasco et al., 2013: 49-50; 2014: 106). This proposal entails an Iberian origin, which is hard to support in light of the current, whole data.

In spite of this, the oldest example found out in the Iberian Peninsula does not fit properly the Mediterranean types, but the Continental ones. It

[23] On the one hand, as a method of classification as well as a concept, typology is close to taxonomy. However, a taxonomy necessary involves a hierarchy, while a typology not – still, individuals could be organized hierarchically. The typology used in this work is just a model, so according to other criteria the same individuals could be classify in a different way. On the other hand, typology is close to a genealogy. In this regard, a genealogy necessary involves a time line and, therefore, relationships in time, while a typology not – still, individuals could evolved one another in time.

[24] The fibula of "Los Pajares" has been away from the historiographical discussion because of its recentness publication.

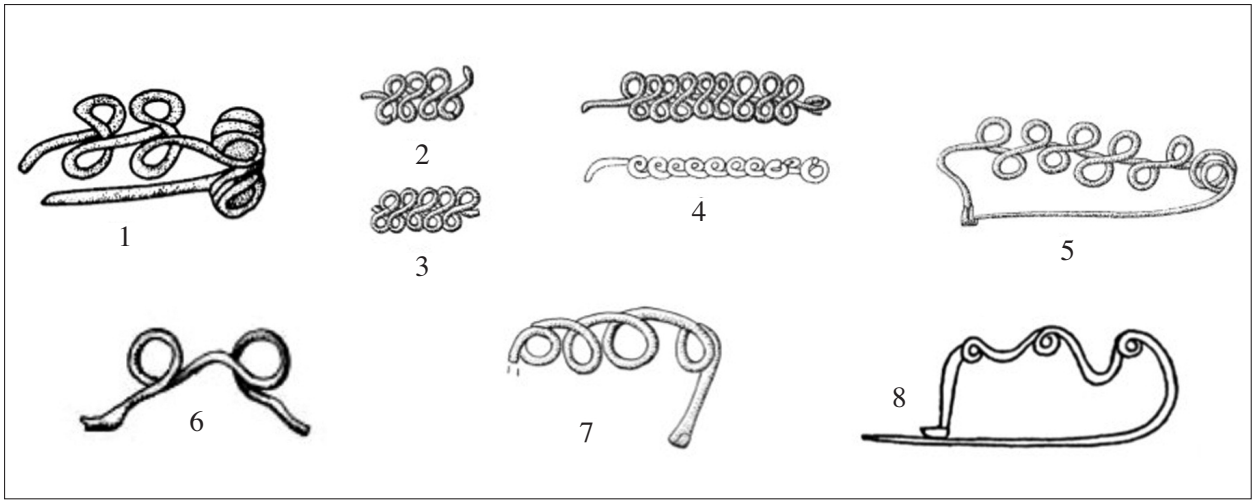

Figure 19. *Doubtful looped bows: 1. La Cabezada-Los Mercadillos (Argente, 1994: fig. 103.922); 2-4. Fratessina hoard (Eles Masi, 1986: pl. 2.48-50); 5. Peschiera del Garda (Eles Masi, 1986: pl. 2.51); 6. La Era de Locón II (Blasco et al., 2008: pl. 2); 7. Castel di Noarna (Eles Masi, 1986: pl. 2.51A); 8. Poggio alla Guardia at Vetulonia (Sundwall, 1943: fig. 239) (various scales).*

is about the fibula of "Cerro del Berrueco", which is kind of asymmetric and it is decorated with geometric incisions on the bow. This piece shows an amazing resemblance to that of Gross Mügl (Korneuburg, Austria) (fig. 22.4.a) (Betzler, 1974: 13-15, pl. 1.7), whose bow and pin are parallels, matching the violin-bow basic model. This Alpine fibula is dated to the Alpine Bronze D (1330-1200 BC), probably at the end of the period or little later. Although both fibulæ are not identical, they look very similar, which makes the Alpine fibula the closest to the Iberian example at the level of shape. In addition, the piece of Gross Mügl belongs to the earliest type of the whole series. Therefore, where did the fibula of "Cerro del Berrueco" come from and when was it made?

First of all, let's remember that the asymmetric violin-bow fibula at hand is not an accurate item in the Iberian archaeological repertoire. It seems hard to believe that such a strange item appeared in an inner region of the Iberian Peninsula, a region which, by any means, cannot be linked to Sicily – the place where the best parallels come from, dated to the Pantalica Nord Horizon (1250-1050 BC) – or any other Mediterranean area in this period. Let's remember likewise that there is a piece of news about a second example of this type in Iberia, that of "Los Pajares", which it is also a very doubtful item, just known after a single drawing. This latter has clearer parallels in Cyprus of the same time. Both cases seem really strange.

Nevertheless, the two cases should not be wiped away. It seems hard to believe about their existence, but it is harder to believe that the fibulæ are modern productions in light of the formal and stylistic ancient parallels or, even harder, that serious archaeologists invented both items. In this regard, it seems more properly to believe these asymmetric fibulæ were part of local private collections and both were assigned to eminent archaeological sites. Then, the hypothesis of two asymmetric violin-bow fibulæ found in Spain looks better than any other, no matter whereabouts were found out.

So, in the Alpine region, aside from the Gross Mügl example, it is known the fibula of Corcelettes (Vaud, Switzerland) (Betzler, 1974: 9-11, pl. 1.1) dated to the Bronze D by comparison. In this area it is identified another type more complex, Unter-Radl (Betzler, 1974: 16-21, pls.1.8-2.22), which main feature is the addition of a spiral in the rest. It could fit this chronology or might be later, as long as in the Ægean appear similar fibulæ in the LH IIIB (1300-1190 BC) (Blinkenberg, 1926: 48).

Violin-bow fibulæ also spread out in the surroundings of the Alps. A flat, simple piece is located in the Gualdo Tadino hoard (Perugia, Italy) (Eles Masi, 1986: 4, fig. 2.27), and it is dated to the late Peschiera Horizon (1330-1200 BC) or to the early Protovilanovan Period (1200-1000 BC). In Mariconda (Verona, Italy), Fratessina (fig. 22.4.d) and Padua (Italy) (Eles Masi, 1986: 4-5, 8, pl. 2.27-29, 46) violin-bow pieces with incisions on the bow are known, and they look similar to the fibula of "Cerro del

Berrueco". The fibulæ with knobs and incisions, like the pieces from the settlements of Lago di Garda (Verona, Italy), Peschiera (fig. 22.4.f), Tiarno (Trento, Italy) (Eles Masi, 1986: 11-12, pl. 3.59-61), and from the Gualdo Tadino hoard as well (Bietti Sestieri, 1973: fig. 2.1-2) are parallel with the Sicilian examples of Scoglio del Tono, Cozzo del Pantano, and Tomb 37 of the necropolis at Pantalica (Lo Schiavo, 2010: 88-89, pl. 1.13-15), dated to the early Pantalica Nord Horizon, c. 1250 BC – perhaps this period should be extended up to 1300 BC. All this means that the fibulæ with incisions belong to the same period, focused on the late Peschiera Horizon.

