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El Argar and the Beginning of Class Society in the Western Mediterranean

By Vicente Lull, Rafael Micó, Cristina Rihuete Herrada and Roberto Risch[1]

1 Introduction

Since the discoveries made by the engineers Louis and Henry Siret during the last two decades of the 19th century, El Argar has been considered a classical 'culture' of the Early Bronze Age in Western Europe. The appearance of large protected hill settlements, a specific intramural funerary ritual, as well as distinctive metal and pottery production, soon attracted the attention of many scholars. The fact that this social and economic development occurred in the South-East of the Iberian Peninsula, which is one of the most arid regions of the Mediterranean, but also contains very rich metal ore deposits, has been considered of particular relevance for the sudden rise and fall of El Argar.

After the early work carried out by the Siret brothers[2], who extensively excavated nearly a dozen El Argar settlements and recorded many others, rather limited research took place during most of the 20th century. All the information published up until the 1970's was systematically revised by Vicente Lull and presented in his PhD thesis in 1979[3]. At the same time, Hermanfrid Schubart and Hermann Ulreich documented all the archaeological material from the funerary contexts excavated by the Sirets, which had been sold or donated to twelve different museums in five countries[4]. This detailed catalogue has been crucial for any new approach pertaining to Argaric funerary practices.

Extensive excavations in Argaric settlements were mainly reinitiated in the 1970's and 80's, now forming part of long-term interdisciplinary projects funded by public grants (Fuente Álamo, Gatas, Peñalosa, Castellón Alto, Cerro de la Encina, Terrera del Reloj, etc.). Although part of these excavations still await to be fully published, the new data has clarified many of the archaeological questions concerning chronology, economic organisation and social structure which rose from Lull's early synthesis. Our aim in this paper is to present the main results of this new phase of research on El Argar and to discuss the historical implications of the available information for the understanding of Early Bronze Age societies. The outline of this explicative model emerged on one side from the analysis of the funerary record, and on the other from the investigation of the economic organisation of the settlements[5]. It was mainly developed in the frame of the research project carried out in the settlement of Gatas and its regional context, the Vera Basin[6]. Recent monographs on the excavations of Fuente Álamo[7], Peñalosa[8] and Illeta dels Banyets[9] represent further key references in current discussions about El Argar.

2 Space and Time

Since Sirets' work, the so-called El Argar culture has been defined through a particular intramural funerary ritual, consisting mainly of single burials, furnished with a quite standardised set of grave goods. The most diagnostic material is a well burnished and undecorated pottery with only eight morphological types. Settlements with such pottery and funerary evidence are distributed over the entire southeast Iberian Peninsula, comprising a territory of at least 33,000 km^2 (**Fig. 1–2**).

However, such general statements always imply that dynamic historical developments are shaped into static concepts and images. At the end of the 1980's, the Gatas project started an ongoing dating programme aiming at establishing a chronological framework for the Argaric phenomenology[10]. Given the advantages of AMS-dating, it became possible to date not only charcoal, but also seeds and bone samples coming from closed settlement and funerary contexts. This programme has brought about a paradigmatic change in the way archaeological sequences were established: instead of illustrating the conventional stratigraphic and typological schemes, the ^{14}C-method now started to provide an independent chronological order against which stratigraphy and typology

[1] The ongoing research programme on El Argar is funded by the Spanish Ministry of Science and Innovation (HUM2006-04610), the Spanish Ministry of Industry, Commerce and Tourism (TSI-070010-2008-133), the Autonomous Government of the Región de Murcia (BORM, 57, nº 3986), and the Research Board of the Generalitat de Catalunya (2009SGR778). We would also like to thank Sylvia Gili, Carles Velasco and Joaquin Pérez for their help in preparing the figures. Our recognition also goes to Erica Hanning for editing the English manuscript.

[2] Siret/Siret 1887.

[3] Lull 1983.

[4] Schubart/Ulreich 1991.

[5] Lull/Estévez 1986; Micó 1993; Risch 1995.

[6] Castro et al. 1994a; Castro et al. 1994b; Castro et al. 1998a; Castro et al. 1999.

[7] Schubart et al. 2001.

[8] Contreras 2000.

[9] Soler 2006.

[10] Castro et al. 1992; Castro et al. 1993/94; Lull 2000.

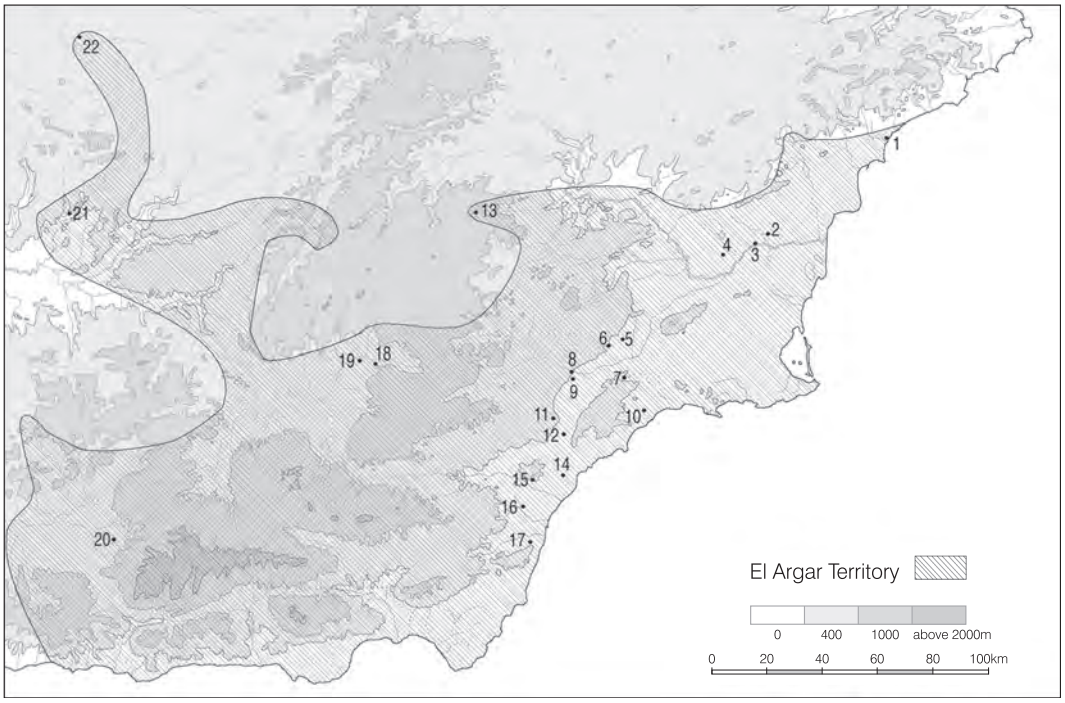


Fig. 1. Map of El Argar with the main settlements mentioned in the text. 1 Illeta dels Banyets. 2 Laderas del Castillo. 3 San Antón. 4 Cobatillas la Vieja. 5 Cabeza Gorda. 6 La Bastida. 7 Barranco de la Viuda. 8 Lorca. 9 Los Cipreses. 10 Ifre. 11 Loma del Tio Ginés. 12 El Rincón de Almendricos. 13 Cerro de las Víboras. 14 El Oficio. 15 Fuente Álamo. 16 El Argar. 17 Gatas. 18 Cerro de la Virgen. 19 Castellón Alto. 20 Cerro de la Encina. 21 Peñalosa. 22 Cerro de la Encantada.

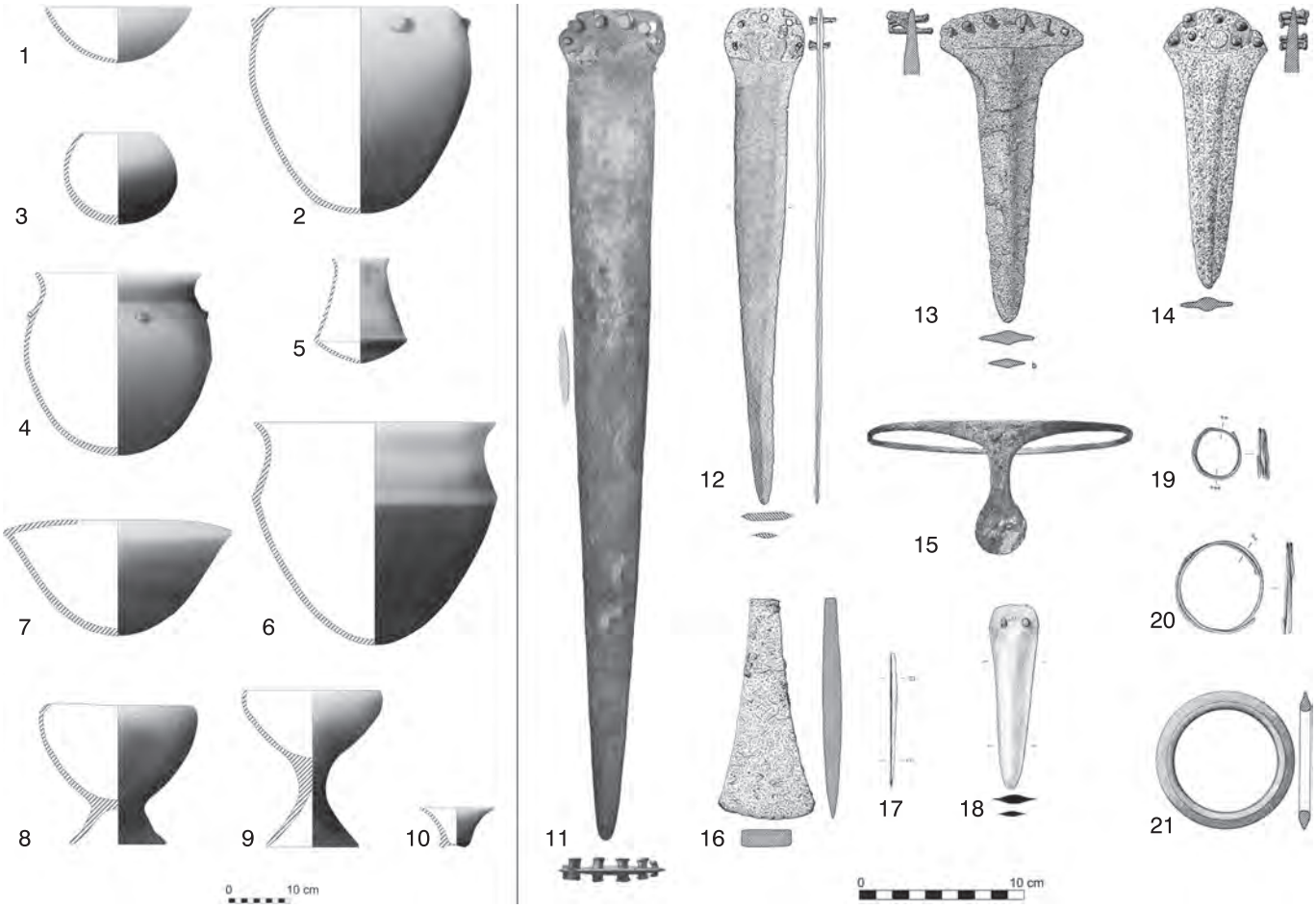


Fig. 2. Characteristic pottery and metals of El Argar. 1–10 Pottery. 1 Pottery form 1; 2 form 2; 3 form 3; 4 form 4; 5–6 form 5; 7 form 6; 8–9 form 7; 10 form 8. 11–21 Metal objects. 11 Long sword; 12 short sword; 13 halberd; 14 dagger; 15 diadem; 16 axe; 17 awl; 18 knife; 19–21 spirals and bracelets. 1.2.4–6.8–10 La Bastida (unpublished); 3.7.11 El Argar (Siret/Siret 1890, pl. 34; 43); 12 Bagil (Eiroa 1996, 56 fig. 3); 13.14.16.21 Fuente Álamo (Schubart/Arteaga 1980, 55 fig. 3,b; Schubart et al. 1986, 56 fig. 14,b; Schubart/Arteaga 1980, 57 fig. 5,c; Schubart et al. 1986, 56 fig. 14,d); 15 El Argar (Siret/Siret 1890, fig. 43,19); 17 Peñalosa (Moreno 2000, fig. 9.5, 15); 18 Gatas (Castro et al. 1994b, 345); 19 Peñalosa (Moreno 2000, 208 fig. 9.12, 7; Moreno 2000, 208 fig. 9.12, 6).

could be checked. It also became possible to link archaeological levels from different sites or excavation areas, as well as material from burials from earlier excavations with no stratigraphic reference. It may be interesting to note that a similar archaeological approach for ^{14}C-dating also emerged around the same time in Central Europe[11]. Today, there is no methodological justification for insisting in analysing exclusively charcoal samples and providing insufficient contextual information for the dates.

At the present moment around 190 ^{14}C-dates are available. If we exclude all the results that either present stratigraphic problems or were obtained from low quality samples, we are left with 103 dates from settlement contexts and 61 from funerary structures. 42 of the samples alone are from Gatas and another 32 from Fuente Álamo, which implies that the present chronological framework is based primarily on evidence from the Vera basin in northeastern Almería. However, dates from other regions and sites do not suggest a very different picture.

The absolute dates obtained so far from both funerary and settlement contexts are in agreement with placing the development of El Argar between *c.* 2200 and 1550 cal BCE, using the calibration software Calib 5.10. This chronological bracket is more or less identical to the rise and fall of many other archaeological groups that form a part of the conventional 'Early Bronze Age' of the western Mediterranean and Europe. The beginning and end dates coincide with some well known events, such as the end of the Old Kingdom in Egypt (2150), and the beginning of the New one (1540), the destruction of Troy III, the end of Early Helladic II and Early Cycladic II in Greece or the destruction of the Second Palaces on Crete[12]. Therefore, the question that arises is if there was any connection between this more or less simultaneous development of archaeological 'cultures' over a wide area, or if we are just faced with a case of historical coincidence. Environmental crisis caused by extreme aridity and simultaneous large scale volcanic eruptions have been proposed as a possible scenario in order to explain roughly synchronic social ruptures[13]. However, leaving aside the debate about the scale of the climatic impact and the temporal correlation between the natural and social changes, environmental factors alone cannot explain the convergent trajectories observed between distant regions. It can be anticipated that a severe climatic crisis would rather cause social diversification according to different natural and economic conditions in the different regions concerned.

This discussion becomes relevant in the southeast of the Iberian Peninsula when one considers the clear-cut changes in the archaeological record between the Copper Age, generally known as the Los Millares culture, and El Argar, as well as between this period and the local Late Bronze Age. Around 2200 and again around 1550 BCE, settlement patterns, architecture, subsistence, artifact production and funerary practices changed significantly, and in each case distinctive elements of the previous period were discontinued.

2.1 The beginnings and origins of El Argar

We have recently applied Bayesian statistics in order to test if the latest Los Millares and the earliest El Argar dates coming from well defined archaeological contexts represented synchronic, partly synchronic or successive temporalities[14]. Different *a priori* assumptions were tested, mainly that the end of Los Millares could be earlier, contemporary or even later than the beginning of El Argar. In all cases the possibility that the temporality defined by the last Los Millares dates lays before the beginning of El Argar was judged correct with a probability between 75–99 %. The only cautionary note to bear in mind is that Copper Age dates come from long lived samples (charcoal), while the earliest El Argar ones correspond to human bone samples.

