
Life and Death of the Macrolithic Tools from the Third-millennium cal. BC Necropolis of La Orden-Seminario in Southwest Spain

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Macrolithic tools are linked to daily activities and, fundamentally, to settlements, hence their importance for the study of Late Prehistoric societies. However, these objects are also associated with funerary contexts, but have not often been analysed holistically. This paper studies an assemblage of macrolithic elements from three collective tombs from the third millennium cal. BC at the site of La Orden-Seminario (Huelva, Spain), from a theoretical and methodological perspective based on the biography of the object. Our analysis focuses on typology, raw materials, technology, function and burial context. The results show that the tools can be linked to domestic activities such as the grinding of cereals and the processing of plant materials, as well as for the production and maintenance of the elements used in these activities. The analysed objects display long biographies of use and, in some cases, we have documented intentional breakage for their deposition in the tombs. The patterns of deposition in the funerary contexts reflect social practices related to the ritual and symbolic behaviours surrounding death and the relationship with everyday objects.

Introduction

Macrolithic tools are one of the most abundant archaeological material categories available for the study of late prehistoric societies. They are mainly objects related to everyday life, including elements used for tasks such as percussion, abrasion, polishing, grinding and chopping. The variety of uses of these tools is therefore very broad: grinders, sharpener/polisher, axes, hammers, pestles, mortars, grindstones, etc. (Adams *et al.* 2009).

The study of macrolithic assemblages has occupied a secondary place within the material culture of late prehistoric societies in the Iberian peninsula. However, work on this type of material in domestic and funerary contexts has increased in terms of the number of studies and quality of the results in recent decades. The macrolithic artefact types and their functions were defined in several regional studies

in the Iberian eninsula (Delgado-Raack 2008; 2013; Risch 1995). Late Neolithic, Copper Age and Bronze Age archaeological assemblages from the southeast have been systematically classified and analysed (Aranda Jiménez *et al.* 2012; Delgado-Raack 2008; 2013; Delgado-Raack & Risch 2008; 2015; 2016; García González *et al.* 2014; Risch 1995; 2002; 2008). In southwestern Spain, previous work on macrolithic elements is limited to the classification and technological and functional study carried out in the Copper Age settlements of Castello de Santa Justa and Castello de João Marques (Gonçalves 1989) and Porto dos Carretas (Soares 2013) in the Alentejo, and Valencina de la Concepción in the Lower Guadalquivir (Martínez-Sevilla *et al.* 2021).

In both regions, research has focused on assemblages belonging to habitat contexts and activities related to daily life. Tools from funerary contexts

have scarcely been considered for detailed study, limiting analysis to morphological and contextual characterization within the burial space. Although the presence of macrolithic tools in burial mounds and even in the contents of the tombs is common, very few studies have been carried out on these assemblages, from neither technological nor functional perspectives. Nevertheless, several studies have focused on the study of macrolithic tools in different funerary sites of the Late Neolithic and Chalcolithic, such as the axes and tools with edges in the monuments of Galicia (Fábregas 1984), the burial caves of Portuguese Extremadura, specially Cova da Moura, Algar do Bom Santo and Lugar do Canto (Cardoso 2014; Cardoso & Carvalho 2008; Lillios 2000), or the 'lime-kiln' tombs of the Ambrona Valley (Orozco & Rojo 2006). Also noteworthy is the study of the macrolithic products from the Early Bronze Age in tomb 3 of Los Cipreses (Delgado-Raack & Risch 2006).

In collective burials, typological and contextual approaches to polished stone objects, especially axes, have predominated, due to the consideration of these objects as grave goods of particular significance as votive elements (Guilaine 2012), interpreted as elements of individual representation (Sohn 2012) or as 'foundational deposits', 'sacred objects' or 'ritual offerings', because of their presence alongside other symbolic objects, especially the so-called anthropomorphic plaque idols.

In the few cases in which they have been analysed from a holistic perspective, they have provided very relevant information on the procurement of stone resources, the processes of deposition of these materials in the burial mounds or inside the tombs, and their functions (e.g. Lozano Rodríguez *et al.* 2016; Masclans *et al.* 2021). For the specific chronology of our study, the third millennium cal. BC, the geographical area and the funerary contexts, no typological classification, nor technological and functional study, have been carried out previously on this category of artefact.