Several other fibulæ are reported from the southern parts of the Alps from those times. They exhibit different styles on the bow, such as the twist, the flattering, the looping, and the asymmetry, occasionally combined (Eles Masi, 1986: 1-13, pls. 1-3.65). The stylistic variety counterbalances the monotony of the shapes of the primitive fibulæ.

The Danube Basin is another main area for the violin-bow fibulæ (Pabst, 2014). Two plain models are known in the Nočaj-Saleš and Mačkovac hoards, both in Croatia (Vasić, 1999: 13-14, pl. 1.4-5). Five incised fibulæ are located in Salaš Noćajski (Mačva, Serbia) (Vasić, 1999: 14, pl. 1.9), inside the cave of Hrustovač, in Tomb 1 of Talina (Glasinac, Bosnia-Herzegovina), and in Tomb 1 of Mound 1 at Štrpci (Višegrad, Bosnia-Herzegovina) (fig. 22.4.b) (Gimbutas, 1965: 331, figs. 232.A1-2, 232.B.1-2), this latter with curved bow, plus several uncertain fragments that might belong to this type (Vasić, 1999: 13-14, pl. 1.1-3, 7-8). The fibulæ of Talina and Štrpci are associated to Bronze D items, then tied with the proposed chronology for the piece of Gross Mügl and for the uncertain fragment of Konjuša (Kolubara, Serbia), dated to the transition from Bronze D to Ha A1, by late-13th century BC.

From the Middle Danube Basin there are three examples (Betzler, 1974: 13; Kašuba, 2008; Pabst, 2018). Because of their typology and geographical location, it seems logic to assign them the same chronology of the Alpine and Balkan fibulæ, in the second half of the 13th century BC or little later. The distribution of these fibulæ extended up to the Black Sea (Dörrer, 2008).

In the Ægean area a total of six flat, violin-bow fibulæ are documented, three of them in Mycenae (Blinkenberg, 1926: 46) and the other

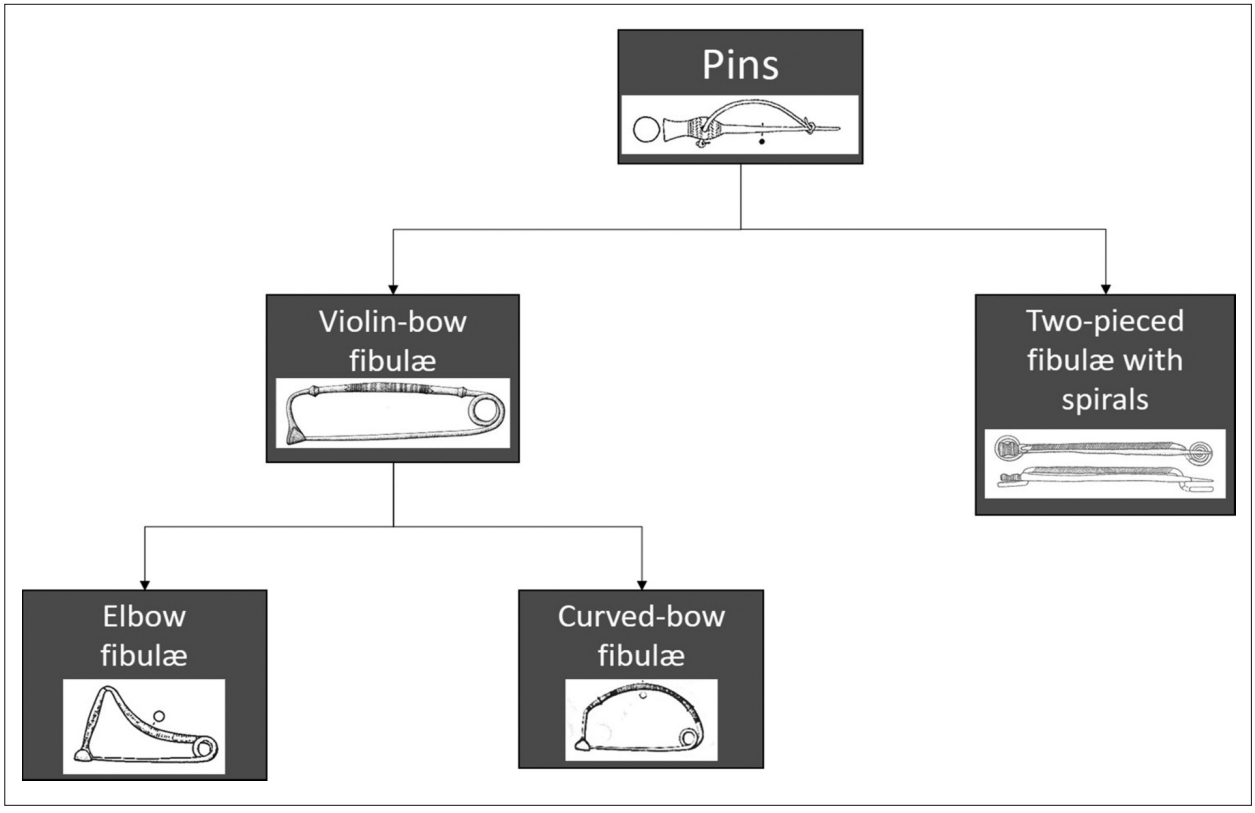

Figure 20. *Genealogy of the primitive fibula families derived from pins.*

Figure 21. *Dispersion of the fibula in the Iberian Peninsula referred on the text, in alphabetical order:*