In any case, these results are in agreement with the stratigraphic observations made in Cerro de la Virgen (Orce, Granada) and Gatas (Turre, Almería). These are the only two settlements excavated so far which present a continuity of occupation from the late Copper Age, characterised by the presence of Bell Beaker pottery, into El Argar. The situation in Gatas is interesting because it is located in the Vera basin, the core area of El Argar, and one of its burials (Tomb 42) has provided the earliest date so far obtained for any Argaric funerary context[15]. Excavations carried out on the summit of Gatas have revealed a sequence of Copper Age layers under the Argaric deposit. A series of recent but still unpublished ^{14}C-dates from animal bones, *i. e.* short lived samples, indicates that the end of the Bell Beaker phase must have been practically contemporary to the beginning of El Argar. In this sense, the radiometric information as well as the archaeological record of Gatas and other sites show that the transition from one society to the other occurred in a very short time.

However, in the two centuries before the rise of El Argar, there is some evidence that the Copper Age

[11] Czebreszuk/Müller 2001.
[12] *e. g.* González Marcén et al. 1992; Randsborg 1996; Broodbank 2000; Bertemes/Heyd 2002; Manning et al. 2002.
[13] *e. g.* Weiss et al. 1993; Baillie 1996; Nüzhet Dalfes et al. 1997.
[14] Lull et al. in print a.
[15] OxA-10994.

communities of southeast Iberia, as well as in the Southwest and West, were undergoing important changes[16]. Reduction in settlement size, decay of architectonical structures and a lower technical elaboration of some craft productions, such as pottery, can be observed in some settlements and understood as signs of social and economic crisis or, at least, change. To what extent this situation had to do with the appearance of the Bell Beaker phenomenon still needs to be clarified. Moreover, regional differences seem to have been important, as some settlements and regions seem to be more dynamic than others. For example, Marroquíes Bajos (Jaén), a so-called *macro-settlement* of 34 ha, reached its maximum extension and was surrounded by a fifth circular ditch of 1,200 m in diameter during the Bell Beaker phase[17]. In contrast, at the same time, large parts of Los Millares, a settlement which originally was 5 ha in size, had been abandoned and occupation was practically restricted to the inner citadel and a series of small forts surrounding the settlement to the south and west[18].

In any case, the beginning of El Argar brought about an abrupt termination of beaker as well as all other decorative styles, contrary to the situation observed in other regions of the Iberian Peninsula where the Bell Beaker tradition continued after 2200 cal BCE. Again, the impression is gained that a cancelling of previous elements took place with the emergence of El Argar in southeast Iberia.

In our view, the thorny question about the origins of El Argar requires firstly an analysis of the striking regional diversity of the last Copper Age centuries, *i. e.* a changing Los Millares group, which probably was much less homogeneous than usually considered, and the diverse Copper Age groups surrounding the core area of Los Millares, such as those in Murcia, Granada or Alicante, which show complex links and mixtures between residual Neolithic and megalithic traditions and even influences from contemporary groups of the Guadalquivir area and even more distant regions. Although still far from being completed, such an evaluation of the changes taking place between 2500 and 2200 cal BCE would allow the identification of which early El Argar traits were already crystallizing at the end of the Copper Age, even if in a relatively short time and in particular regions, and which traits can be considered external influences.

Secondly, the archaeological and chronological information now available in Europe and the Mediterranean should allow the reconsideration of the issue of cross-regional relationships from a more solid background than in the 1960's and 1970's[19]. According to the very early levels uncovered at the sites of Gatas and Fuente Álamo, the beginning of El Argar is marked by a series of formal and structural changes. Without going into detail, we would like to set out the problematic of the origins of El Argar by considering four material aspects that make up in very different ways the economic, social and ideological practices of a community, such as dwelling architecture, funerary ritual, exceptional weapons and common tools, some of which are linked to metal production.

One distinctive element is the appearance of *apsidal and/or oval buildings* constructed on terraced hills, with either stone or post and daub walls[20]. These buildings can measure over 10 m in length and were considerably larger in size than the Los Millares round huts. Changes in the settlement patterns and architecture are a recurrent observation in many parts of Europe and the Mediterranean around 2200 cal BCE. In fact, more stable occupations and larger dwellings can be considered as one of the characteristic supra-regional aspects of the following centuries. Usually the new buildings are elongated and rectangular and many present apsidal ends. At the same time, house plans become more uniform over large areas. This is the case of the central and north European "long-house" of the Early Bronze Age, which can measure over 50 m in length and frequently presents an apsidal end[21]. Long apsidal houses are also common in the Balkan area since at least the end of the 4th millennium (*e. g.* Vučedol, Ezero, Sitagroi), whereas rectangular plans are dominant in the Carpathian area (*e. g.* Barca, Feudvar). The sudden appearance of apsidal constructions in Lerna IV (*c.* 2200/2150–2050/2000 cal BCE) was one of the arguments used to suggest the arrival of a new population and language in Greece during the Early Helladic II/III transition around 2200 cal BCE[22], although similar buildings also exist in Early Helladic II settlements such as Thebes or Lefkandi I[23]. Sicily and some of its surrounding islands are another area where similar, though more oval shaped, houses appear at the beginning of the Bronze Age. Further west, one finds apsidal long-houses in the Fontbuisse settlements of southern France, which can be dated into the first two thirds of the 3rd millennium[24]. In fact, this would be the nearest reference for the early El Argar dwellings, given the absence of clear parallels in the Iberian Pe-

[16] Lull et al. in print a.
[17] Zafra et al. 1999; Zafra et al. 2003; Sánchez et al. 2005.
[18] Arribas et al. 1987; Molina et al. 2004; Lull et al. in print a.
[19] *e. g.* Schubart 1973.
[20] Lull 1983; Castro et al. 1999; Pingel 2001.
[21] Nielsen 1999; Nadler 2001.
[22] Caskey 1960.
[23] Forsén 1992.
[24] Guilaine/Escallon 2003.

ninsula during the Copper Age[25]. However, the Fountbuisse settlements and its building tradition were abandoned in southern France on or before 2200 cal BCE. The absence of any other specific Fontbuisse elements in the El Argar materiality also suggests that no link with the appearance of El Argar could have existed here. Rather, the architectural change brought about with the beginning of El Argar should be seen as part of a more general transformation of settlement patterns and organisation of domestic spaces occurring in Europe by the end of the 3rd millennium.

A second distinctive element of the beginning of El Argar is the *intramural burial ritual*. During the first centuries only adults were buried in cists, pits or rock cut tombs as single or double inhumations. Recent investigations have confirmed that intramural burials in pits were already known in southeast Iberia during the final phase of the Copper Age[26]. They represent a marginal funerary practice alongside the characteristic collective burial rite in megaliths and hypogea. Absolute dating of these pit burials would be important in order to determine when this practice appears in the southeast and if a temporal continuity with El Argar can be confirmed. However, the occasional presence of burials in Bell Beaker settlements does not explain by itself why this practice became exclusive after 2200 cal BCE, when all other funerary structures were abandoned. In European prehistory, intramural burial rites had a long tradition in the Balkans and the Carpathian basin, going back to the Early Neolithic[27]. They are also present in the Aegean archaeological groups of the Dodecanese and continental Greece from *c.* 2300 cal BCE onwards, and become a characteristic feature during the Middle Helladic[28]. However, around 2200 cal BCE, funerary remains are rare in most of these regions and intramural burial is only one among a variety of funerary practices. Cists and rock cut tombs are not found in habitation areas. Rather *pithoi* graves are common in the 3rd millennium settlements around the Aegean, while cist graves appear either in inner Anatolia or as part of extramural graveyards, such as Leukas in the Ionian Sea. Thus, it can be said that although El Argar included funerary aspects known in south-eastern Europe in a general sense, their particular combination cannot be traced back to this nor any other part of Europe.

The third diagnostic element in this brief discussion of the beginnings of El Argar is the copper *halberd*, as it represents the first specialised weapon in western and central Europe and accompanied distinguished male burials during the early El Argar. The origin of this weapon has been a recurrent topic in Bronze Age studies and practically all regions where it appears with a certain frequency have been proposed as possible cradles: Ireland, Spain, northern Italy or central Germany[29]. The increasing number of absolute and relative dates for halberds has not helped in reaching any definite agreement, but rather has narrowed the time span of their first appearance in different parts of Europe. Thus, the latest proposal for an Irish origin[30] is questioned by the first direct ^{14}C-date, obtained for the halberd from the burial of Moulough, Co. Sligo[31]. Since the discovery of Tomb 41 in Gatas, containing an adult man with a halberd, a small dagger and a carinated vessel, the introduction of these metal weapons in southeast Iberia at the beginning of El Argar can also be confirmed on stratigraphical grounds. Although further absolute references are needed, the increasingly more accurate chronological framework of the European Bronze Age places the appearance of halberds in Ireland, Britain, Holland, Germany, southern Scandinavia, northern Iberia and south-east Spain around the 22nd century cal BCE[32]. Such synchronism can neither be attributed to pure coincidence, nor in terms of a local transformation of flint halberds into metal equivalents alone. In relation to the discussion about the origin of the halberd as an object associated to a personalised form of male dominance, the symbolic context of these weapons on stelae and rock carvings in northern Italy during the Copper Age cannot be overlooked[33]. The association between a halberd and a silver pectoral in the burial from Villafranca Veronese also points to a symbolically ostentatious as well as socially restricted use of this weapon during the late Copper Age period of northern Italy. In general, the available chronological and spatial information seems to suggest that the production of metal halberds spread in few generations throughout Central and Western Europe during the 22nd and early 21st centuries cal BCE. At least its specific political and social meaning in the context of an emerging dominant class of male

[25] *e. g.* Rojo et al. 2005.
[26] For a summary of the evidence, see Delgado-Raack 2008, 597–598.
[27] *e. g.* Lichter 2001.
[28] Forsén 1992, 237–240.
[29] Barfield 1969; Delibes de Castro et al. 1999, 33 ff.; Schuhmacher 2002.
[30] Schuhmacher 2002.
[31] Schuhmacher proposed to date the later Irish halberds of the Breaghwy Type between 2200–2050 cal BCE, based on Needham's British sequence (Needham 1996). Consequently an earlier development of the Carn, Clonard and Cotton types seemed logical. Yet, after the dating of the bone remains from Moulough (GrA-14775: 3610 ± 40 BP) this argument is no longer necessary (Brindley 2001). Including the two reference dates from typologically related contexts (OxA-4559: 3665 ± 75 BP and HAR-5664: 3450 ± 70 BP), the Breaghwy Type halberd can be placed between 2050–1750 cal BCE, specially if we take into account that the oldest date was obtained from a charcoal sample. Consequently, the earlier Irish types must not necessarily be older than 2200 cal BCE.
[32] Fokkens 2001; Krause 1999; Delibes de Castro et al. 1999, 40.
[33] Barfield 1969; Barfield/Chippindale 1997.

warriors, as we find in early El Argar, seems to arise in the southern Alpine area.

The beginning of El Argar also implied a marked change in the economic structure and the introduction of a new set of *means of production*[34]. Casting moulds, anvils (sometimes called 'cushion stones'), grooved hammers ('mining hammers'), polishers with a central groove ('arrow shaft straighteners') or long and narrow grinding stones operated with wooden *manos* or grinders are some of the tools that appear in southeast Spain by the end of the 2nd millennium BCE. Slightly earlier, probably in a late Beaker moment (*c.* 2350 cal BCE), small, perforated or un-perforated plaques, apparently used for sharpening metal (the so-called archer's wristguards), and metal working axe-shaped hammers were introduced. Although these tools have not been systematically published in Europe and our knowledge about their spatial and temporal development is still limited, it seems clear that these technical innovations were also introduced in different parts of Europe around the same time. In the Balkans and the Carpathian basin, the set comprised of grooved polishers, moulds, cushion stones/hammers and narrow plaques became known during the 3rd millennium BC, when a new metallurgical phase started after the productive decline of the 4th millennium cal BC. The systematic recording of the macrolithic artefacts found in Lerna[35] has shown that stone moulds, polishers with a central groove, small perforated and unperforated plaques and perforated stone axes or axe-hammers appear for the first time in phase IV, in association with the above mentioned apsidal houses dated to the Early Helladic III (*c.* 2200/2150–2050/2000 cal BCE). This chronology is also suggested by other finds both in mainland Greece and Crete. Not only the perforated axes[36], but also the other artefacts suggest a certain northern influence on the technological and economic conditions of the southern Aegean. The same set of tools is also introduced at a still poorly defined moment of the second half of the 3rd millennium cal BCE in the central Mediterranean, first in northern and central Italy and probably after 2200 cal BCE in the south, as well as in Sicily and the Eolian Islands[37].

It is probably not a coincidence that many of these new tool types were related to metalworking, especially to casting, forging and polishing/sharpening processes. With the processing of sulphide ores, rather than oxides or native copper, and the consequent working of a more resistant copper (*e. g.* copper-arsenic alloys), casting, as well as forging and polishing gained importance in the metallurgical work process, and required specific tools such as moulds, anvils, hammers and whetstones. The presence of these artefacts in certain male burials underlines the social and economic value of these labour instruments and/or the implied productive activities in a context of dramatic social and economic change[38]. These changes fall within a time of increased interaction with the circumpontic societies, although the nature of these relations still continues to be a puzzling issue[39].

It is also worth considering the social and economic importance of the socketed axe, another characteristic object of the Vučedol and Makó-Kosihy-Caka groups. It represents the first European metal artefact cast in moulds and the heaviest metal artefact category of the time. This complex and materially costly production stands for what can be considered the first specialised weapon in eastern Europe, an artefact which is closely linked to distinctive male burials (*e. g.* Mala Gruda, Montenegro). The spatial distribution of its casting moulds shows that these axes were produced between *c.* 2300–2150 as far West as Trentino and Salzburg[40], an area well known for its metal ores, but where an apparently equivalent weapon, the halberd, was already used in a similar social and political manner, as its association with other elements on stelae and rock engravings suggests[41]. The fact that the new casting technology, but not the socketed axe, expanded further west would suggest that here the halberd was considered of superior military and/or esthetic value.

In short, apsidal buildings, intramural burial rites, the use of halberds as weapons and the development of new (metallurgical) tools and techniques are a combination of traits appearing in certain regions of south-eastern and Central Europe. Most are distinctive – although not exclusive – features of the (late) Vučedol sphere, including the Ljubljana group in Slovenia and the early Cetina group in Dalmatia[42]. Different authors consider that precisely these groups enter a phase of expansion in the late 3rd millennium towards northern Italy and the Alps, as well as the Aegean, the Adriatic and southern Italy[43]. Also to the north of the late Vučedol *Kulturkreis* lies the related Makó-Kosihy-Caka complex, which extends from Crisna and

[34] Risch 2002, 107–109.
[35] Banks 1967.
[36] Maran 1998, 286–288.
[37] For references and details, see Risch 1995, 158–231; Risch 2002, 107–109.
[38] Bátora 2002; Bertemes 2004; Delgado-Raack/Risch 2006; Armbruster 2006.
[39] For a discussion of different aspects see, *e. g.* Parzinger 1993; Häusler 1996; Häusler 1998; Kaiser 2005; Harrison/Heyd 2007.
[40] Hundt 1982; Cupitó 2000.
[41] The interpretation of the socketed axe as an exclusive weapon and its substitution by the halberd towards the West in more recent times has also been argued by Maran (2008).
[42] Durman 1988.
[43] Maran 1998; Peroni 1996, 114–123; Boaro 2005.