1. Abrigo Grande das Bocas (Rio Maior, Santarém); 2. Agullana (Girona), 3. Baleizão (Beja); 4. Cabeço da Argemela (Fundão, Castelo Branco); 5. Cabeço do Crasto de São Romão (Seia, Guarda); 6. Can Piteu (Sabadell, Barcelona); 7. Canto Tortoso (Gorafe, Granada); 8. Casa Nueva (Pinos Puente, Granada); 9. Castelo dos Mouros (Viseu, Portugal); 10. Castillo de Guadajira (Lobón, Cáceres); 11. Cerro Alcalá (Torres, Jaén); 12. Cerro de la Encina (Monachil, Granada); 13. Cerro de la Miel (Moraleda de Zafayona, Granada; 14. Cerro de la Mora (Moraleda de Zafayona, Granada); 15. Cerro de la Muralla (Alcántara, Cáceres); 16. Cerro de las Agujetas (Pinos Puente, Granada); 17. Cerro de los Allozos (Montejícar, Granada); 18. Cerro de los Infantes (Pinos Puente, Granada); 19. Cerro del Berrueco (Ávila-Salamanca); 20. Conimbriga (Condeixa-a-Velha, Coimbra); 21. Corôa do Frade (Valverde, Évora); 22. Écija (Seville); 23. El Coronil (Seville); 24. Fuente Estaca (Embid, Guadalajara); 25. Guadix (Granada); 26. La Cabezada-Los Mercadillos (La Torresaviñán, Guadalajara); 27. La Cildad (Sabero, León); 28. La Era de Locón II (Balbacil, Guadalajara); 29. La Muralla (Valdehúncar, Cáceres); 30. La Requejada (San Román de la Hornija, Valladolid); 31. Laias (Barbantes, Orense); 32. Lancia (Mansilla de las Mulas, León); 33. Las Arnillas (Moradillo de Sedano, Burgos); 34. Las Lunas (Yuncler, Toledo); 35. Las Muelas (Almedinilla, Granada); 36. Les Moreres (Crevillente, Alicante); 37. Kārum of Huelva; 38. Los Concejiles (Lobón, Badajoz); 39. Mola de Agrés (Agrés, Alicante); 40. Mondim da Beira (Tarouca, Viseu); 41. Monte Airoso (Penedono, Viseu); 42. Monte do Trigo (Idanha-a-Nova, Castelo Branco); 43. Nossa Senhora da Cola (Ourique, Beja); 44. Nossa Senhora da Guia (Baiões, Viseu); 45. Olival do Senhor dos Mártires (Alcácer do Sal, Setúbal); 46. Palermo (Caspe, Teruel); 47. Peña Negra (Crevillente, Alicante); 48. Perales del Río (Getafe, Madrid); 49. Pirreitas (Alcobaça, Leiría); 50. Puerto Lope (Moclín, Granda)/Íllora (Granada); 51. Quinta do Almaraz (Almada); 52. Quinta do Marcelo (Almada, Setúbal); 53. Ratinhos (Moura, Beja); 54. Ría de Huelva; 55. Roça do Casal do Meio (Sesimbra, Setúbal); 56. Santa Luzia (Viseu); 57. Santa Olaia (Figueira da Foz, Coimbra); 58. Soto de Tovilla II (Tudela de Duero, Valladolid); 59. Talavera la Vieja (Cáceres); 60. Trayamar (Algarrobo, Málaga); 61. Villamorón (Burgos); 62. San Antón (Villaluenga de la Sagra, Toledo); 63. Yecla (Silos, Burgos).

three in Crete, in concrete in Psychro (fig. 22.4.e), Vrokastro, and Gortyna (Sapouna-Sakellarakis, 1978: 35, pl. 1.1-2; Bouzek, 1985: 153). To them can be added a pin from Mycenae (Blinkenberg, 1926: 46) and other derived pieces, which include motifs on the bow, such as knobs, flattering – sometimes adorned with incisions – and twist, too (Blinkenberg, 1926: 47, 49-54; Sapouna-Sakellarakis, 1978: 36, pl. 1.6-8; Bouzek, 1985: 153-155). Also, two other models with folds and coils on the catch-holder are known in Tomb 61 at Mycenae (Blinkenberg, 1926: 48), equivalent to the

Unter-Radl type from the Alps, and an asymmetric violin-bow fibula in in "Crete" (Sapouna-Sakellarakis, 1978: 38-39, pl. 1.21). Most of those fibulæ match with the LH IIIB phase, when some of them are dated to the next stage.

Furtherly, two other fibulæ probably linked to the Ægean must be considered. The first one – a knobbed, violin-bow fibula with geometric decoration – is kept in the Istanbul Museum and its provenance is unknown (Caner, 1983: 27, pl. 1.1). The second one is that above mentioned of asymmetric, plain bow from Tomb 74 at Enkomi dated to the 12th century BC (Blinkenberg, 1926: 54, fig. 2), which is an excellent parallel to "Los Pajares" fibula. Due to their similitude to the rest of the former pieces, it seems very likely that both of them initially belonged to the Ægean world, where they moved out to Cyprus or somewhere in Anatolia. The Ægean area is, indeed, the most important core of dispersion of these artifacts eastwards (Stronach, 1959; Birmingham, 1963; Muscarella, 1965; Bouzek, 1985: 210).

In Sicily, models of violin-bow, plain fibulæ are unknown, instead. The oldest fibulæ of this type in the island are dated to the early Pantalica Nord Horizon (1250-1050 BC) and they include stylistic nuances such as the twist, the knobs, the flattering, and the rising of the bow (fig. 22.4.c) (Lo Schiavo, 2010: pls. 1-4, 369). As opposed to the former cases, these details mean violin-bow fibula was not native to Sicily, but it came up to the Island after an early evolution. Twisted, knobbed bows are found in the Ægean and in the Balkans during the Late Helladic IIIB (13th century BC), the same chronology than the oldest Sicilian models. This points out that the entry of the earliest fibulæ in Sicily occurred from the neighbor regions.

The relationship between the Ægean and Sicily –actually the whole Tyrrhenian Circle– are noticeable since mid-2nd millennium BC (Bietti Sestieri, 1988; Vagnetti, 1999; Cazzella and Recchia, 2009; Russell, 2017). Concerning fibulæ, this connection is proved by the pieces of Vrokastro and Kavousi (Blinkenberg, 1926: 55, figs. 25, 26), both in Crete, very similar to those found in Sicily of Cassibile III type, and dated to the LM IIIB. The looped fibula with incised decoration discovered in Kydonia (Crete) (Blinkenberg, 1926: fig. 27) and the already mentioned of Aloni also suggest those links, during the flourishing of the Helladic Culture as well. Both are unique pieces in the Ægean, although in Sicily similar looped fibulæ with incised decoration are common, while in Glasinac (Bosnia-Herzegovina) there is another example (Blinkenberg, 1926). Zoomorphic fibulæ of the 2nd millennium BC look rare, and they only are known in Sicily and the Ægean.

Concerning the fibula of "Los Pajares", as long as the best parallels come from Cyprus, the Mediterranean links seem to be clear. Much is discussed about the pre-/protocolonial connections, which involve Cyprus (Mederos, 1996; Torres, 2012). The arrival of the fibula to the West within these travels seems the best hypothesis. However, the chronology of the fibula –12th cent. BC– does not fit the remaining items taken as clear indexes of Iberian-overseas trade. The chronological gap is awkward. However, antiques worked as a standard commodities in this sort of links due to the symbolism of the artifacts traded (Kopytoff, 1986), so there is nothing wrong in a time-lapse between the production and the arrival of the fibula.

In light of these data, a first conclusion is that it seems true the violin-bow fibulæ emerged in South-eastern Alps or in the Middle Danube Basin at the beginning of the Urnfields Culture, around 1300 BC (Gimbutas, 1965: 115-116; Alexander and Hopkin, 1982: 405-406). From there, they arrived to the Ægean by way of the Amber Road to Fratessina (Padua, Italy) and then by way of the Adriatic (Bietti Sestieri, 2008: 32-34; 2010; Ruiz-Gálvez, 2013: 203-204). It seems probable a circulation from the Ægean to Sicily (Tanasi, 2004: 341-342) in a situation of close links between both territories during the Pantalica Nord Horizon (Bernabò Brea, 1953-1954: 191-195; Bietti Sestieri, 1988: 44-45, 49; Tanasi, 2004). However, it has to be considered an option about a direct connection between the Sicily and northern Adriatic without Ægean intermediaries.

A second conclusion stands that the asymmetric fibula of "Cerro del Berrueco" had to arrive to the Iberian Peninsula surfing maritime ways, despite the best parallels are located inside Europe (Delibes, 1981: 180). Therefore, this fibula had an akin route and situation to "Los Pajares" fibula. The lack of primitive fibulæ in the Atlantic world (Duval *et al*., 1974), the existence of a NW-SE route in the Iberian Peninsula on those times (Mederos, 1999: 129), and the existence of asymmetric violin-bow fibulæ with high bow (Lo Schiavo, 2010: 606-607, pl. 369.5283-85.B) are strong arguments to reject the continental option as the entry way of the "Cerro del Berrueco" example as well as to support, on

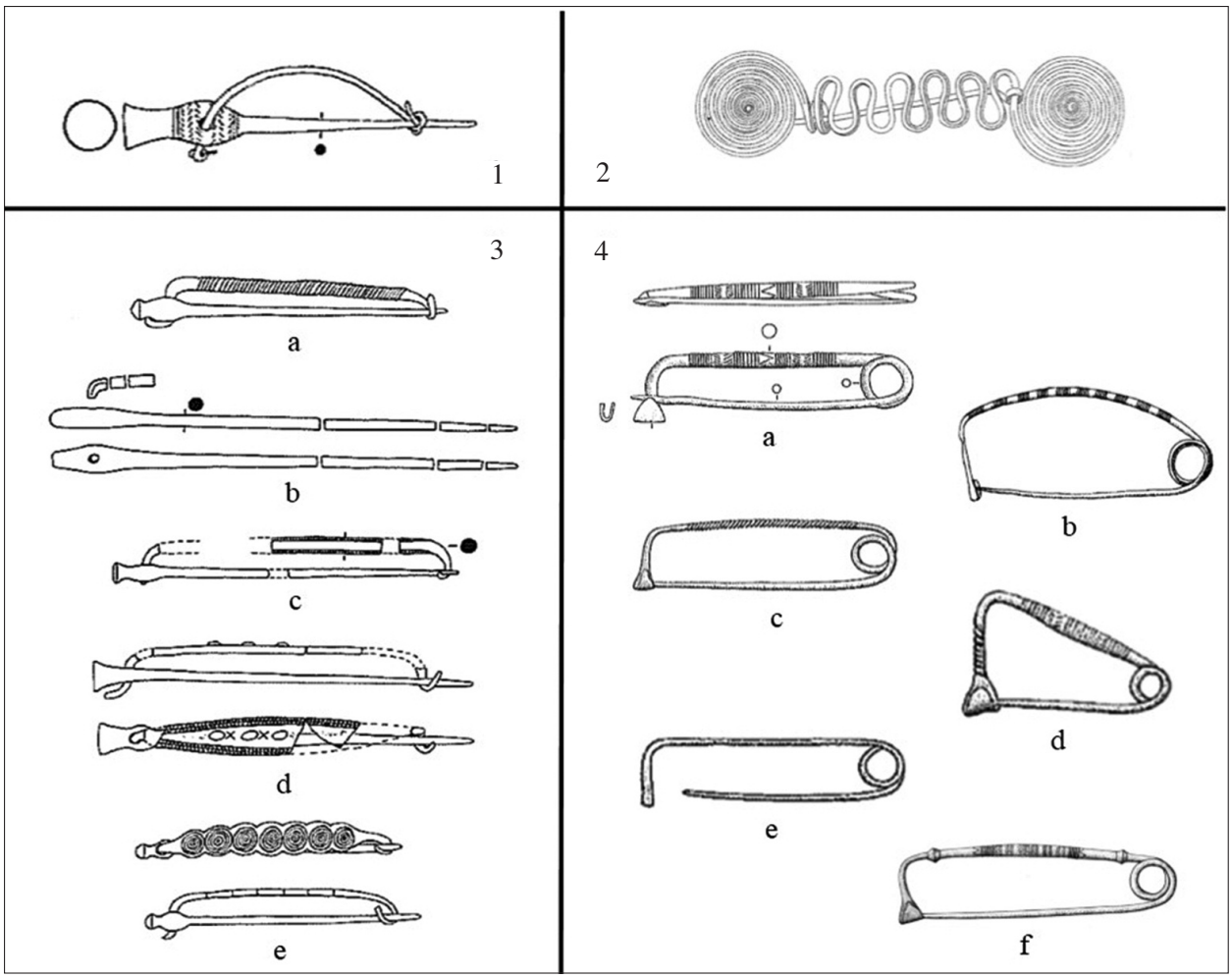

Figure 22. *Diversity of the primitive fibulae:*

1. Hypothetical reconstruction of a proto-fibula after a needle and a string made of organics (Alexander & Hopkin, 1982: fig. 1); 2. Alpine proto-fibulae: a. Anderlingen (Lower Saxony, Germany); b. Wardböhmen (Lower Saxony); c. Vinding (Denmark); d. Althaldensleben (Saxony-Anhalt, Germany); e. Heerstedt (Lower Saxony) (Alexander & Hopkin, 1982: fig. 3); 3. Two-pieced fibula with spirals of Mannheim-Strassheim (Baden-Württemberg, Germany) (Betzler, 1974: pl. 4.54); 4. Violin-bow fibulae: a. Gross Mügl (Betzler, 1974: pl. 1.7); b. Štrpci (Bouzek, 1985: fig. 80.14); c: Peschiera del Garda (Eles Masi, 1986: pl. 1.14); d: Peschiera del Garda (Eles Masi, 1986: pl. 3.60); e: Psychro (Crete) (Sapouna-Sakellarakis, 1978: pl. 1.1); f. Fratessina (Eles Masi, 1986: pl. 2.39) (various scales).

the contrary, a Sicilian connection. Moreover, Iberian Cassibile II-III, looped and horned types hold this Mediterranean way.

3.2. Sequence and evolution of the Iberian fibulæ

The asymmetric violin-bow fibulæ from "Cerro del Berrueco" and "Los Pajares" must be interpreted separately from the rest of the LBA fibulæ found in the Iberian Peninsula. Although the route of entry in all cases is Mediterranean and the whole group of importations come from Sicily, between these two fibulæ and the rest of them there is a chronological gap with deep cultural implications.

The fibulæ showed on the stelæ pertain to the second series of these latter, when there is not represented the spear-shield-sword triad alone any longer (Harrison, 2004: 86-104). In the second series new features are illustrated, most of them from the Mediterranean, and sometimes carved in already made stelæ. One of the items that works the best as a chronological reference is the fibula. Therefore, the presence of elbow examples on the stelæ call for situating the beginning of the second series in the LBA IIIA, contemporary to the Cassibile/Ría de Huelva Horizon (1050-900 BC).

In turn, the asymmetric violin-bow fibulæ of "Los Pajares" and "Cerro del Berrueco", by comparative chronology to other Mediterranean pieces cannot be dated after the 11th century BC.