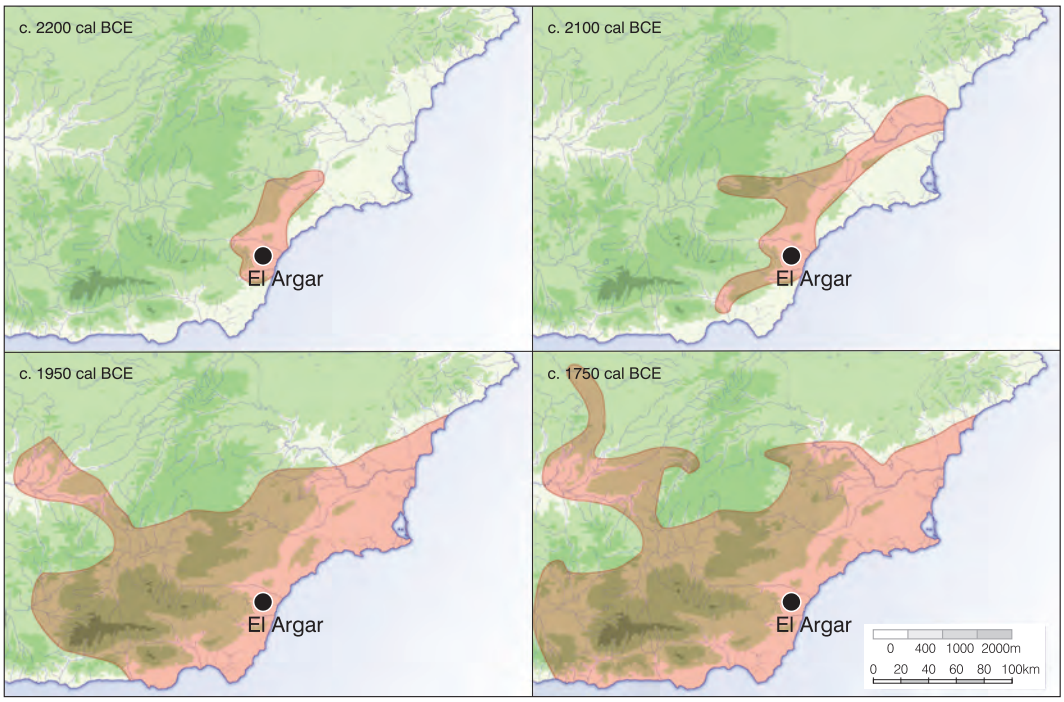


Fig. 3. Simulation of El Argar expansion according to ^{14}C-dates and relative chronological indicators.

the Tisza area in the east to Moravia in the west, and has been proposed as the origin of the (proto-) Aunjetitz culture[44].

Although this brief discussion of four distinguished economic, political and symbolic traits of El Argar in the European and Mediterranean context reveals substantial changes by 2200 cal BCE, the *events* taking place in southeast Iberia were particular. The early Argaric pottery shapes can best be derived from local Copper Age groups, arsenical copper was worked since at least the beginnings of the 3rd millennium, and individual burial practices had already spread during the late Beaker phase[45]. For these reasons it seems premature to sustain a new allochthonous hypothesis, even if the beginnings and development of El Argar played an important role in far reaching social and economic transformations taking place in different parts of Europe between roughly 2200 and 1500 BCE.

2.2 The expansion of El Argar

The expansive character of the new power structures established in southeast Iberia around 2200 cal BCE becomes visible when the chronological dates are spatially represented, and actually gives support to an idea suggested long ago[46]. Although the appearance of El Argar is not sufficiently well dated in many regions, the available absolute dates and relative/typological indicators suggest that the earliest Argaric hill settlements appeared in the Vera basin (northeast Almería) and the Guadalentín valley (southwest Murcia). Starting from this 'core area', the lower Segura valley towards the northeast, the Orce valley towards the northwest and probably also the Andarax valley towards the southwest were occupied during the following decades by Argaric communities with their distinctive domestic and funerary architecture (**Fig. 3**). By 1950 cal BCE, most of southeast Iberia had become part of the El Argar territory: from Alicante to the east to Granada to the west and Jaén to the north.

During the next 400 years a strong internal economic and social development took place. This ultimately led to a political structure with characteristic features of what we would consider a state organization, as we will discuss below. At this time, El Argar reached its maximum territorial expansion (**Fig. 3**). The hill settlement of La Encantada in La Mancha (Ciudad Real province) is particularly interesting, as intramural burials with characteristic Argaric grave goods appear in its late occupation phase[47]. Also, at the site of Cerro de las Víboras in northwest Murcia, one has the impression that Argaric elements, including the centrally placed cist grave with an adult male holding a sword[48], are being imposed on an alien environment. In Alicante, the spatial distinction between Argaric settlements and those belonging to the so-called *Bronce Valenciano* has allowed the establishment of a border line between the two groups along the northern side of the Segura

[44] Bertemes/Heyd 2002.
[45] Lull 1983.
[46] Bosch Gimpera 1932; Lull 1983.
[47] Sanz/Sánchez Meseguer 1988.
[48] Eiroa 1996.

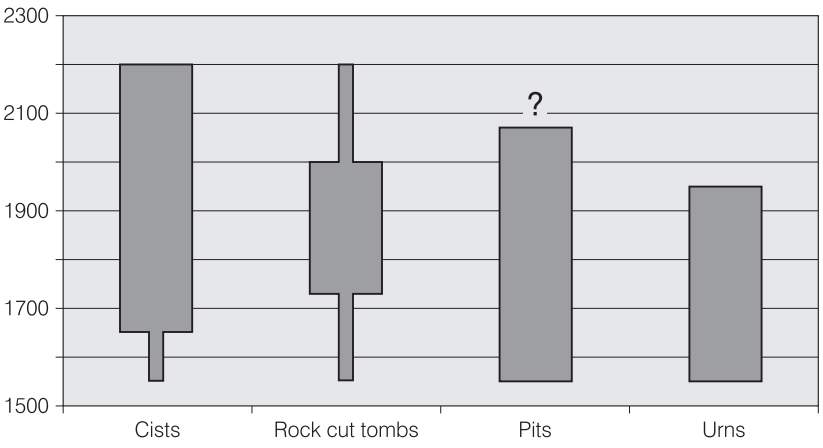


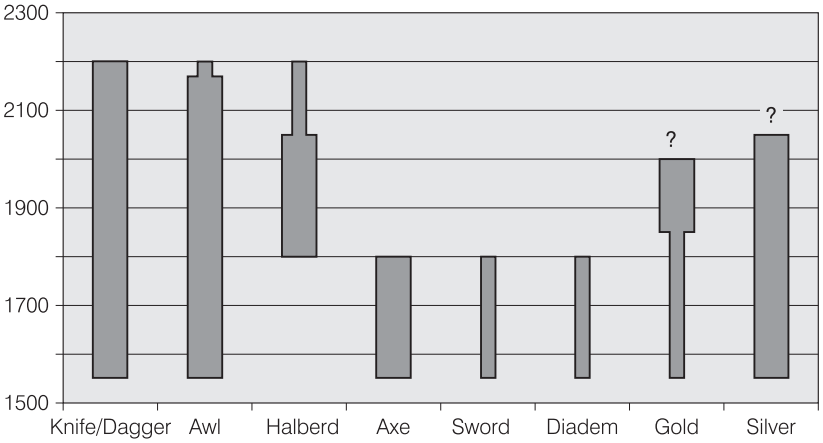
Fig. 4. Dating of the four Argaric funerary structures according to absolute dates (thick bars) and stratigraphic criteria (narrow bars).

valley[49]. The development of other Early Bronze Age societies in the Levante region, the Mancha and the Guadalquivir seems to have limited a further expansion of the Argaric culture. However, the presence of objects, particularly metal ornaments and weapons, from El Argar or which were influenced by it in these regions points towards a core-periphery relationship. By contrast, these contacts or influences are not visible in a reciprocal fashion. Argaric dominance is expressed not only by the discontinuation of Chalcolithic *symbolic paraphernalia* but also by the exclusion of formal or material elements from areas beyond its territory.

2.3 Changes in the El Argar archaeological record

One of the most distinctive aspects of El Argar is its standardised material expression. A limited set of pottery, metal and stone types and a strict funerary ritual distinguishes the Southeast from the rest of the Iberian Peninsula. The imposition of normative principles that implied the exclusion of subjective expressions in such a vast territory, is the first hint for the imposition of a political control based upon supra-regional principles.

Fig. 5. Dating of the Argaric metal grave goods according to absolute ^{14}C-dates (thick bars) and stratigraphic or typological criteria (narrow bars).



[49] Jover Maestre/López 2004.

During the nearly 700 years of El Argar, some elements underwent specific changes. This has been used to divide the Argaric archaeological record into phases: Argar A and B[50]. This scheme was questioned as a result of typological and statistical analyses carried out by Lull[51]. Morover, the stratigraphic information obtained during the last decades and the mentioned radiometric dating programme of closed contexts now allows us to sketch a more detailed picture of the transformation of the 'Argaric norm'[52].

Argaric graves include one, sometimes two, and exceptionally even more, individuals inside four main types of funerary structures: cists (usually built with large stone slabs), pottery urns or *pithoi*, pits, and the so-called *covachas* (artificial caves cut into the bedrock). The first documented intramural graves in southeast Iberia are cists and *covachas* (**Fig. 4**). Pits were probably used only slightly later, while the first *pithoi* appeared around 1950 cal BCE. All of these structures lasted until the end of El Argar with the exception of the rock cut tombs, which went out of fashion towards the end of the 18th century BC in the core area of El Argar.

Slightly more dynamic were the grave goods placed in some of the burials (**Fig. 2**). Daggers or knifes and carinated bowls (form 5) were always present in both male and female graves (**Fig. 5–6**). Awls are also a common item throughout the whole El Argar period, and are strictly related to female skeletons. On the contrary, halberds, long daggers or short swords are exclusively male items during the first Argaric centuries. By the end of the 19th century, these weapons disappear from rich male tombs and were substituted by proper swords. The large carinated vessels (form 6) can be found associated with rich graves of both sexes, but only until the 18th century. No absolute dates are available yet for the rich graves of females wearing a silver diadem, but their funerary associations allow the establishment of not only their contemporaneity, but also of their social link with the sword carrying males, as shown by the well known tomb 9 of Fuente Alamo.

While a part of the female burials kept the awl and knife association, around 1800 cal BCE, a distinctive group of male burials was furnished with axes in association to the traditional dagger. Also the ceramic offerings seem to change gradually between *c.* 1850–1750 cal BCE and become slightly more varied, with the appearance of closed bowls (form 2), small globular pots (forms 3 and 4) and the characteristic chalice shaped vessels (form 7) (**Fig. 6**).

[50] Blance 1971.
[51] Lull 1983.
[52] For the first results, see Castro et al. 1993/94; Castro et al. 1998b; Lull 2000.

Gold and silver bracelets, rings and earrings, which are also distinctive items of rich graves, are dated from at least *c.* 2050 cal BCE to the end of El Argar. Silver ornaments in particular have frequently been considered a characteristic feature of El Argar. They became more frequent and appeared in greater numbers in later graves. This increase is related to some extent to the extension of intramural burial rights to children after *c.* 1950 cal BCE, when silver ornaments became a regular feature of rich child graves.

Taking these aspects into account, at least three phases can be distinguished (**Table 1**). While the early and late phases are defined by closed funerary rules, during the 200 year-long intermediate period, earlier items coexisted with later ones and gradually became replaced by them. Through time, the funerary rights were extended to larger parts of the population and gained some nuances through the inclusion of a larger set of items. These changes are more visible in male graves with the emergence of new weapons and help to determine clearer social distinctions inside Argaric society. Between 1950 and 1750 cal BCE mortuary practices were redefined in order to underline the growing differences between poor graves and a group of female and males buried with certain metal items. In this sense, the inclusion of diadems and other silver or gold ornaments and the sharp contrast between tombs with swords as opposed to axes introduces a further funerary differentiation, which separates a small group of male, female and infant burials from the rest of society. This division of late Argaric society into three socio-economic classes is also supported by the statistical analysis of the mortuary record, as we will discuss below.

The division of the funerary temporality into three phases can now also be checked against the stratigraphic information provided by Fuente Álamo and Gatas. So far, these are the only excavated settlements with a continuous occupation from *c.* 2200 to 1550 cal BCE[53]. A series of occupation horizons or phases based upon the succession of buildings and destruction events has been established at both sites. Although in Fuente Álamo, almost all ^{14}C-dates come from charcoal samples, some of which seem to be re-deposited, a careful reading of these series combined with typological criteria allows the correlation of Fuente Álamo I and II with Gatas II (*c.* 2200–1950/1850 cal BCE), Fuente Álamo III with Gatas III (*c.* 1950/1850–1750 cal BCE) and Fuente Álamo IV with Gatas IV (*c.* 1750–1600/1550 cal BCE).

The investigation of the economic organisation at both hill settlements has provided abundant evidence of a marked increase in production, storage capacity, as well as size and monumentality of the buildings beginning in the phase Gatas/Fuente Álamo III and reaching its maximum level in Gatas/Fuente Álamo IV[54]. Beyond these sites, the

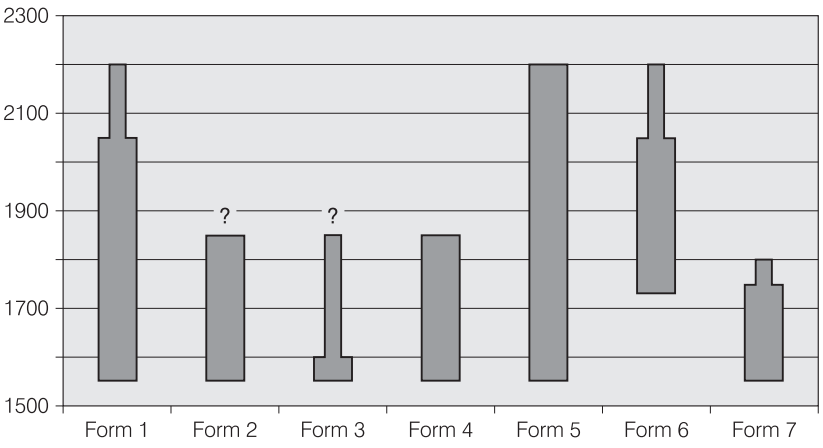


Fig. 6. Dating of the Argaric ceramic grave goods according to absolute ^{14}C-dates (thick bars) and stratigraphic or typological criteria (narrow bars).

	Continuous features	Specific features
Argar I **c. 2200–1950**	Adult burial (male and female) Cist Pit Knife/Dagger Awl Metal ornaments Gold/Silver (?) Forms 1 and 5	Exclusion of children Covacha Short sword Halberd Form 6 V-perforated buttons
Argar II c. 1950–1750		Child burial *Covacha* Urn Halberd Sword (transition) Diadem Axe Forms 2, 3, 4, Form 6 Form 7 V-perforated buttons
Argar III **c. 1750–1550**		Child burial Urn *Covacha* (interior region) Long sword Diadem Axe Form 2, 3, 4 Form 7

Table 1. Elements of continuity and change in the Argaric funerary record.

[53] Castro et al. 1999; Schubart et al. 2001; Schuhmacher/Schubart 2003.

[54] Castro et al. 1999; Risch 1995; Risch 2002; Schuhmacher/Schubart 2003.

increase in the number of settlements dating to the last two phases is a further indication of the intense demographic and economic growth taking place after 1950 cal BCE, when the main expansion phase of El Argar had already concluded. Consequently, the chronological scheme outlined so far allows the conclusion that the ideology of this society was not only ruled by strict funerary practices, but that it also responded and eventually changed them in response to the development of production forces and relationships. Funerary rituals do not seem to have provided just a symbolically arbitrary background. Rather, they underlined and thereby legitimated the social position of certain social groups. When a more complex economic organisation was established in the hill settlements and the territories under their domain, this funerary system was conveniently adjusted in order to clarify new distances and barriers imposed on the community. If this dialectical interpretation is correct, the changes observed in the funerary record also imply that a development towards increased surplus production and greater social exploitation occurred gradually over *c.* 200 years, between 1950–1750 cal BCE. In the next two chapters, we will try to describe how this process led to the rise of the first state-like organisation of the western Mediterranean.