The fibulæ from "Cerro del Berrueco" and "Los Pajares" entered in the Iberian Peninsula during a former situation to the Sea Peoples dominated by the Helladic inflows in the Central Mediterranean. This situation when the earliest wheel-made pottery arrived to the Iberian Peninsula finished in the mid-13th century BC (Almagro Gorbea and Fontes, 1997). Then, even if the Sicilian elbow fibulæ derived from violin-bow fibulæ (Sundwall, 1943: 44; Ruiz Delgado, 1989: 59), both families in the Iberian Peninsula belong to two different situations, probably discontinuous in time (fig. 23).

The earliest elbow, looped and curved-bow fibulæ attested in the Iberian Peninsula in the LBA IIIA come from the Mediterranean area. In light of the chronology and the geographical situation, it is the most reasonable that Sicily might be the core of dispersion. Nevertheless, the curved-bow fibulæ perhaps were related to the Ægean, where a prodigious and varied set of examples of this type are known (Blinkenberg, 1926: 60-196, 204-230). These three families are an evolution of the (asymmetric) violin-bow fibulæ, same time a formal interaction one another is plenty recognizable. Therefore, it seems very difficult to establish a precise evolutionary picture for each family and, above all, for each type. In spite of this, in Sicily the first looped fibulæ likely derived from the most archaic elbow models. Also, an Iberian development can be notice in Cassibile III type as well as in the looped family.

Fluted Cassibile III style seems quite rare. Unlike plain and incised variants, only three accurate examples of this style are known, two in the Iberian Peninsula and one in Sicily (Lo Schiavo, 2010: 604, pl. 368.5279.B). Several other fluted fragments are documented in the Iberian Peninsula, but perhaps they do not belong to Cassibile III type (Carrasco *et al.,* 2013: 43-44 fig. 4.2-6.8). Perhaps that is why Cassibile III with flutes could be understood as the first model of the elbow family elaborated in a peninsular factory. However, there are no solid arguments to stand up for this hypothesis, nor to invalidate it. In any case, it seems clear the evolution that leads from Cassibile II to Cassibile III types, in which it goes from a barely marked lateral elbow to an accentuated one.

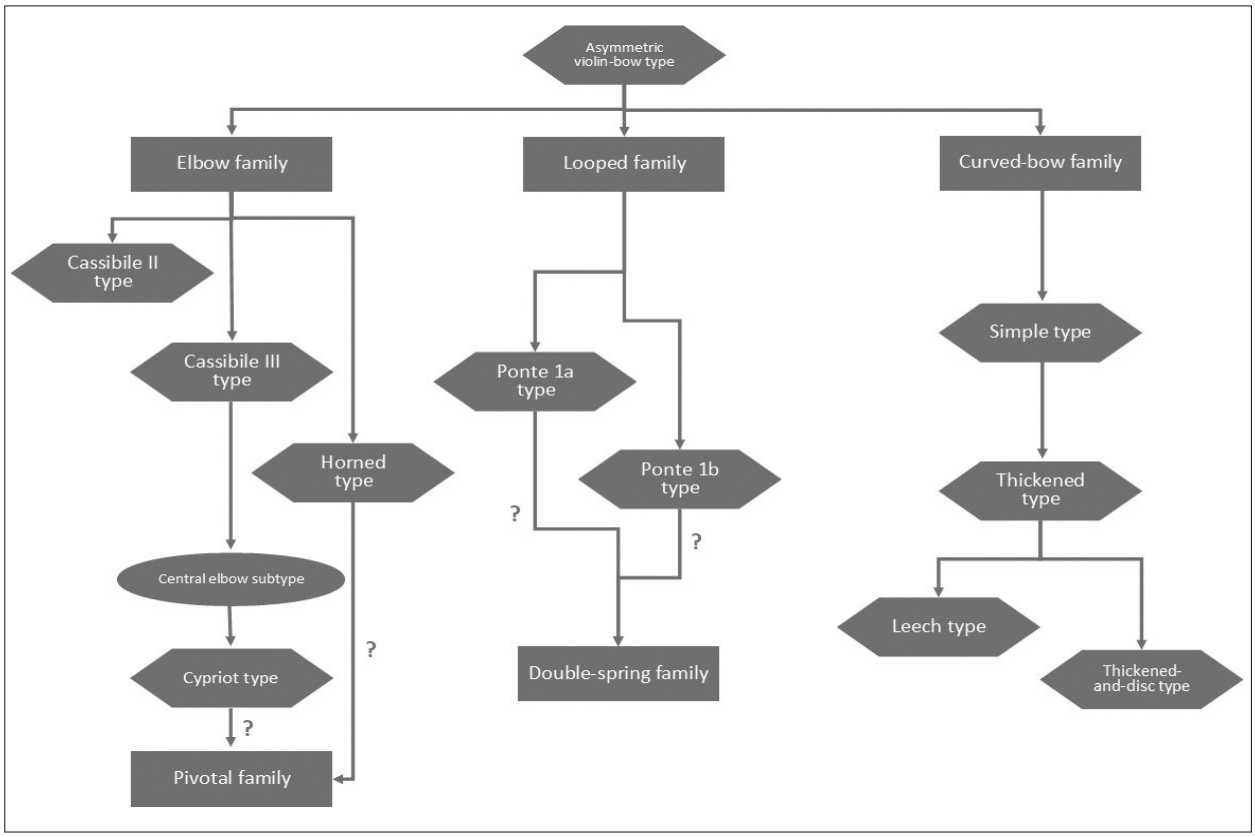

Figure 23. *Genealogy of the fibulae present in the Iberian Peninsula during the LBA. Rectangles indicate families, rhombus indicate types, and ovals indicate subtypes.*

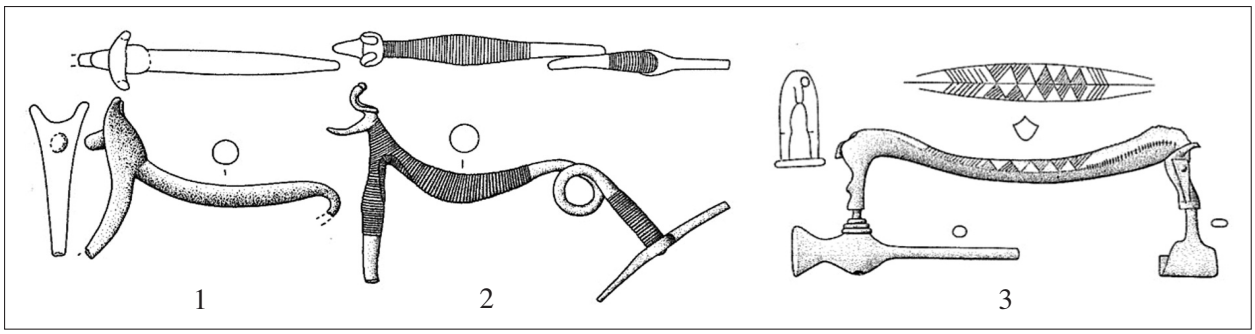

Figure 24. *Zoomorphic fibulae: 1. Monte Dessueri (Lo Schiavo, 2010: pl. 369.5281); 2. Priolo (Lo Schiavo, 2010: pl. 369.52812); 3. Aloni (Sapouna-Sakellarakis, 1978: pl. 3.50) (various scales).*

Together with the looped fibula, Cassibile III type develops itself in an endemic way in the Iberian Peninsula once imported. Cassibile III different subtypes –lateral elbow, central elbow, and horned elbow– show a dense trade network as well as a great variety of workshops. The plain and incised models are, in principle, importations, although they also could be imitations. Instead, moldings of Ría de Huelva and Moralda models are highlights of the Iberian factories.

Due to the finding context of the fibulæ of the Ría de Huelva hoard as well as to the noticeable formal parallels with the Sicilian elbow fibulæ, a chronology from 1050 to 900 BC must be assigned to them – or even little later. Because of the moldings, Iberian artisans could use a stone or clay cast, or even a wax cast to make the Ría de Huelva and Moraleda models. If so, a lost-wax making process with a high tin content would show a technical coherence with the Atlantic toreutics characteristic of the LBA III. Last, their style also denotes a periodization. These pieces include on the central molding a series of flutes, therefore a combined decoration. Thus, the Ría de Huelva model is intercalated between the fibulæ decorated only with flutes and those only with flat moldings, like the Moraleda variant. Concerning their chemical composition, the analyses performed on two Huelvan fibulæ and that one from La Requejada produce coherent amounts within the typical Atlantic metallurgy of high tin content, around 10% (Rovira, 1995: 45).

The Ría de Huelva model is unknown outside the Iberian Peninsula. Or, at least, it does not exist enough signs to affirm otherwise, despite the fragment from Samaria-Sebaste. Central-elbow subtype is more complex due to its stylistic, technical diversity and, above all, to its cultural repercussion. Central elbow, understood as a sharp fold in the bow, is another Iberian contribution to the interregional varied list of fibulæ.

The Moraleda model fibulæ have a high content of tin. On the contrary, it is noteworthy the low proportion of tin in the remaining central-elbow pieces. The two fibulæ of Cerro de la Encina do not surpass 6.3 % of tin (Carrasco *et al.,* 2013: 37; 2014: tab. 2), while the fibula of Las Muelas the proportion of this metal is much lower, only a 0.002 %, practically a pure copper composition (Carrasco *et al.,* 2014: tab. 2). Probably in contrast to the molded fibulæ, those are not lost-wax made, so they do not require a significant amount of tin. However, the increased presence of this metal in the Atlantic fibulæ and, in general, in the whole Atlantic bronze metalwork, plus the high gathering of central-elbow fibulæ in the Iberian Southeast leads to consider that this area hosted a factory dedicated to the production of these artifacts, perhaps in the settlements of Cerro de la Mora or Guadix, or both (Carrasco *et al.,* 2002: 368-369).

Nevertheless, the analyses of lead isotopes obtained from the copper the fibulæ are made of reveal a certain confused data (Carrasco *et al.,* 2014: 104-105). Any of the analyzed fibulæ discovered in the Southeast (plain Cerro de la Encina, Las Muelas, and Canto Tortoso) do not offer results that validate a southeastern origin for the mines where supposedly the metal of making was extracted. In fact, the plain fibula of Cerro de la Encina provides consistent results with a Tartessian source.

Isotopic analyses involve certain troubles in methodological and interpretative terms regarding its application to Archaeology (Hunt, 2003: 21). In principle, it looks like another proof that has to be valued together with other signs.

Results seem to confirm in one of the cases that the production is related to the Iberian Southwest. It is almost an anomaly, but in the Atlantic LBA III metalwork there are some pieces of binary bronze which the content of tin is similar to the plain fibula of Cerro de la Encina (Rovira, 1995). Hence, perhaps the isotopic data suggest that the production of central-elbow fibulæ started in Tartessos, and later is developed in the Southeast. This statement is sustainable at a formal level, as long as the earliest elbow fibulæ emerged in the Atlantic side, in spite of the elbow is positioned laterally. On the other hand, it seems more logic that, given that most of the clearest proofs of the Moraleda model fibulæ are gathered in the Baetic Mountains, such pieces might be originated in this area. Still, proofs are what they are, and in regular ways several factories of fibulæ might exist in different zones of Iberia, since their distribution is expanded all over this territory.

The remarkable assembly of elbow fibulæ in the Iberian Southeast seems to indicate a revival of the local communities in LBA III (1050-750 BC). After the Argaric breakdown in the mid-2nd millennium BC, the southeastern society reorganized itself and kept being a main cultural core in Iberia. So, the revival confirms the continuity of social dynamics and the strong involvement of the southeastern communities in the interregional trade networks.

Horned fibulæ emerged later than the Cassibile II-III types, but still in the LBA. The whole set of this fibulæ is tiny compared to the other types. However, outside Iberia they apparently evolved into a different type or, better said, into a new family because of their singular, remarkable features. They are the zoomorphic fibulæ. The link could be represented by a curious piece in Monte Dessueri that has mixed features. On the one hand, it is plain and horned, so similar to the regular fibulæ; on the other hand, the vertex looks like a canine, whose ears are replaced by horns (fig. 24.1) (Lo Schiavo, 2010: 606, pl. 369.5281). In Priolo (Syracuse) there is a two-pieced fibula in which a prominent horned cattle head appears in the vertex (fig. 24.2) (Lo Schiavo, 2010: 606, pl. 369.5282). This fibulæ seems to be related to the zoomorphic fibula of Aloni (Creta), which peculiarity lies in the smart horse shape and several other nuances that resemble this animal (fig. 24.3) (Sapouna-Sakellarakis, 1978: 41, pl. 3.50). The chronology assignable to all these fibulæ is hard to define, but the formal connections within seems to reveal a sequence. Therefore, they all have to be dated in a period spanned 9th to 8th centuries BC.

Fibulæ grew and evolved in Iberia since the arrival of the regular Cassibile III type with accuracy. Starting from this model, several derivations of sided- and centered-elbow fibulæ emerged in this region during the LBA III (Carrasco y Pachón 2006c; Carrasco *et al*., 2013; 2014). This means a total success in technological innovation, as long as the Iberian societies assimilated a foreign item to the extent of adapting it to different tastes and values.

Looped family also offers several details to bright up some transformations in the Iberian Peninsula. Whereas Ponte-1b type is clearly an Italian model, Ponte 1a type is clearly an Iberian model. However, it is not clear which prototype the Ponte 1a type derives from. First, Italian Ponte 1b examples are dated about the second half of the 9th century BC, while Ponte 1a seems to be dated to an earlier stage, the Cassibile/Ría de Huelva Horizon (1050-900 BC). Second, the formal differences between these two types are strong enough to point out different filiation roots. Third, the high quantity of tin present in the chemical composition of some Ponte 1a type fibulæ fits the typical LBA Atlantic metallurgy. So, is Ponte 1a type a derivation from the earliest elbow fibulæ in Iberia? Concerning chronology, the answer seems affirmative. However, it cannot be disregarded Ponte 1a type belongs to the looped family, which means western Iberian artisans had to know a foreign, different model prior the making of the first Iberian looped fibulæ. Otherwise, Ponte 1a type had to be an invention *ex-nihilo*, which sounds unreal. Therefore, it seems plausible a few Sicilian pieces of the earliest looped type arrived to the Iberian Peninsula, in spite of no-one of them remained nowadays.