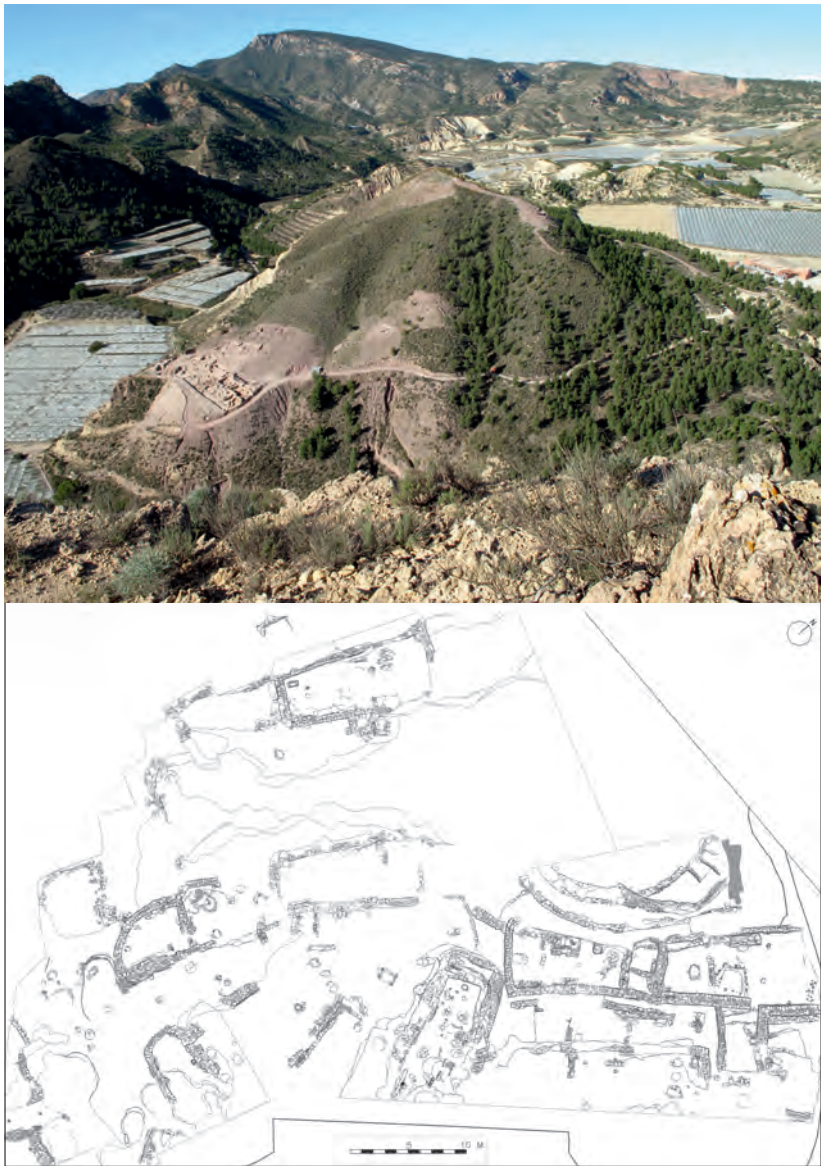


Fig. 7. The hill settlement of La Bastida (photo and plan V. Lull/R. Micó/C. Rihuete Herrada/R. Risch).

3 El Argar: A *Vertical* Production System

3.1 Settlement structure

Most of Copper Age settlements were burned down and abandoned by the end of the 23rd century cal BCE. A few of them were reconstructed following completely different principles and new population centres were regularly founded on hilltops. These settlements are commonly placed on the edges of mountain ranges and overlook a large area of flat land and river valleys (**Fig. 7**). According to surface finds, the inhabited area varies from 1 to 3 ha, although at least two settlements in the Guadalentín valley (Lorca and La Bastida) have a larger size (>4 ha). Many of these geographic locations do not have a great potential of arable land in their immediate surroundings, nor are they close to metal ores or any other relevant source of raw materials[55]. In some cases, such as La Bastida or Fuente Álamo, the marginality with respect to agricultural resources is striking[56]. Rather than economically oriented, the reasons behind the specific locations of central hill settlements seem to have been political and favoured defensive/strategic potential and a certain distance from Quaternary valleys and communication routes – areas that had been densely inhabited during the previous Copper Age. Certainly, Los Millares and El Argar were also distinct from each other in a geographical sense.

Moreover, large Argaric centres were not at all protected by more or less complex fortification systems. Their internal organisation was structured around a succession of terraces, which allowed the construction of a dense pattern of square or rectangular buildings on the steep hill slopes[57]. Their size is highly variable, suggesting different functions. Large dwellings can measure up to 6.5 m wide and 13 m long, with an internal size of 50–60 m^2 (**Fig. 7**). Building elements suggest that some of these constructions could have been two storied. As we will discuss later, the massive concentration of means of production in some of these spaces shows that these buildings played a key role in the Argaric economic organisation.

[55] *e. g.* Gilman/Thornes 1985; Castro et al. 1994a; Risch 1995.
[56] Martínez Santa-Olalla et al. 1947, 17; Risch 2002, 70.
[57] Lull 1983.

More monumental buildings have been occasionally preserved on the upper parts of the hills. Particularly imposing are the tower like structures of Fuente Álamo III and IV and Cerro de la Encina. The first must have been multistory buildings with walls over 2 m thick and a square ground plan, the largest measuring 9.5 m by 7.4 m[58]. The enclosure of Cerro de la Encina has a roughly trapezoidal groundplan with an apsidal end and measures 20 m by 14 m[59]. Another type of construction identified in many settlements are large oval shaped structures with stone walls dug into the ground. Certain architectonical elements suggest that they were roofed or covered with some light structure[60]. They are mostly interpreted as water reservoirs, although a function as storage buildings, *e. g.* for grain, cannot yet be ruled out.

Apart from these large centres, a considerable number of hill settlements are characterised by a much smaller size (< 0.5 ha) and hence, population. Some of them could have been fortified (*e. g.* Barranco de la Viuda in Murcia). Because of these size differences they have been interpreted as satellite settlements, economic outposts or fortresses related to the larger centres[61].

Rescue excavations and systematic surveys carried out during the last decades have started to provide information about the occupation of the plains and valleys (**Fig. 8**). These lowland settlements are formed by single or few dwellings scattered loosely along the river beds and lack any defensive structures (*e. g.* El Rincón de Almendricos, Los Cipreses and Loma del Tio Ginés in Murcia)[62]. Such a position on Quaternary sediments provides direct access to excellent agricultural land, but is also exposed to erosion and sedimentation processes, as well as modern terracing. In fact, one of these sites, El Rincón de Almedricos, was destroyed by river flooding[63]. Expectedly, their number must have been much larger than what is known from a few systematic surveys and chance finds. None of these small sites show evidence of a previous Copper Age occupation, when communities preferred to settle on terraces above the river valleys. The number of burials found in lowland hamlets is limited in comparison to larger hill sites. This would mean lower population numbers and a likely shorter occupation span. It can also be anticipated that so far no interments have been found in the lowlands with long sword, gold ornaments, diadems or, in general, rich grave goods of late El Argar.

Therefore, there was an inverse relationship between settlement size and agricultural potential. In other words, the more populated and larger settlements were surrounded by less arable land. This pattern is highly significant when considering mid and recent Quaternary meadow lands which are situated closest to alluvial aquifers and so have the highest levels of relative humidity (**Fig. 9**). This would suggest that the economic organisation of both types of communities must have been different. A possible explanation for this pattern might be that communities scattered in the lowlands supplied the central villages with agricultural products.

3.2 Subsistence production

Most of the data on El Argar economic organisation comes from the excavation of sites located in defensive positions. During the last decades a series

Fig. 8. The lowland settlement of Almendricos (photo R. Risch; plan modified after Ayala 1991, 97).

[58] Schubart et al. 2001.
[59] Arribas et al. 1974.
[60] Schubart/Pingel 1995; Siret/Siret 1890; Soler 2006; Moreno et al. 2008.
[61] Lull 1983; Jover Maestre/López 2004; Delgado-Raack 2008, 597–608.
[62] Mathers 1986; Ayala 1991; Castro et al. 1994a; Martínez Sánchez 1994.
[63] Ayala 1991.

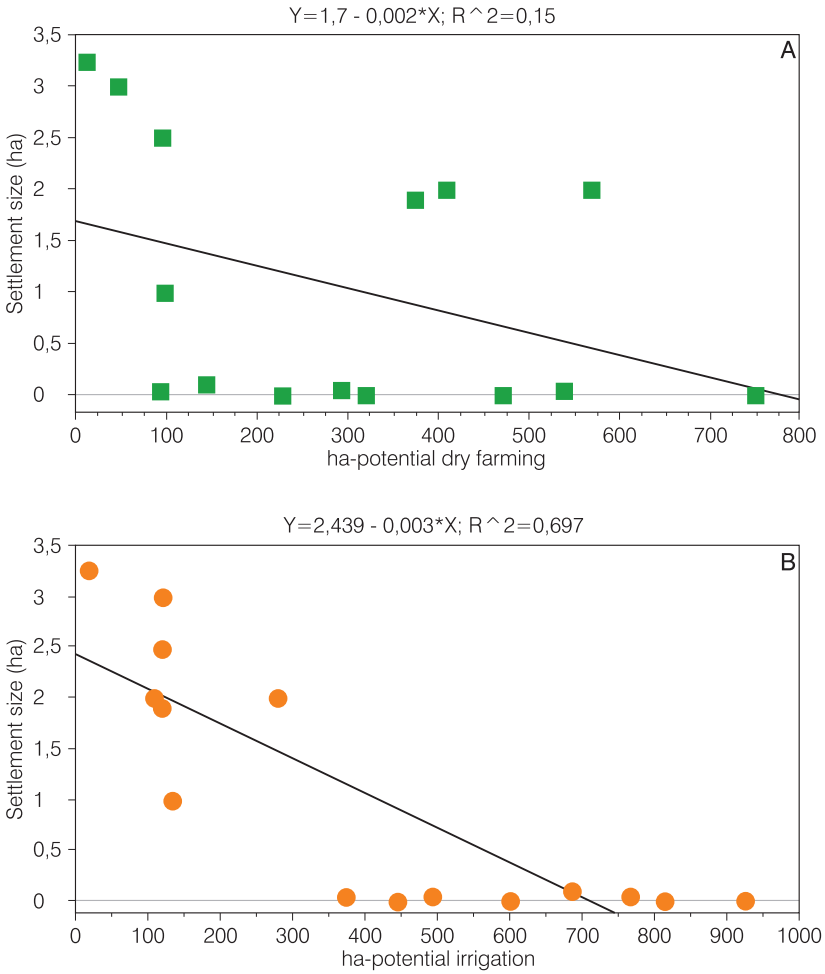


Fig. 9. Regression plots between site size and farming potential – dry (A) and wet (B) – within a 2 km radius of Argaric sites in the Vera basin (after Risch 1995, 558).

of faunal and botanical analysis have been published which allow a general picture of food production. Following the results of the systematic carpological studies, all the hill settlements – independent of their position in the arid costal regions of Almería or the slightly wetter interior regions of Granada and Jaén – are characterised by the absolute dominance of barley over all other vegetable species, representing usually around 90 % of the samples[64]. The stratigraphic sequence and systematic sampling in Gatas has shown that this pattern becomes more marked during the final centuries of the Argaric development[65]. Wheat is also found in most of the settlements, but only represents between 1 % and 9 % of the cultivated species, except in Cerro de la Virgen and Castellón Alto (Granada), where barley and wheat show an inverse relationship[66]. Pulses (*Vicia*, *Lens* and *Pisum*) generally represent less than 2 % of the findings. Flax seeds are recorded, as well as olives, grape and figs, although there is no consensus yet about whether these fruits were cultivated or not[67].

The predominance of barley has led to suggest that Argaric agriculture became an extensive monoculture towards the final phase of its development[68]. Both the small size of seeds as well as isotopic analyses strongly support the idea of a dry farming economy on the marls of Tertiary basins[69]. Pulses and also flax would have grown in more humid plots favoured either by natural flooding or by a limited infrastructure for occasional irrigation.

Monoculture has the risks inherent to any strategy lacking biological diversity (plagues and soil exhaustion), but barley is a species adapted to arid land and can be grown in soils with medium to low fertility[70]. Its low and variable yields would not have been a problem as long as there was sufficient labour force and land available. Deforestation and land clearance in order to create the necessary agricultural land would explain the massive presence of *maquia* species among the charcoal record of the last Argaric phase of Gatas[71]. Moreover, the identification of halophytic plants, such as *Salsola*, *Atriplex* or other Chenopodiaceae suggests that some soils were already undergoing the problems of aridity induced by salinization[72]. Finally, the long-term degradation caused by these strategies seems to become visible in the exploitation of poorer quality and less variable wood species during the post-Argaric period[73]. The consequences of an excessive consumption of barley for the health of the late Argaric population must equally be taken into account, as this cereal is usually considered of less nutritional value than others, given its high fibre content. Signs of malnutrition and anemia are particularly frequent in skeletal material of the last Argaric phase; at the same time infant mortality reached its peak[74].

However, in the two lowland settlements for which seed analyses are available (El Rincón de Almendricos and Loma del Tio Ginés, Murcia) a different pattern arises[75]. Here the proportion of pulses in relation to cereals is significantly higher than in hilltop sites and also a greater variety of legumes can be found. These species are more demanding, not only in terms of water requirements, suggesting a cultivation close to the more humid Quaternary flood plains, but also in terms of labour force, which usually implies a close spatial relation between settlements and plots. Such a garden cultivation would be coherent with the

[64] Stika 1988; Stika 2001; Hopf 1991; Clapham et al. 1994; Clapham et al. 1999; Buxó 1997; Castro et al. 1999; Peña Chocarro 2000.
[65] Castro et al. 1999.
[66] Buxó 1997, 207–210; Rovira 2007, 282.
[67] Buxó/Piqué 2008, 48–51; 162–163.
[68] Ruiz Parra et al. 1992.
[69] Hopf 1991, 400; Stika 1988, 34–36; Araus et al. 1997.
[70] Wilson/Witcombe 1985, 36.
[71] Castro et al. 1998a, 81; Castro et al. 1999, 185–187.
[72] Schoch/Schweingruber 1982; Stika 1988; Carrión Marco 2004.
[73] Castro et al. 1998a; Castro et al. 1999.
[74] Buikstra et al. 1990; Kunter 1990; Castro et al. 1995; Buikstra et al. 1999; Robledo/Trancho 2003.
[75] Ayala 1991; Martínez Sánchez 1994.

scattered settlement system observed in the lowlands.

If this interpretation is correct, the differences between large centres on protected positions and hamlets in the valleys would not only concern their agricultural potentials, but also the stored and processed crops. While the main cultivation area must have spread over the lowlands, the large hill settlements accumulated the cereal yields obtained from extensive dry farming.

As far as other food resources are concerned, both hunting and sea food played less importance in the Argaric hill settlements than in any other prehistoric time. Instead, husbandry followed a rather uniform pattern in the hill settlements of the whole Argaric territory. Cattle and sheep/goats, according to their bone weight, had a similar importance (30–50 %), while pigs and, especially, horses, seem to have played a minor role in the meat supply[76]. The stratigraphic sequence of Gatas confirms that husbandry also increased significantly during the final phase and might have led to further environmental degradation[77].

A differential distribution of specific subsistence goods has been suggested for some settlements. At Cerro de la Encina large quantities of horse bones were found in a particular area inside the aforementioned large bastion which stood on the summit of the hill[78]. Also, in Peñalosa (Jaén), horse bones were more abundant on the high terraces than in the lower ones[79]. Finally, in Gatas faunal remains and sea molluscs were nearly five times more abundant in the higher slopes than in the lower terraces[80]. Such additional protein sources would have been a key nutritional complement to a diet based on barley flour.

In the lower Aguas Valley, a paleo-agrarian analysis based on the spatial modelling through GIS of demographical, botanical and ecological variables has been carried out in order to identify long term trends of land-use strategies and their environmental consequences[81]. In this area, nearly 2,150 ha of high grade and middle quality land are available (Land Quality 1, 2 and 3), and another 750 ha only suited for extensive agriculture on Tertiary plains (Q4), which in modern times often means one harvest every four to ten years (**Fig. 10**). Beyond this threshold, agriculture becomes extremely marginal and inefficient. The simulation shows that in only four historical periods was agriculture extended into low quality land: the final El Argar, the Roman Empire, the Omeyan Caliphate and contemporary capitalism. At least in the three historical cases, we know that land tenure was markedly unequal and labour force was under a high degree of exploitation. In the case of El Argar, the exploitation of Tertiary plains probably had the most important environmental consequences, as the original *maquia* vegetation was deforested for the first time on these soils and never seemed to recover again. The environmental degradation caused by this economic and political system apparently had long term effects for the region, until a new phase of large-scale investment in technology and labour was started.

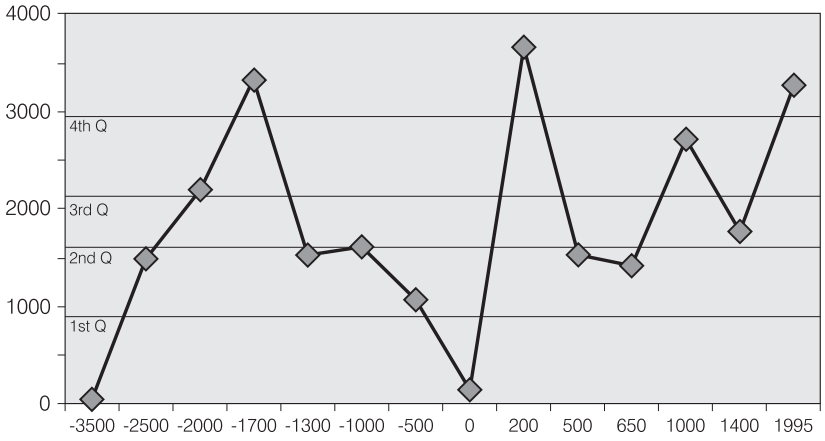


Fig. 10. Agricultural territories (in ha) during the last 5,500 years and productive thresholds (Q) in the lower Aguas valley, Almería (modified after Castro et al. 1998a, 75).

3.3 Means of production

Geoarchaeological surveys and petrographic analysis of stone tools and pottery show a number of economic territories controlled by central settlements[82]. Large quantities of clasts were carried over a distance of several kilometres from the Quaternary deposits of the main river basins to the upland settlements. As a result of which, the territories of rock exploitation overlapped with the agricultural ones.

In comparison to the Copper Age, during El Argar there was a decrease in the use of non-local raw materials and, thus, also a decrease in transport costs. Vesicular basalts from the few volcanic formations in southeast Iberia, for example, whose material properties are particularly well suited for cereal grinding[83], only circulated over short distances or in small quantities. Restrictions on the distribution or exchange of most raw materials are clear if we compare southeast Iberia with the widespread circulation of andesites from the island of Aegina in Bronze Age Greece (**Fig. 11**). The strategy adopted in El Argar led to significant

[76] For a general overview and references, see Castro et al. 1999, 182–193; Risch 2002, 246; 253–256.
[77] See also Carrión García et al. 2003.
[78] Friesch 1987, 107.
[79] Sanz/Morales 2000.
[80] Castro et al. 1999, 189.
[81] Castro et al. 1998a.
[82] Risch 1995; Risch 2002; Castro et al. 1999; Carrión Méndez 2000; Delgado-Raack 2008.
[83] Delgado-Raack et al. 2009.

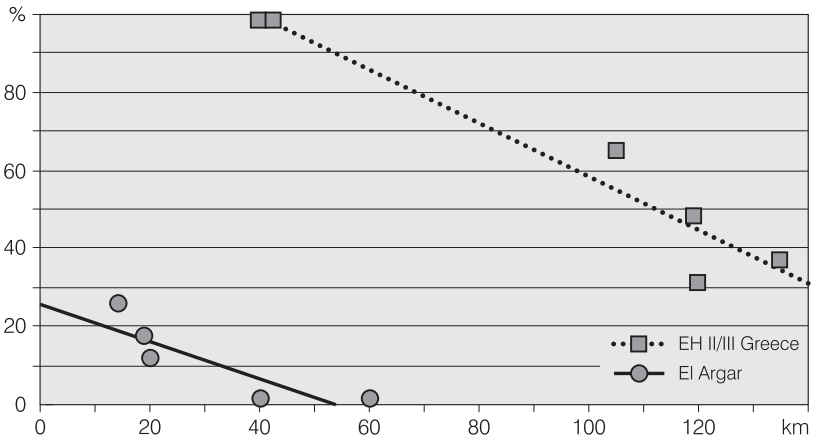


Fig. 11. Distribution of andesite grinding slabs during the Early Helladic II/III in Greece and El Argar, based on the percentage of andesite artefacts among the grinding slab samples of each region (after Risch 1995, 249).

differences between neighbouring settlements and territories in the quality of the means of production and hence in productivity.

Basically, most central settlements engaged in a specialised exploitation of those resources available within a territory of 100–500 km^2. The greater part of the lithic resources came from the larger river basins, situated at a distance of several kilometres from the hill settlements and in the same area occupied by agricultural territories. The supply of hill settlements with raw materials, especially grinding slabs, and the provision of barley must have implied remarkable efforts for part of the population, especially those living in the same economic territories, *i. e.* the scattered dwellings of the lowlands.

The only material(s) with an exception to this economic organisation in consolidated territorial units under the control of single hill settlements was metal and, possibly, flint, *i. e.* the raw materials used in the production of cutting and perforating tools. So far, barely any evidence of flint knapping or of metal ore smelting has been found on the large hill sites. Again, this situation is very different from the Copper Age, when most sites have provided evidence of both activities. Deposits containing dozens of fresh sickle elements have been found both in El Argar and Fuente Álamo[84]. It is imaginable that these sickle elements served to replace exhausted ones. Moreover, use wear analyses have shown that most of the flint objects from Argaric levels were sickle blades for harvesting or threshing, while the working of other materials using flint is hardly documented[85]. Therefore, the control of flint also implied the control over agricultural practices. One is tempted to interpret the marked exhaustion shown by many sickle elements after successive re-flaking and rounding of the edges as a result of this restricted access to flint.

[84] Gibaja 2002.
[85] Clemente et al. 1999; Gibaja 2002.

With regard to metal, the first lead isotopic data question that ores were necessarily coming from copper and silver deposits of coastal ranges[86]. Recent excavations at the fortified hillsite of Peñalosa (Jaén) have revealed that the main mining area in the El Argar territory was probably situated inland, in the eastern part of Sierra Morena, near the classic mining places of La Carolina-Linares[87]. Taking into account all available evidence, it seems that metal production and distribution was organised on a large territorial scale with different work processes carried out at different sites, which will be discussed in greater detail below.

Most of the rich data on Argaric metal production comes from funerary contexts, while deposits or hoards are unknown in southeast Iberia. Moreover, wear traces on bone, stone and shell show that knifes and awls were common working tools. Systematic studies of macro-lithic tools suggest that metal forging, polishing and sharpening was carried out in hill settlements, while evidence for smelting is absent and melting in crucibles and casting in moulds occurs only in a few places[88]. Systematic excavations at Gatas show that only 8 % of the Argaric metal (per weight), came from the settlement layers[89], while during the previous Copper Age, a third of all the known metal was recovered in settlements[90]. This depositional pattern is a cautionary tale for archaeologists when interpreting the scarcity of metal in domestic contexts.

Stone and bone tools became less elaborate, but more specialised in Argaric times. New tool types appeared during the second half of the 3rd millennium, many of which are related to both manufacture and the maintenance of metal instruments (anvils, specialized hammers, moulds, grooved polishers and perforated or plain sharpening plaques). The importance of forging tools is supported by metallographic analyses[91]. In comparison to the Copper Age, cold forging and annealing increased from 30 % to 75 % in the Argaric period complex. In this way, a more homogeneous metal was made which gave the tools, weapons and ornaments a greater hardness and durability. Also, the manufacture of silver and gold sheet required intensive hammering.

Another important novelty of El Argar is the use of long and narrow grinding slabs with a slight convexity in the transverse section of the active surface, which were used with wooden grinders or *manos,* as experimental tests and use wear analy-

[86] Stos-Gale et al. 1999; Müller 2008.
[87] Contreras 2000.
[88] Delgado-Raack/Risch 2008; Lull et al. in print b.
[89] Castro et al. 1999.
[90] Montero 1994, 209.
[91] Montero 1994; Rovira/Gómez Ramos 2003, 159–174.

sis suggest[92]. This technological innovation affords a higher efficiency in cereal processing operations, particularly in the case of hulled barley which is the dominant species in the hill settlements.

The processing and manufacture of flax and sparto grass fibres must have constituted a strategic sector of El Argar economy as well, although its archaeological traces are much less visible. Flax was the basic raw material for the production of textiles, which have been found in graves. Sparto grass was transformed into strings and ropes that could then be used as such (*e. g.* as building material), clothing material (*e. g.* shoes) and containers (*e. g.* baskets).

The marked increase in the volume of means of production is another distinctive feature of El Argar. Different calculations based on published data, surface counts in settlements and systematic excavation show that stone tools (grinding slabs, polishers, hammerstones, etc.) and, consequently the tasks carried out with them, rose at least 300 % between the Copper Age and El Argar[93]. Detailed stratigraphic records of Gatas and Fuente Álamo demonstrate that this increase in technical devices, and particularly grinding tools, occurred after 1950 cal BCE (**Fig. 12**). In the case of Gatas, it has been possible to determine this increase in relation to a relatively independent measurement index, such as the total excavated sediment per occupation phase[94].

3.4 Economic organisation inside the settlements: Argaric workshops and storage devices

Changes in the Argaric settlement structure, buildings and means of production went hand in hand with a radical transformation of the relations of production. The key element in the production system of the central hill settlements from 1950 BCE onwards were the large workshops set up in rectangular, square or absidal buildings. These spacious rooms contained an extraordinary quantity of macro-lithic tools. Use wear analysis suggests that a variety of activities were carried out in these places. Particularly illustrative of the work force associated with these workshops are the sets of grinding slabs, in some cases over a dozen, placed over the floor or on benches next to each other[95]. Remarkable enough is the discovery of storage areas and even specific storehouses for grinding tools[96]. As cereal is traditionally processed in southern Spain at least on a weekly basis, given the limited preservation of flour, the storage of these labour means indicates that flour demand was not constant, and that workshops could increase significantly their productive capacity at particular moments.

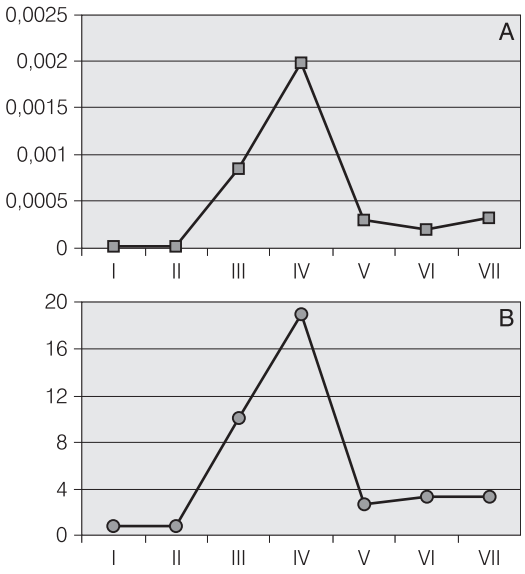


Fig. 12. Frequency of (A) functional milling artefacts in Gatas occupation phases in relation to the sediment excavated, (B) cereal seeds in relation to the volume of wet-sieved sediment (I: Pre-Argaric; II–IV: Argaric; V–VI: Post-Argaric; VII: Andalusian) (modified after Castro et al. 1999).

In some of these workshops, large storage jars or containers made of organic materials can be found next to these grinding devices or in separated spaces. There is clear evidence of barley accumulation in central settlements and also, but to a lesser extent, of wheat (Lugarico Viejo, upper terrace of Castellón Alto) and beans (Gatas III). Use wear analysis carried out on pottery shows that small standard bowls of type 1 and 2 were used specifically for scooping the product (grain, flour) out of large containers. The possible standardisation of pottery capacities also gives hints for a system of measurement for storing and distributing subsistence goods[97].

Some circular constructions, as well as the already mentioned tower-like buildings of Fuente Álamo, were most probably centralised granaries[98]. While in some sites and contexts cereals were stored in a clean state, that is to say, without weeds or stems, in other areas they were stored in an unprocessed state[99]. This would suggest that harvests were managed in different parts of the central settlements and their surroundings, rather

[92] Menasanch et al. 2002.
[93] Risch 1995; Risch 2002.
[94] Castro et al. 1999, 281.
[95] Risch 1995; Risch 2002.
[96] A good example is a room on the southern slope of Fuente Álamo, where at least 22 used grinding slabs were found, arranged in piles. A stock of flint sickle elements ready to be shafted was kept in the same room (Risch 2002, 216; 374–377).
[97] The first approach to this issue was carried out in the framework of the Gatas Project by Colomer/Solsona (1995). This analysis indicates a pattern of capacity ruled by a constant multiplication factor of 4,2 for containers of up to 35 litres. From this volume onwards, the containers approximately double their capacity, presenting values of around 53 litres, and finally 105 litres.
[98] Schubart et al. 2001.
[99] Buxó 1997, 210–317; Clapham et al. 1999.

than kept and processed in self-organised domestic units.

Sometimes large cereal processing workshops also included specific ovens made out of clay, probably used to bake or dry grain. In Gatas, two over 1 m large circular clay structures were found side by side. Micromorphological analyses of the burned platform confirmed their association with bread baking, based on the identification of "cereal dust"[100].

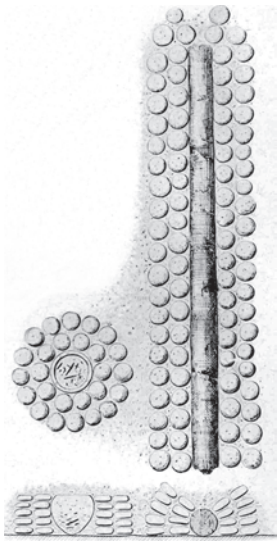


Fig. 13. Facilities for loom weight production from El Argar (after Siret/Siret 1890, fig. XVII,11–12).

Other equipment commonly found in these workshops are clay loom weights, as well as bone or copper awls, *i. e.* tools which one would expect to find in relation to textil manufacture. The supra-domestic scale of this production, at least in some central settlements, is underlined by the discovery in El Argar of two facilities designed for large-scale manufacture of loom weights[101]. The first consisted of a carbonised trunk surrounded by 500 loom weights, while another 100 loom weights were piled up around a pottery vessel filled with charcoal (**Fig. 13**). According to the pottery shape[102] these specialised production structures must date to the final phase of the Argaric period. The remains of two possible looms could be identified in different workshops of Peñalosa, due to exceptional preservation conditions. The first had 50, and the second 27 clay weights[103]. Considering these numbers, the installations found in El Argar could have furnished between 12 and 22 looms, distributed over several workshops.

Concerning meat processing, a specialised cattle butchering area has been identified around building VI of the hill settlement of Peñalosa[104].