The looped fibulæ make up a very complex family full of branches non-lineal in time. In this regard, another type of this family is documented in Iberia dated to an advance period of the Iron Age. It is defined by a longer catch-holder and bilateral spring.[25] A significant issue about this type is that it has no genealogical relationship with the Ponte 1a-b fibulæ or, at least, there is not any clue to link both types. This later type of looped fibulæ point out the accurate reciprocal relationship among the different known types in the same time – probably Ponte 1a type is also influenced by or even derived from elbow fibulæ. Most of them are clustered in the eastern Meseta

(Almagro Basch, 1966a: figs. 3.10, 13; Argente, 1994: 59-60).

Concerning curved-bow fibulæ, the small amount in the Iberian Peninsula seems to point out they were not significant for the local communities. Moreover, these pieces did not evolve into new models, which plainly means a low impact on the Iberian societies. On the contrary, curved-bow family is well-known in southern France during the LBA IIIB (900-750 BC) (Duval *et al.,* 1974: 7-30). So, the Iberian examples could arrived rather by Atlantic ways than by Mediterranean ways, when the Vénat Horizon.

An analogue case to Ponte 1a type occurs with pivotal fibulæ. Even though some kind of foreign parallels to them can be alleged, it seems more suitable a peninsular emergence. In this regard, pivotal family derives from the Cypriot elbow type or, perhaps, the horned type. These latter seem to be known in the eastern boundaries of the Meseta around 800 BC, which means the distribution areas for both models are overlapped – partially the same area of the looped, bilateral spring fibulæ, by the way. The moldings of the four pivotal fibulæ kept in the *Instituto Valencia de Don Juan* and the *Museo Arqueológico Nacional* work as a key hint to connect them to molded elbow fibulæ. Thus, the elbow fibula of Villamorón could reveal a link between them, which seems more probable than just a random artifact from anytime. Also, pins are well-known artifacts by the Urnfields communities (Toledo and Palol, 2006: 182, fig. 198.7), so pivotal fibulæ could be plausibly a mixture of Cypriot-Atlantic items and Urnfields items performed by an artisan placed in the middle ground.

The absence of Italian types of pivotal fibulæ in the Iberian Peninsula, together with the formal similarities between the pivotal fibulæ and the Cypriot elbow type fibulæ make an Iberian origin the most plausible hypothesis. There are some examples of evolved pivotal fibulæ in the Iberian Urnfields, but there are not any example of them in southern France. This points out the Italian two-pieced fibulæ were not introduced via France. Still, there is no accuracy about the emergence of this family in Italy, same time it does not seem probable a simultaneous, disconnected origin for the Italian, the Iberian, and also the Cypriot pivotal models. Certainly, the Italian types look like some other Italian fibulæ, chiefly like some looped models. After the Rochelongue shipwreck contains one pivotal fibula (Arnal *et al*., 1970: 56-57, fig. 3.3), Etruscan or Greek or Iberian Urnfields sea trade might explain the widespread of this family. Therefore, an Iberian prototype could be in the genesis of the Italian two-pieced fibulæ, and it could travel southwards. The zoomorphic fibula of Priolo truly seems to be related to this family. So, as it happens to the Ponte 1a fibulæ, it is not about imitation, but about inspiration. Same way, Cypriot pivotal fibulæ seem to be an evolution of local bow models.

Similar to pivotal fibulæ are Coimbra fibulæ. Both present a two-piece structure and a joint instead of a spring. Starting from that, both models could be part of the same family. *A priori*, it seems logical, but empirical data do not enable to assert that – so it could really be or not.

If Coimbra type was really native to the current District of Coimbra, in Central Portugal, and dated to the latest stage of the LBA or even to the Early Iron Age, a couple questions have to be solved: how did they come up (in Coimbra)? And how can be explained the lone and rare example of *Falerii Veteres*?

The first question makes allusion to the singularity of the type and, furthermore, to the geographical situation of these fibulæ. There is not a single fibula in the region of Coimbra dated to the referred chronology and no-one of the pivotal fibulæ or Alcores type fibulæ are located in the nearby area. Whatever the true filiation of Coimbra type was, it had to be an invention of a local craftsman. This rareness also points out to a lower chronology, once the community of pre-Roman *Conimbriga* prosper and grows in the Iron Age. The formal connection between Coimbra and Alcores types perhaps is a by-product of the presence of Tartessians in the central coast of Western Peninsula (Almagro Gorbea and Torres, 2009), together with the fibulæ of Bencarrón and Acebuchal types native to Tartessos (Ruiz Delgado, 1989: 139-163; Storch de Gracia, 1989:

25 Almagro Basch (1966a: 227, fig. 13) called "de bucle" ("looped") to these late looped type. The whole series of looped fibulae incorporate a loop. Therefore, it does not seem correct to name so a type, but a family. It seems more appropriate to call it "bilateral spring type" after this remarkable feature.

217-247; Torres, 2002: 199-202, figs. VIII.29, 31), again in the Iron Age/Orientalizing Period. In this sense, Alcores type fibulæ could be known by Conimbrigan artisans but no remains are preserved. No matter what, the presence of fibulæ in the region has to be explained in the historical context of peer-polity interactions at the referred time and the LBA IIIB.

Regarding the second question, it is even harder to explain the *Falerii Veteres* fibula if it actually came out of this site. So, because of the patent formal similarity to the Iberian fibulæ, considering it as an importation from the Atlantic seems right during the Orientalizing Period or even in the prior phase. In spite of it, two objections can be raised: there is a visible dissimilarity about the shape of the pin, and this pin is clearly comparable to those of the Italian pivotal fibulæ which include round knobs. So, the *Falerii Veteres* example was positively made in an Etruscan or Italian workshop. In light of this, there is a possibility of interpreting this fibula like a singular creation of a local artisan inspired by Italian pivotal fibulæ, therefore the similarity to Coimbra type is just a coincidence. But there is also a (remote) possibility of interpreting this fibula as creation of a local artisan inspired by Coimbra type fibulæ that are not preserved in the site or the area.

In any case, the chance of assignation a Late Iron Age chronology to Coimbra type – therefore an independent filiation from pivotal fibulæ – cannot be disregarded.

Finally, a last family of fibulæ found in the Iberia in the LBA III: double-spring. In light of the noticeable gathering of this type in this territory compared to the already referred areas, it seems logic to suppose an autochthonous origin (Lo Schiavo, 1978: 42; Pellicer, 1982: 223; Coffyn, 1985: 167; Torres, 2002: 196). Aside from the numbers, there are several reasons to support this idea, same time it is possible to explain the emergence of the double-spring fibulæ.