The volume of the means of production and particularly of the grinding slabs gives an approximate figure for the productive capacity of central settlements. The number and disposition of grinding tools on the floor or on benches shows that in the large workshops of Gatas and Fuente Álamo between six and ten people could work simultaneously, contrary to the situation observed in the Chalcolithic huts, which usually had only one or two grinding slabs and a major part of grinding processing was carried out in open spaces[105]. The Argaric organisation is more similar to contexts like the 'Eastern Palace' of Ebla, dating to the beginnings of the 2nd millennium BCE. There, 16 basalt grinding slabs, with their corresponding handstones, were arranged on a bench along three sides of the room[106]. Such workshops could provide enough flour to satisfy the daily calorie requirements for dozens of adults with only a couple of hours of daily grinding, or even up to a hundred with more intense working sessions, such as those described in Mesopotamian documents[107].

The overall productive capacity of the central Argaric settlements can be surmised through the hundreds of grinding slabs still laying on the surface or those found during systematically recorded excavations[108]. Taking the stratigraphic and chronological information into account, it has been possible to estimate the total number of grinding stones and, hence, the population potentially supplied with flour by central sites such as Fuente Álamo or Gatas during their different occupation phases[109]. The first result of these simulations is that during the heyday of El Argar, sites like Gatas or Fuente Álamo could provide the basic means of subsistence for nearly 1,000 or more than 1,800 people respectively, if the available grinding tools were operated just a few hours a day (**Fig. 14**). However, cereal processing does not seem to have been constant, and the large hill settlements had the capacity to substantially increase production of food at any moment, thanks to their centralised warehousing of means of production and granaries. Such flexibility was probably a response to climatic variability and yield failure, when the more water demanding pulses were not enough to feed the population, especially in the lowlands. This underlines the control finally achieved by hill settlements as central storage, transformation and redistribution centres. Moreover, these centres were also able to manage other basic products, such as clothing and certain tool types.

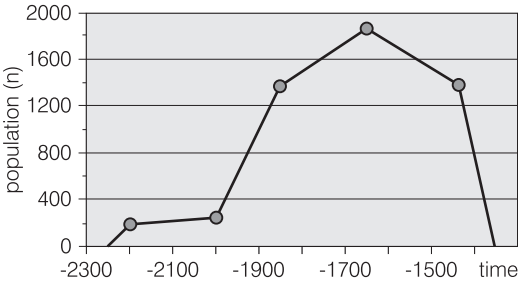


Fig. 14. Simulation of the population potentially fed by the output of the available grinding instruments in the different occupation phases of Fuente Álamo (after Risch 2002, 235).

[100] Castro et al. 2007.
[101] Siret/Siret 1890, 154–157.
[102] Lull's subtype 2B3y (Lull 1983).
[103] Contreras/Cámara 2000, 132.
[104] Sanz/Morales 2000.
[105] Risch 2008a.
[106] Matthiae 1989.
[107] Grégoire 1992.
[108] Just to give an idea of the macrolithic record of these sites, it can be mentioned that the excavation of an area of 268 m^2 in Gatas (3.6 % of the main habitation area) has provided 320 grinding slabs, while in Fuente Álamo ca. 2,300 grinding tools came from 1,517 m^2 (ca. 8 % of the settled area) (Risch 2002, 232–233; Delgado-Raack 2008).
[109] For details on premises and calculations, see Risch 1995, 164–167; 2002, 232–236.

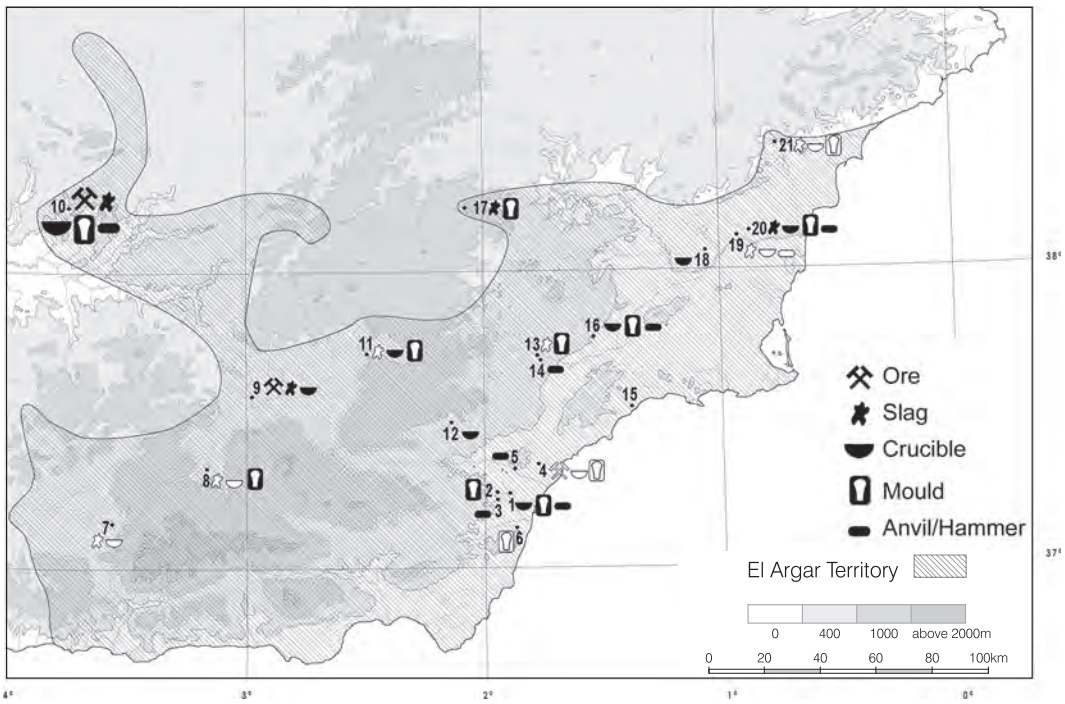


Fig. 15. Evidence of metallurgy in El Argar settlements. 1 El Argar. 2 Fuente Vermeja. 3 Lugarico Viejo. 4 El Oficio. 5 Fuente Álamo. 6 Gatas. 7 Cerro de la Encina. 8 Cuesta del Negro. 9 Terrera del Reloj. 10 Peñalosa. 11 Cerro de la Virgen. 12 El Picacho. 13 Lorca. 14 Los Cipreses. 15 Ifre. 16 La Bastida. 17 Bagil. 18 Cobatillas la Vieja. 19 San Antón. 20 Laderas del Castillo. 21 El Tabayá. Unfilled symbols correspond to sites of uncertain functional designation. Large symbols mark especially numerous finds (> 40) (after Lull et al. in print b).

The second result is that the total amount of production in these hill settlements exceeded the labour capacity of their own population, which according to their surface area could have been of only 200–450 inhabitants. Thus, Fuente Álamo and Gatas held at the height of their economic development more means of production than labour force needed to operate them. Hence, it is necessary to imagine a scenario where population from outside the hill settlements was engaged in these workshops. A fluctuating work force would also help to explain the grinding tool stores. It seems reasonable to expect that this working population came from the same territories from where the central hill settlements obtained many other raw materials, such as rocks, grain and probably cattle. The archaeological manifestations of this population can only be the hamlets and dispersed settlements of the lowlands, where sickle blades are much more common, while other tools, significantly grinding stones, are markedly more rare than in hill settlements.

Summing up, the production and storage structures located in the central settlements and in some of the smaller fortified hillsites points towards the fact that certain resources were centralised, transformed and distributed at a supra-domestic level. Workshops focused mainly on cereal processing (largely barley), textile manufacture and elaboration and repair of certain tools. All these products were vital resources for Argaric economy, based on an extensive cereal monoculture and the common use of flax. The majority of raw materials processed in these workshops had to be transported from the valleys to the hill settlements, which had favoured defensive positions over geographical centrality. The geographical and socio-economic differentiation in Argaric society would require that rural population of the plains provided grain, raw materials and possibly also work force for the hill settlements, a practice which can be defined as a form of *tribute*. In turn, these groups were dependant on the hill workshops for certain finished products, such as flour, clothing and cutting implements of metal and eventually flint.

3.5 Supra-regional organisation of metallurgical production

Metallurgy deserves a chapter apart because its production and distribution exceeds the territorial limits of single settlements (**Fig. 15**). According to the currently known distribution of metal working tools and debris in the Argaric territory, metallurgy appears to be a strongly divided production process, both in technical as well as in social terms. A recent examination of all the available information from reasonably well dated contexts, shows that the number of settlements where ore was smelted was unequivocally reduced[110]. In fact, most of the known production resources come from a single settlement: the fortified hill settlement of Peñalosa. This is also the only habitat where the complete operational sequence has been documented and in which tools for metalworking have been found in almost all of the buildings[111]. The amount of means of production,

[110] Lull et al. in print b.
[111] Moreno 2000; Moreno et al. 2003.

especially moulds for casting different types of bars, indicate that metal was not for household use, but instead was mainly manufactured as a raw material for a larger territory. Surveys in the surrounding area have shown that Peñalosa belonged to a group of Argaric strongholds south of Sierra Morena that were specialized in the mining and processing of copper and silver ores.

Besides Peñalosa, only La Bastida and eventually El Oficio have evidence of primary smelting, but surprisingly, only of lead ores[112]. However, these are old finds. At El Oficio, it is possible that they belong to the Late Bronze Age or even Roman settlement phases. The large scale excavations that have just been started in La Bastida leave no doubt about the abundance of slag, but all the remains come from modern surface layers.

In most hill settlements, the only traces of metalworking are usually single casting crucibles and moulds. In view of the scarcity of working tools as well as artefacts in habitation contexts, metallurgy in El Argar can be characterised by a certain social 'invisibility'. However, functional analysis of macrolithic tools from a number of Argaric settlements shows that, besides smelting sites, specialized forging and polishing workshops seem to have existed[113]. As already mentioned, the Argaric and Copper Age metallurgy are differentiated from each other by a better and more developed forging of metal, which required a larger amount of suitable tools.

In summary, the spatial distribution of the production evidences found so far within and between settlements suggests that production and distribution of metal was organised into four geographic and technical levels[114]:

- Level 1: Settlements like Peñalosa were able to carry out the whole metalworking process, though their goal was mainly to produce different types of bars and ingots for a supra-regional network. This group of hill settlements in the south of Sierra Morena were not the largest nor, as grave goods show, the richest sites within the Argaric territory.
- Level 2: Settlements that transformed metal into finished products or remelted metal into blank shapes or smaller rod-like bars. These work processes are most noticeably documented in hill settlements like El Argar, Lorca or La Bastida, all of which, due to their size and mortuary record, can be best understood as regional economical and political centres. The metalworking here does not represent a socially widespread activity. Rather, it seems to have developed in specific workshops, possibly carried out by a few specialists.
- Level 3: It seems that settlements of secondary rank transformed mostly blank shapes into finished products, while casting played a secondary role. Some male graves with hammers, anvils, grinding and sharpening tools, metal bars or scraps indicate that this activity was also in the hands of specialists or under particular political control. At Fuente Álamo, these workshops were located in the monumental building area on the higher part of the settlement, where the richest graves were also placed[115].
- Level 4: Excluded from metal production, there remains an array of hill settlements and especially the smaller hamlets in the lowlands in which no evidence of metalworking has been found to date. A so-called 'metallurgist's grave' has been identified at the lowland site of Los Cipreses, although there is no evidence from the large-scale excavation of the settlement that this person was active there[116]. Rich graves such as this one seem to underline more the political relationships tied to one's own position than the actual place of residence of the buried person. In any case, there were a significant number of places whose demand for metal objects was satisfied either by the central or from third-level hill settlements.

To what extent such a division of production and similarly distribution of metal into four levels proves to be true can only be clarified through further systematic excavations. It is, however, obvious that the complete metallurgical production process was no longer performed at single sites, as was the case during the Copper Age. The geographic organisation of metal production and the apparent attempt to make metallurgy materially and in turn socially 'invisible', suggests that metallurgy was under specific political control. If metallurgical production during El Argar is difficult to identify from an archaeological perspective, the same must have been equally true for the Argaric population, who could not have so easily crossed architectural and geographical barriers.

4 El Argar: A *Class* Society

In the previous chapter we have mainly been concerned with the spatial and economic organisation of El Argar society. The next topic to be considered is how the observed relations of production were represented in funerary practices. These must be considered in the first place as spheres of consumption carried out by the living with means generated by the above described

[112] Siret/Siret 1890, 245; Martínez Santa-Olalla et al. 1947; Bachmann 2001, 256.
[113] Risch 2002; Delgado-Raack/Risch 2008.
[114] Delgado-Raack/Risch 2008; Lull et al. in print b.
[115] Risch 2002, 191–193; 269–275.
[116] Delgado-Raack/Risch 2006.

production system. Differences in the value bestowed by the groups who organised the burial ritual of the dead also give information about the access possibilities these groups had to the economic resources deposited[117].

Since Siret's publication *Les Premiers Age du Métal dans le Sud-est de l'Espagne* in 1887, nearly 1900 burials have been discovered in about 25 settlements where more or less systematic archaeological excavations have been carried out. Many more have probably been looted. Most of the burials found come from large hill settlements, whereas a few of them are known from lowland sites and small fortresses. While it was mainly Louis Siret who recorded around 1,400 burials, in a rather systematic way for his time, nearly 1,000 of these came from the site of El Argar itself, modern excavations have increased this number by nearly another 400 tombs. This means that any interpretation of early Bronze Age funerary practices in south-east Spain still relies to a great extent on the evidence gathered during the 19th century excavations of this site.

Argaric burials attract our attention, in the first place, because of the sharp break they manifest in relation to the Copper Age or Los Millares funerary tradition. While here we find a collective burial rite in characteristic *tholoi* constructions, located at some distance from the settlements and containing very diverse grave goods[118], after 2200 cal BC a standardised funerary ritual inside settlements was established[119]. Distinctive of El Argar graves is the burial of one, sometimes two, and exceptionally three or more, individuals in four types of funerary structures already described: cists, pottery *pithoi*, pits, and rock cut tombs. A rather limited range of materials and artefacts accompany the dead. Most remarkable are the Argaric halberds, daggers, short and long swords, axes, knives, awls, diadems, armrings and earrings. While weapons and tools were made out of arsenical copper and, towards the end of El Argar, 'true' tin bronze, some of the ornaments were also made from silver and, in few cases, gold. Another common personal ornament were the necklaces made out of copper, shell, bone or stone beads and boar tusks. More common than metal objects are pottery vessels which belong to only eight morphological types, and were obtained through the combination of three basic geometric shapes (**Fig. 2**). Much less frequent is the presence of sharpening tools (erroneously called 'archer's wristguards') while other stone and bone tools, such as anvils, flint flakes or bone awls, are rare. Use-wear traces observable on the vessels, metal artefacts and stone tools show that grave goods were not specific funerary products, but rather a selection among a range of artefacts available and used in Argaric settlements. Recently, attention has also been drawn to animal parts in certain burials as meat offerings[120].

4.1 Social dimensions of the funerary record

We have already described the basic norms ruling the associations of grave goods according to sex and age, and their changes through time. Yet, despite some extraordinarily rich Argaric tombs, it must be underlined that a considerable number of the dead were interred with no grave-goods, or with just one ceramic vessel and a small ornament, already indicating that access to these tools, weapons, and ornaments was restricted to certain members of society.

It has also become clear that only a small part of the deceased, probably less than 25 %, were included in the characteristic intramural burial rite[121]. Burials are particularly rare in the lower levels of the settlements, while after 1950 cal BCE larger parts of the population, including children, obtained the right to be buried inside the settlements. Moreover, not all settlements seem to have been considered equivalent burial grounds. The small-sized hill settlements present only few tombs, while the highest density is observed in the central settlements, and the lowland sites occupying an intermediate position.

So far, it has proved impossible to find any trace of burial practices outside the settlements, which however must have existed. One key issue in the investigation of El Argar is to discover the principle or set of principles by which particular individuals had access to specific burial spaces. If burials in each house reflected an isomorphism in their constitutive elements only broken by differences of age and sex, we would find tombs with grave goods of a social value matching the material conditions of the living unit. However, that is not the case, since individuals of different social categories can be found sharing the same living units[122]. As a consequence, we suggest that domestic units were responsible for burials but not for the quality of grave goods. Individuals with different kinship and family ties but sharing the same position on the social pyramid can be seen as an indicator of powerful institutions and property systems which were responsible for the means of production and certain social products[123].

[117] Lull 2000.
[118] Chapman 1990; Micó 1993.
[119] Lull 1983.
[120] Liesau/Schubart 2004; Aranda/Esquivel 2006.
[121] Chapman 1990.
[122] Lull 1983, 455.
[123] Lull 2000, 587.

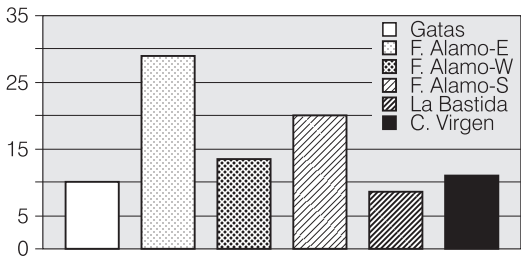


Fig. 16. Density of funerary structures (excaved surface in m²/number of tombs) in the hill settlements of Gatas, Fuente Álamo (E: eastern, W: western and S: southern slopes), La Bastida and Cerro de la Virgen.

Rules concerning the access to burial spaces might have also operated at a regional level. Micó, for instance, noted a gap in the demographic curves of Fuente Álamo and Gatas corresponding to adult males between 20 and 30 years of age, particularly in the group of male burials distinguished by axes and daggers[124]. Simultaneously, this group seems to be well represented in the neighbouring site of El Argar, suggesting its greater political importance. On the other hand, the so-called 'metallurgist's grave' discovered at the lowland site of Los Cipreses, where no metal working seems to have taken place, would imply that at least rich burials underline more the political relationships tied to one's own position than the actual place of residence of the buried person[125].

Clear differences, both in the number and wealth of the graves, can also be identified inside the settlements. In the case of Fuente Álamo, most of the grave goods made out of metal were found with children, men and women buried on the upper and eastern part of the hill settlement[126]. This is the area with the most outstanding architectural structures (a cistern, square towers, workshops) and also where most of the tools related to the forging, finishing and maintenance of metal tools were found. However, the highest density of burials appears on the western slope, where only simple dwellings and few means of production have been discovered (**Fig. 16**). Consequently, the distribution of funerary structures and grave goods might mean that only certain women, men and children had the right to be buried in the 'monumental area' of Fuente Álamo, a right that was underlined by the deposition of metal weapons, tools and ornaments. On the other hand, in the workshops and tool magazines on the southern slope, hardly any and only poor burials were found. This pattern would support our idea that the groups working periodically in this 'industrial area' had their usual residence elsewhere, expectedly in the lowlands.

Some outstanding burials occupied a paramount position on the summit of the hill settlements (*e. g.* Fuente Alamo, Gatas, Cabeza Gorda). Thus, topography and the rights to access (or not) certain spaces or buildings were crucial aspects when preparing a new burial. The spatial scale at which these rules remained valid, both inside the communities and across the Argaric territory, implies that funerary practices, specially the most elaborate ones, were not carried out by family units, but rather were the prerogative of social groups and intended to address the larger community. In this communal practice of burying particular individuals, standard grave goods can be understood as a means of creating and imposing fixed and recognisable categories of wealth and power[127]. It must be emphasized that this standardisation is a crucial manifestation of the political organisation of Argaric society.

Lull and Estévez carried out a statistical analysis, referred to as the algorithm of the minimum-maximum distances of Q inverse index, in order to assess the social value of each funerary object[128]. This test was able to identify which items are scarce in the whole burial sample, but at the same time appear among the richer and more varied individual grave goods, hence indicating the more valuable objects. The analysis of 396 undisturbed individual graves, which were known at that moment, defined several sets of items which were interpreted according to a decreasing scale of social value. On the other hand, since this indicator of social value maintained a plausible correspondence with the quantity of labour invested in the objects (labour value), it was possible to translate these groupings into categories of grave goods that seemed representative of hierarchically ordered socio-economic classes. The first two categories of objects would correspond to members of the Argaric dominant class, while people holding 'political rights' formed the third category. Finally, two more categories could be defined showing a very low ritual consumption and probably standing for servants, foreigners, or even slaves[129]. Category 4 has recently been sub-divided into two variants according to the presence and number of small metal ornaments[130].

Today, with better archaeological and anthropological data at hand, we can define these categories also in terms of age, sex, chronology and space (**Table 2**). Thus, it can be confirmed that category 2 grave goods mainly correspond to children and females with rich silver and copper outfits, as was already suspected by Lull and Estévez[131]. It

[124] Micó 1993.
[125] Delgado-Raack/Risch 2006.
[126] Pingel et al. 2001; Risch 2002, 267–274.
[127] Lull 2000.
[128] Lull/Estévez 1986.
[129] This structuring of the El Argar society into five social categories based on the funerary record has sometimes been incorrectly referred to in the English archaeological literature (*e. g.* Parker Pearson 2001, 78).
[130] Lull et al. 2005.
[131] Lull/Estévez 1986, 450.

Category	Sex/Age	2200	2100	2000	1900	1800	1700	1600
1	Male	Halberd						
			Short sword			Long sword		
	Male/Female	Form 6						
	Female					Diadem		
	M/F/Child		Gold ornaments					
2	F/Child/M		Silver ornaments					
	F/Child/M	Copper ornaments						
	Child/F/M					Form 7		
3	Female	Copper Awl						
	Male/Female	Dagger/Knife						
	Male					Copper Axe		
	M/F/Child				Form 4			
4a	M/F/Child	Only metal ornaments – or – pottery & one metal ornament						
4b	M/F/Child	Pottery – or – one metal ornament						
5	M/F/Child	No grave offerings						

Table 2. Distinctive artefacts of the six categories of grave-goods according to sex, age and chronology. It must be noted that category 1 graves can also contain silver and copper ornaments as well as a number of pots other than forms 6 and 7, although not in a significant statistical association. The same holds true for single copper or silver ornaments in relation to category 3.

has also become clear that since the beginnings of El Argar, there were always distinctive grave goods associated to certain male burials. Only in the final phase do diadems distinguish women at socially equivalent positions. Exceptionally well-furnished female graves can even be considered characteristic of the late Argar phase, an aspect that might have been related to a possible matrilocal and matrilinear kinship system[132]. On the whole, quality and quantity of grave goods increases through time highlighting the widening gap between poor and rich burials during the last centuries of El Argar. Spatially, burials belonging to category 1 are found in low land sites as well as in hill settlements until *c.* 1800 cal BCE. Later on, only central settlements show rich graves, an aspect that underlines the concentration of power.

4.2 Infant burials and property relations

Infant burials can be seen as an expression of unequal participation in social production and consumption. This form of ritual consumption is carried out by and for groups of adults, which is the only group that reproduces itself and whose members can organise social production. Rituals devoted to children stress the social position or positions achieved by birth, *i. e.* the ones that are inherited. Consequently, differences in the value devoted for the infant tombs offer an excellent possibility to archaeologically explore the economic and political asymmetry between different Argaric social classes, at least from 1950 BCE onwards, when children where included in funerary practices.

The topic of inter-generational transmission of property has recently been tackled in a case study of the large El Argar necropolis[133]. Seven age groups, differentiated by anthropological criteria (0–1 month, 0.1–3 years, 3.1–6 years, 6.1–9 years, 9.1–12 years, juvenile and adult), were classified according to the above-mentioned social categories in order to explore possible variations in the distribution of wealth consumed in funerary rituals (**Fig. 17**). The main result is that in each of these age groups, there were marked differences in terms of grave-good assemblages. The only exception is the group of premature/newborn children (0–1 month), the most homogeneous one, where ritual consumption hardly went beyond the right to be bur-

[132] Buikstra/Hoshower 1994; Castro et al. 1993/94; Lull 2000.

[133] Lull et al. 2004; Lull et al. 2005.

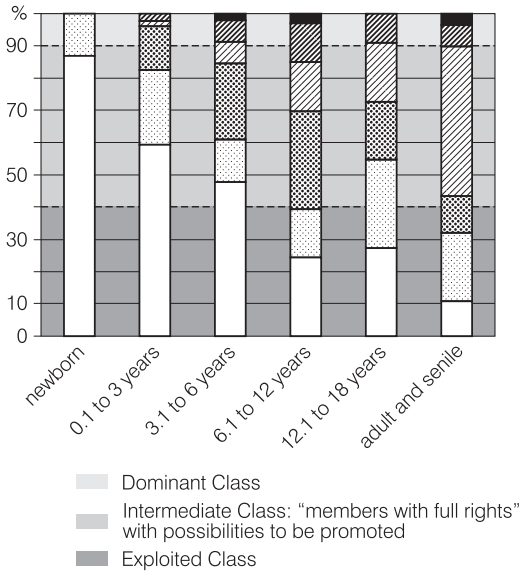


Fig. 17. Distribution of funerary assemblages of all age groups according to social categories: 1st category (black), 2nd category (hatched narrow), 3rd category (hatched wide), 4th a category (cross-hatched); 4th b category (dotted); 5th category (white) (values according to Lull et al. 2004, fig. 8).

ied[134]. Once individuals survived the first month, access to grave-goods was markedly unequal. Thus, around 20 % of the deceased between 0.1 and 3 years deserved several metal ornaments (in some cases made out of silver), combined with pottery and even a metal tool (categories 2, 3, and 4a). Other meaningful patterns in terms of funerary categories can be summarized as follows:

1. The joint proportion of tombs without grave-goods (category 5) and those ones with hardly any objects (category 4b) decreases between neonates and children dying before the age of 6, when the percentage of poor graves stabilises and stands for 40 % of the whole sample. When these people died, no matter at what age, they did not deserve any significant grave good.
2. Parallel to this decrease there is a proportional increase of those categories defined according to the association of different items. Basically, categories 3 and 4a show a steady increase until 6 years of age at death, after which, when taken together, they reach a 40–50 % ratio. The capacity of this part of the population to participate in ritual consumption increased with age, particularly after 1800 cal BCE.
3. Categories 1 and 2, which correspond to individuals belonging or related to the dominant class, have a rather stable pattern featured by rich burials with gold and silver ornaments, and they usually do not represent more than 10 % of the sample in each age group. However, the main items of the first category, such as diadems, halberds, swords or carinated vessels, were kept exclusively for members buried at an adult or old age.
4. Women of the first three categories gained access to sexually distinctive tools or weapons earlier than men. While the set formed by knife/dagger and awl is first seen in girls dying at the 6–9 interval, males have to wait until adulthood in order to be buried with axes and knifes/daggers (probably from 12–15 years onwards, and definitely after 15 years) and to obtain a ritual recognition equivalent to women. If, as anthropological analysis suggests, Argaric society was bound to principles of matrilineality and matrilocality[135], it should be expected that men buried with an axe and a dagger did not deserve these distinguished items qualifying 'full right membership' until they were integrated in the community of the wife, or before they reached the avuncular position (brother of the wife's mother) in their own community. Only then these men would acquire full rights and, upon death, the possibility of deserving a standard funerary ritual.

Summing up, differences in funerary goods at each age group, except for the newborn, confirm that social positions were largely determined by birth. An important part of the population, roughly one-third, was excluded from any significant funerary consumption, while 10 % held exclusive access to exceptional raw materials, weapons and ornaments. Argaric funerary rituals seem to have been ruled by principles of unequal transmission of property. Moreover, along those social classes that were able to display inherited property, ritual consumption increased with age. This cumulative capacity started at an earlier age among the rich women, suggesting their earlier social recognition and their relevance in the transmission of wealth and power, particularly during the last centuries of El Argar. This brings up a problem that has been raised repeatedly since the first studies of the 'archaeology of death': Do 'rich' female burials mean that at least part of the women had the capacity to transmit or bequeath property? Or, rather, were they just used as a passive vehicle by means of which their male relatives – whether fathers, brothers, sons, or husbands – exhibited their own wealth? Hopefully, ongoing analysis on mobility, health conditions and subsistence of Argaric population will allow a gain in insight into these questions.

5 El Argar: The First State Society in Western Europe

Once the basic aspects of El Argar have been shown, it is time to discuss the socio-political structure responsible for this exceptional development during approximately 650 years in a terri-

[134] Nevertheless, it should not be overlooked that the baby found in tomb 133 was furnished with a funerary assemblage formed by several vessels and a necklace of 138 beads.

[135] Buikstra/Hoshower 1994; Lull 1997/98; Lull 2000; Castro et al. 1993/94.

tory as large as the modern state of Baden-Württemberg in Germany. During the last decades, archaeology has tended to look into other disciplines, mainly anthropology, for models or examples that are believed to generate the material traces recovered from archaeological contexts. More recently, the amount of data and the loosening of the interpretative pathways in archaeology, as well as in anthropology, have led to a proliferation of views on different particular aspects. Such procedures might generate attractive, reassuring or critical descriptions, which often transfer our present day conceptions – often pre-conceptions – into the past. Still, the question remains what advance this represents to the knowledge about the organisation and development of human society. Naming an Argaric silver diadem found in a female grave as a *prestige object*, or conceiving a copper awl as the expression of female *identity* are different examples of classificatory exercises linked to certain ideological constructions. Just by naming such concepts, a suggestion or image emerges which we recognise as familiar and therefore as apparently understandable. What such labels do not address are the relations in space and time between subjects and objects in society. Continuing with the former examples, nothing in the terms *prestige* and *identity* informs about the actual participation of women in the economic organisation, including the household, kinship relationships and political institutions. These historically crucial issues require the analysis of topics such as health conditions, life expectancy, subsistence, domestic means of production and architecture or resource location. These topics might be much less theoretically suggestive, but are directly related to the material conditions in which, in this case, women actually live or lived.

In the case of El Argar, the complexity of settlement patterns, the scale of certain economic activities, and marked differences observed in the funerary record has led a number of scholars to suggest that the society responsible for this materiality was organised in a state-like structure[136]. However, by naming the *State*, we might believe we know what we are saying, as when we talk about 'identity' and 'prestige'. All these categories can resemble *evidences* in front of our eyes: we handle them at will, and we believe we understand them when we mention them.

We all identify ourselves with something, we self-identify ourselves through our own conscious and indivisible identity. We also expect to distinguish the prestige of the others, to gain our own or, otherwise, to know how to obtain it. Moreover, both constructs, *identity* and *prestige*, are easy to digest. The first is the ideal of likeness: the more one thing resembles another one, the more similar we believe them to be. This leads us to believe that the more alike two things are, the more chances exist that they have the same origin, or that they share certain essences of identity. Regarding prestige, a construct based on the social acknowledgement of certain persons in certain fields and according to certain social interests, we feel it is immediately recognisable. Little else needs to be said about the *State*. Given that we all live in political States, we just have to appeal to experience in order to know what is it about. However, to use things, or concepts, does not entitle us to have a license for them, nor to know their meaning. Neither does the sense of thoughts, and of isolated concepts, in other words the direction in which concepts are used in any conversation, entitle us to 'know' what we are really saying when we use them, nor that we have an idea or an argument about what they are or mean.