Thus, a couple central-elbow fibulæ from Iberia resemble a double-spring model because of the double-coil spring they have: those of Cerro Alcalá and Yecla. Besides, the exceptional looped fibula of Mola de Agrés looks even more similar, as long as it has a triple-coiled spring. In this regard, an Iberian origin seems reasonable, not only because of the formal similarities, but because of the local making of the referred parallels.

Another proposal about the origin for this type that achieved certain acceptance calls for making them derive from the Italian triple-loop fibulæ, which have several loops with several coils each one (Sundwall, 1943: 48, fig. 241; Ruiz Delgado, 1989: fig. 11; Lo Schiavo, 2010: 738-741, pls. 522.6446-524.6686). In accordance with this hypothesis, such fibulæ, either by land or by sea, reach the Iberian Peninsula where they evolved until they got the shape of double-spring (Kimmig, 1954: 55, 64; Guzzo, 1969: 307; Schüle, 1969: 142-145; Ruiz Delgado, 1987-1988: 529).

A third option points out to the Eastern Mediterranean as the origin zone of the prototypes that evolved in the Iberian Peninsula (Argente, 1994: 53). The oldest model of a double-spring fibula comes from Hama (Syria), dated to the late 2nd millennium BC (Riis, 1948: 131-132, fig. 166.B; Almagro Basch, 1966a: 9, fig. 12), of which it could derive either the Tyrrhenian or the Iberian series. Same time, in Maa-Paleokastro (Paphos, Cyprus) it is documented a fragment of a fibula with cylindrical bow and double coil morphologically similar to the Iberian examples (Karageorghis and Demas, 1988: 227). However, due to the scarcity of fibulæ of this type in the East compared to the big amount of them in the West, an eastern origin does not seem plausible. The Syrian and Cypriot pieces must be linked to the Tyrrhenian Circle, the region from where they spread eastwards. Perhaps, these two examples were experimental, in such a way the western types are missing in their phylogeny.

All in all, the double-spring fibula truthfully seems to be an Iberian evolution from other imported fibulæ, probably from those of the looped family. The most firm chronology for the beginning of this type fits the proto-colonial stage, right before the Orientalizing Period.

4. Conclusion

The fibulæ show the wealthiest typology in the whole archaeological repertoire since the beginning of the series. This variety is a consequence of a large spread involving many communities all over Europe and the Eastern Mediterranean. Likewise, the fibulæ demonstrate openly the æsthetic changes the societies go through even in a short period of time. All these points make this item one of the most representative signs of each society in time and space, thus turning them into a remarkable artifacts of great archaeological value.

Typology concerning archaeological artifacts is just a current, abstract model. It is clear the material culture evolves and facilitates the generation of a sequence, therefore a system of

stages. But these stages are, again, just current, abstract models. Typological changes does not mean large and abrupt cultural transformations, although they point out some cultural transformations. Types overlap in time and space. In this sense, under regular circumstances society evolves slowly and every day. Typological changes have to be understood as an everlasting transition. A fibula or any other artifact indicates a craftsmanship; artisans can randomly invent new models, and artisans can also inspire other artisans by virtue of teaching. So, an object does not evolve itself. Overall, the typological diversity of the fibulæ reveals the essence, the dynamics, and the continuity of social customs.

Fibulæ during the Proto-colonization in Iberia are imported and copied, evolved, exported, and evolved once again far away. In this sense, the fibula is the only item in the LBA that completes the whole economic cycle. This is the reason why fibulæ serve as a proof for overseas contacts as well as for the cultural assimilation of foreign issues. The earliest fibulæ in Iberia come from Sicily, first sporadically in the LBA I-II/Pantalica Nord Horizon, and later widespread from the LBA IIIA/Cassibile Horizon onwards, *c*. 1050 BC. The stylistic, formal, technical, and chronological convergences point out the existence of a genealogical relationship between the Sicilian and the Iberian fibulæ. In those latter the elbow and looped taxa are the most meaningful, as long as they end up in the development of endemics of large success – even exported all over the Mediterranean – and in the origination of new models, as it happens in Cyprus. On the other hand, the Mediterranean influences do not stop in Iberia, in such a way fibulæ also reach the French Atlantic coast (Duval *et al*., 1974: fig. 19; Coffyn *et al*., 1981: pl. 27.34-35; Giardino, 1995: 31, figs. 122, 123).

The best parallels and prototypes for most of the discussed families come from Sicily. That means the communities of this island played a leading role in the trade networks during the LBA concerning Iberia. The links between Iberians and Sicilians on this time together with the heart of this matter are still unknown, they remain to be studied. Moreover, the double-spring fibulæ found in Sardinia reveal the opposite track in the very last stage of the LBA. Ultimately, Phoenician explorers took advantage of those links in order to connect both ends of the Mediterranean. Phoenicians, as well as western Iberians, could be the sailor-traders who brought the foreign fibulæ located in Olival do Senhor dos Mártires and, perhaps, the whole set of curved-bow examples, not from Sicily, but from southern Italian Peninsula (Toms, 2000). In the same way, Phoenicians were also who carried the Moraleda model fibulæ to the Eastern Mediterranean.

In this regard, double-spring and pivotal families are related to the other families in chronological terms, but their filiation root is clearly different. Although both are LBA III Iberian inventions, pivotal fibulæ emerge due to the Urnfields contacts while double-spring fibulæ could do the same or being just out of the Sicilian connection. These two families also point out a distribution pattern towards the north-east of the Iberian Peninsula.

The fibulæ placed in ritual hoards and carved on stelæ prove the high symbolic charge of this item and, thus, the high prestige and social rank it involves. The use as a clothing accessory – never like an artless safety pin, but as a brooch or a jewel – suggests that new dress codes are initiated along with the fibulæ (Muscarella, 1964; Almagro Gorbea, 1989: 282; 1998: 85). The widespread all over in the Mediterranean and Europe reveals the creation of a symbolic, æsthetic, ethic *koine* among the elites in a vast territory. On the one side, fibulæ exteriorize an ideological approach within those elites immersed in a large macro-network of communications; on the other side, they also exteriorize the existence of diverse regional groups. The trade of fibulæ and textiles shows a personal contact within peer elites. Fibulæ, in the end, reveal the modes in which the relationship among communities are weaved.

A last and top aspect referred to the fibulæ is that of their Iberian distribution. The whole set of the LBA is distributed basically throughout the western peninsula and the Meseta, plus another main core in the southeast. The picture offers clues of an economic pattern under the guise of a ritual exchange. The Atlantic side is rich in tin, while the southeast – and Sardinia – is rich in lead. Both metals constitute during the LBA two key commodities that spur the interregional trade. Tin is scarce in the Mediterranean, but abundant in the Atlantic, and it works as an element to produce bronze of high quality for weapons and toreutics. Regarding lead, it is indispensable in the process to obtain silver – another rare, highly valuable commodity in the Mediterranean. Regarding lead, it is indispensable in the process to obtain silver, another rare commodity in the

Mediterranean and highly valuable. Certainly, explorations looking for tin and lead-silver consisted the driving force of immersion of Iberia in the interregional trade networks during the Proto-colonization.

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