Yet, something distinguishes the three concepts. Prestige refers to a type of consideration or, more precisely, a desire for consideration, which, if not referred to something, lacks any sense. Prestige can be obtained in many ways, and it can even not be obtained, but rather granted by others. If this 'something' which provides prestige is not mentioned (knowledge, skills, strength, wealth, etc.), in other words, if one cannot identify the conditions through which it is granted or obtained, prestige even stops being an evidence. One should keep in mind that in a non-mechanistic thought, evidences, such as 'the sun rises in the east', are not explicative. Explanations, among other things, require a certain type of relationship between evidences, such as the movements between the sun and the planets. In archaeology, rather than in sociology, the construct 'prestige' cannot even be considered an evidence, as it does not address that 'something' which makes it become specific; it does not even refer to anything obvious, such as 'the sun rises in the east'. This is possibly the reason why it enjoys such a wide acceptance: We can use it however and whenever it suits us.

Prestige, as used in archaeology, lacks the specific references to which it is linked and proceeds in a non-causal and inconsequent direction when we spare the actual and specific connections necessary to use it as an attribute of something or someone. Even if such links could be established and we would come up with an evidence, the concept 'prestige' would not become explicative, as long as this evidence is not placed in a social relation which obliges that prestige manifests itself in a specific relation in the archaeological material record.

[136] Lull/Estévez 1986; Schubart/Arteaga 1986; Nocete 1994; Lull/Risch 1995; Cámara 2001; Chapman 2003; Aranda/Molina 2006; Lull/Micó 2007.

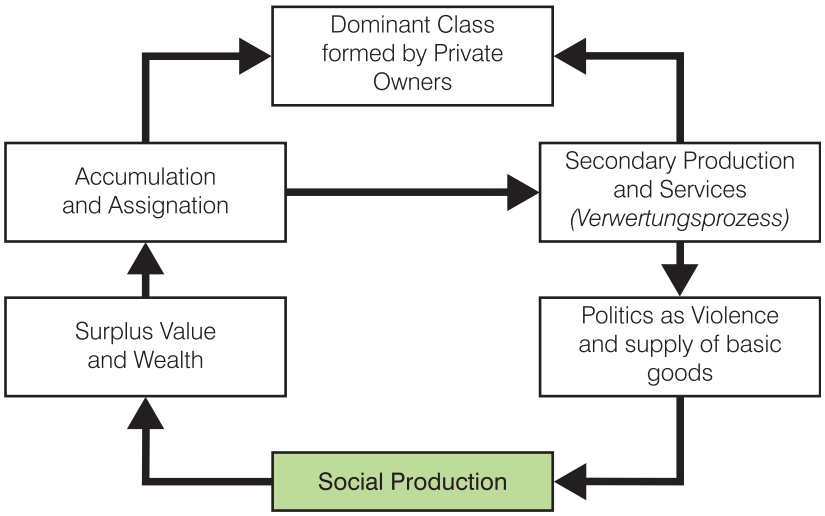


Fig. 18. Economic and political relations leading to the emergence of a state system. Production does not only serve to generate wealth (in the german sense Überschuss or the Spanish sobrante) but also creates a surplus controlled by the dominant class. This surplus is not simply consumed, but transformed into other values and services (Verwertungsprozess). Politics is transformed from a social mechanism of distribution of tasks, means of production and products, into a strategy of coercion and violence.

Identity is even further away from being a piece of evidence. Therefore we strive to fill it with emblems, flags, hymns and even poems in order to convince ourselves that what we claim and believe to share or observe is real. Our tokens are not only shattered by the social history which changes us, transforms us and, occasionally, distorts supposed identitarian communities. Not even our personal identity ('physical integrity' would be a more appropriate term) is maintained physically or psychologically, as our life splits into multiple gatherings which only memories insist on preserving. We know that no identities exist among the things we use or observe. Consequently, all claims for identity are related to specific ideologies which, using criteria pertaining to similarities or resemblances, instigate feelings in order to impose certain rules and supposed principles of coexistence, based on proximity or membership.

When the term *State* is used in a non-rigorous way, it shares the same ideological load as the other ones. It is used as evidence, as in the enhanced version of *prestige*, and we believe that it manifests an *identity* when we attach to it a meaning of *membership*. However, the notion of a State is more difficult to manipulate than the others for several reasons. In the first place, the concept deals with an institution. Secondly, States have been socially imposed under specific historical circumstances. And finally because all States are an expression of class societies.

A further difficulty in defining the State is the ongoing dispute between different theoretical-epistemological trends, which are believed to be essentially ideological and are unwilling to clarify the circumstances by which the State emerged in the short or long term. Many theoretical attempts have been made in archaeology in order to establish the 'legality' of what the State is. The attempt to establish a list of recognisable traits was the first option[137]. But a series of traits, or even of evidences does not explain anything, as has already been mentioned above. Archaeology works with objects, but it 'explains' them through the relation that makes them necessary and also through the care with which we handle them in our hands and mind in order to distinguish them. Therefore, we should not explain the State merely as an unequal and asymmetric society. Inequality and asymmetries can exist in a community without the need to develop that crucial relationship shared by all State societies: the economic exploitation of one group by another one.

As easy as it is to describe differences between persons in the manifold dimensions of social life, it is difficult to establish that one group is being exploited by another one, since that relationship is defined by the acquisition of some type of surplus product in any of its various ways (from the slave to the labourer). Therefore, the State cannot be visualised through many of the archaeological inequalities used to name it. The archaeological research can only propose the presence of a State when the trinomial – *surplus*, *property* and *institutionalisation of power* (physical coercion, domination) – understood not as objects but as specific social relations, becomes clear in the analysis of social materiality (**Fig. 18**).

Surplus production needs to be calculated in its complete itinerary, from the productive return until the unequal share of the social profits and the withdrawal of certain groups from production. Basically, surplus can be defined not as a gain, but as the share of production that does not revert in any form to the group or individual which has generated it. As such, it always implies an unequal individual appropriation of social production. Surpluses appear when the appropriation of the material result of labour is socially restricted and becomes private property of a group or class. To be sure, this is not just the result of an increase in production, as is usually suggested by functionalist archaeology. It is mainly the result of an unequal distribution of material and energetic costs and benefits within society[138]. Contrary to the situation in other exploitative societies, the State emerges when surplus has become private property and undergoes a realisation process (*Verwertung* in Marx's terms[139]), detached from the previous more or less closed production-consumption cycle. In other words, the accumulation of surplus and its assignation to different tasks and groups generates a value system by its own, which becomes unclear and confusing to the majority of society, impeding the producers to keep track of its contribution to the economic system.

[137] Childe 1950.
[138] Risch 2008b.
[139] Marx 1962/1867.

Private *property* appears when the use of something is considered *appropriate* to the individual, as first acknowledged by Locke. The appropriated object (or subject) looses its own qualities (material as well as social) and its collective substance, in order to become an exclusive value of the individual, becomes an appropriated privacy[140]. In this process of appropriation, the object is separated from the social relations that led to its production in the first place, and tied to the realm of the individual will or joy. Private property has to be identified not only as an asymmetric possession of goods, but also as a possession fixed in time (inheritance) and space (territory). The intergenerational perpetuation of property, or inheritance, and the spatial restriction accessing natural or social resources, independent of its legal forms, involves the exclusion of other groups within an economic and social community. Therefore, property is the trigger for the emergence of *class society*, where the group of individuals holding exclusive rights over objects and/or subjects also becomes the *dominant class*. In the long term, such a privileged position can only be sustained through physical and psychological coercion and violence over the rest of society. In fact, the *State* emerges as an institution whose main responsibility is to warrant the position of the dominant class.

The *institutionalisation of power*, as the warrant of social continuity, does not necessarily imply the presence of modern armies. As Engels suggested, a few armed and drilled military detachments are sufficient to ensure through the use of the physical force an established order and to perpetuate exploitation. This circumstance should be observed in the archaeological record. Not only physical violence, but also psychical coercion through symbols, language and ideology is not an exclusive, but an essential strategy of the State to perpetuate and disguise social exploitation. The control of symbolic expressions and meanings colonises the consciousness with prejudices about what is possible and what is not in the social reality.

We should therefore stop going around inventorying palaces, temples, and grand sumptuary manifestations or monumental tombs as distinctive traits of the State and rather understand them as possible symptoms of the State (which can also appear in other social structures). Only if we can prove if these traits are in such a state of social exploitation so that a differential consumption of the social production is perpetuated in the hands of a privileged class, should these objects be related to a State society.

In short, the involvement of the members of a community in social production in its threefold expression – production, distribution and consumption – is the basic dimension we might use in order to figure out if one particular group of people had the capacity to control society and warrant its dominant position by means of exploitative mechanisms. These mechanisms should be calculated and clarified according to the role played by each production branch in society, and also through the definition of relationships and relative weights of the various objects in any given social materiality (subjects and objects). Hence, it is mandatory to propose the social value of the products by considering basic aspects – such as their provenience and distribution, the technical processes and skills involved in their manufacture and maintenance, their use and final deposition – which result in their actual position and condition in the archaeological context. Basically, it means one must ascertain and compare the circulation of objects and subjects (social materiality) through the stages of production, distribution and consumption. The relationships expressed by the archaeological material in this circulation, in terms of qualitative and quantitative differences among social spaces, provide *significant* support to the resulting interpretations, independently of the *sense* that is given to the terms that are used in the ensuing discourses.

This has been the underlying framework of our current research in southeast Iberia, especially when trying to understand El Argar and its differences from the previous 'Los Millares' and the following Late Bronze Age, a period which came about after the destruction or abandonment of most of the central Argaric hill settlements. Hopefully it has been shown in the previous pages that most of the relations involved in a State society were present by 1950 cal BCE in southeast Iberia. Some of these proposals are conclusive, demonstrating meaningful relationships based on the analysis of the presently available archaeological record, others are implications derived from these relations, and still others are only inferences that require further research:

1. The spatial and economic organisation of El Argar is ruled by marked differences between the lowlands and the large hill settlements. These centres accumulated, processed and managed basic resources at a regional scale (mainly food and fibres) and a supra-regional one (mainly metals). The transport and centralisation of these resources entailed considerable efforts and must have implied some type of logistics (relationship and implications based on chapters 3.1, 3.2 and 3.5).
2. In the hill settlements, raw materials were transformed and elaborated, in some cases apparently with the help of an external workforce (milling, weaving). The products were assigned to the local groups, who then redistributed

[140] Lull 2007, 325–327.

them to a population living in a wider region. This must have implied some type of control and accountancy, as suggested by the standardisation of pottery volumes and the wear traces present on such standardized pottery types (relationship and implications based on chapters 3.3 and 3.4).

3. This management of controlled distribution eventually led to the development of specialised crafts (metallurgy, cloth production, possibly pottery making, etc.), supervised or carried out by certain central settlement groups, as suggested by the tools (knifes, awls, axes, sharpening stones, anvils, and the like) deposited in the tombs of the three upper funerary categories (inference based on chapters 3.5, 3.6 and 4.1).
4. Architectural structures demonstrate important differences between buildings and settlement areas in terms of size, quality and function of the social spaces. Consumption patterns suggest that access to different buildings and quarters also coincide with a privileged access to certain means of production and goods. In some sites, these differences can be correlated with the social value of funerary sets (relationship based on chapter 3.1 and 4.1).
5. Political factors (territorial organization and subsistence strategies) prevailed over the quality (efficiency) of tools and subsistence products. This under-development had a negative impact on the health conditions of relatively large parts of the population, as shown in the anthropological record (relationship and implications based on chapters 3.2 and 3.3).
6. The funerary contexts are organised according to six relatively standardised categories of value, which seem to correspond to at least three social classes. These differences can be observed from childhood onwards, which implies that social position and access to economic means of production and political power had become inherited after *c.* 1950 cal BCE. This social position was warranted through the exclusive access sustained by males of the dominant class to specialised weapons (halberd and sword), and by their fellows with full rights to other metal weapons and tools (axes and daggers). According to the funerary record, about 40 % of the population, the exploited class, had no access to metals and particularly not to weapons (relationships and inferences based on chapters 4.1 and 4.2).
7. Violence must have played an important role in Argaric society, not only in order to subdue parts of the local population, but also to maintain the territorial divisions (land) between central settlements and to prevent circulation of certain products and presumably population. Moreover, El Argar as a whole was clearly expansive in character in relation to neighbouring communities, as the steady occupation of new regions expresses (inference based on chapters 2.2 and 3.3).
8. Violence was exerted not only physically but also through psychological coercion. The impermeability of El Argar towards distinctive material elements from other contemporary communities, the nearly complete absence of specific symbolic elements and even of decoration patterns in pottery, metals, stone or bone objects, as well as the imposition of an aesthetic *canon* (pottery and metals) and strict funerary norms at a scale beyond the territorial units ruled by each central settlement and throughout a territory of at least 33,000 km^2, can all be interpreted as a correlate of economic exploitation in the realm of the subjective expression and creativity. Such a restriction of the symbolic realm constrains communication and language, eventually leading to an adjustment of thought into a fixed set of codes and meanings, which inhibits the imagination of other social realities (inference based on chapters 2.2 and 2.3).

These are the main features of a State system which developed over approximately 400 years in southeast Iberia. Around 1550 cal BCE, the economic and political relations that sustained this State, as well as its characteristic symbolic and ritual norms, were annulled. In our opinion, this was due to internal social movements, eventually triggered by land exhaustion and a consequent subsistence crisis. No social group was able to impose a State organisation again in southeast Iberia during the next thousand years. Consequently, the State cannot be considered an eternal companion of human societies, even when we have difficulties imagining other systems of social coexistence.

Abstract

Every society defines itself through a specific organisation of its production forces. With El Argar, a completely new social and economic system emerged on the Iberian Peninsula. During its nearly 700 years of development, the distances between producers and consumers steadily increased until a political organisation was required, which can be defined as a State. The Argaric *social materiality* and its spatial and temporal distribution seem to make sense as a series of economic and political relations, which imply the production of surplus value and its appropriation and centralised transformation, the imposition of a specific symbolic canon, and the institutionalisation of the economic and ritual practices themselves. The present paper explores the organisation of this singular early Bronze Age society by discussing the main evidences obtained during the last 130 years of archaeological research.

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Zusammenfassung

Jede Gesellschaft lässt sich anhand der konkreten Organisation ihrer Produktivkräfte definieren. Mit El Argar erschien auf der Iberischen Halbinsel ein völlig neues soziales und wirtschaftliches System. Während seiner fast 700 Jahre währenden Entwicklung spitzten sich die Unterschiede zwischen Produzenten und Verbrauchern immer mehr zu, bis eine politische Organisation nötig wurde, die man als Staat definieren kann. Die *soziale Materialität* von El Argar und ihre räumliche und zeitliche Verteilung erhalten ihren Sinn in einer Reihe wirtschaftlicher und politischer Beziehungen, welche die Produktion von Mehrwert und dessen Aneignung und zentralisierte Verwertung, die Durchsetzung eines festen symbolischen Kanons und die Institutionalisierung der wirtschaftlichen und rituellen Praxis selbst voraussetzen. In dem vorliegenden Beitrag soll die Organisation dieser bedeutenden frühbronzezeitlichen Gesellschaft untersucht werden, indem wir die wichtigsten Resultate der letzten 130 Jahre Forschung zusammenfassend interpretieren.

Резюме

Структура каждого общества определяется посредством существования определённого уровня организации в нём производительных сил. С появлением культуры Эль Аргар, на территории Иберийского полуострова возникает совершенно новая социальная и экономическая система. Однако, на протяжении её почти 700-летнего развития, разница между произ-

водством и потреблением товаров значительно возросла. В результате, создалась необходимость появления политической структуры, определяемой сегодня как государство. *Социальная материальность* культуры Эль Аргар, ареал её распространения и хронология объясняются взаимосвязью процессов экономического и политического характера, являющихся, в свою очередь, предпосылкой повышения производительности товаров и их успешной реализации или организованного использования, внедрения устойчивой символики, а также формализации экономических и ритуальных практик. В данной статье рассматриваются социальные структуры, существующие в эпоху ранней бронзы, а также суммируются важнейшие достижения, полученные за последние 130 лет непрерывной научно – исследовательской работы.

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