This paper analyses the biography of an assemblage of macrolithic materials from a holistic perspective including analysis of the typology, technology, function and raw materials in funerary contexts. The main objective is to determine the functionality, symbolic value, ritual significance and social role of the macrolithic objects deposited in the Chalcolithic collective tombs of the La Orden-Seminario site (Huelva). Specifically, we are dealing with the tools documented in three collective tombs (Linares-Catela & Vera-Rodríguez 2015; 2021; Vera Rodríguez *et al.* 2010). A detailed and individualized study of all of

the macrolithic elements is carried out in order to determine the patterns of deposition and rituality associated with these elements in each tomb and in the group of third-millennium BC tombs formed by two hypogea (1336, 7016) and one *tholos* (7055).

Theoretical approach, methods and materials

The theoretical and methodological approach to the analysis is based on the biography of the object. The biographical approach to archaeological material culture stems from anthropology and ethnography. From the anthropological perspective, it is understood that all things in the tangible world of humans have a biography and a life trajectory and 'social life' similar to humans (Kopytoff 1986). Objects are made, used, exchanged, reused and discarded, and they all have a cultural meaning (Appadurai 1986). They all have a material and symbolic connection to the people who have made, owned and used them (Gosden & Marshall 1999), even beyond death (Strathern 1988). In this sense, it is argued that the biographies of people are linked to the biographies of objects (Hoskins 1998).

This approach has been widely applied in archaeology since the end of the last century for the study of artefacts and constructions. We highlight two pioneering contributions by Tringham (1994; 1995) and Shanks (1998), who created the concepts of 'life-use' and 'life-cycle' of artefacts by observing that artefacts go through various stages of use that reflect social behaviours. Similarly, this methodology has been successfully applied to the study of 'axe-amulets' and clay stamps (Skeates 1995; 2007), polished stone tools with cutting edge (Lillios 1999; 2000) and 'relic-plaques' (Lillios 2003; 2010), demonstrating two constant parameters that endow objects with social and cultural meaning: time and memory. Also, this analytical, methodological and theoretical approach has previously been applied to other macrolithic assemblages with similar characteristics to those presented in this work (Martínez-Sevilla 2018; Martínez-Sevilla *et al.* 2016; 2018; 2020).

In this paper, we focus on the technomorphological analysis (typology, technology and raw materials), 'life-cycles' (production, use, reuse, reworking and recycling) and ultimate deposition of macrolithic tools in the collective tombs. The application of this concept is based on understanding the object as a living part of society and attempting to infer social behaviours from its analysis. Each of the stages of the life of an artefact, birth, life and death, is imbued with specific cultural meanings, social values and cosmovisions. Therefore, the

detailed study of the processes of production, use and abandonment, as well as circulation and reuse, may enable us to identify behavioural patterns that are the reflection of culturally and socially agreed actions. This approach, although not exclusive, is complementary to the technical and aseptic vision of the *chaîne opératoire* (Edmonds 1990; Karlin *et al.* 1991; Leroi-Gourhan 1964; Pelegrin 1985; 1986; Pelegrin *et al.* 1988; among others).

The assemblage of macrolithic materials under study consists of 20 elements from three tombs at the Copper Age necropolis of the site of La Orden-Seminario. All of these elements have been analysed individually. The context of their placement within each funerary structure is considered as the first level of interpretation. The three tombs, together, are used as the level of analysis of the general human context. A morphometric and morphotypological study was carried out. The presence of thermal alterations and the state of conservation were considered for each element. The photographs were taken with a Canon EOS 7D digital camera with a Sigma DC 17–70 mm lens and a Canon EF 100 mm macro lens. Analysis of the technological and use-wear traces was carried out using a binocular magnifying glass with a magnification of 8× to 50× and the images were taken with a Nikon D5000 camera with a NIKKOR AF-S DX 18–55 mm VR lens. The study and description of the active work surfaces followed the established methodology and nomenclature (e.g. Adams *et al.* 2009; Dubreuil *et al.* 2015). Comparison with ethnographic and experimental examples is used for the functional analysis. Experimental studies with similarity of artefact types and raw materials are used as references for the grinding tools (Adams 1989; Adams *et al.* 2009; Delgado-Raack 2008, 292–347; Dubreuil 2004; Hamon 2008; Menasanch *et al.* 2002; Risch 2002, 111–27) and polished stone axes (Masclans Latorre *et al.* 2017a,b; Pétrequin & Pétrequin 1993).

The lithology of the materials was determined by visual petrographic analysis using hand lenses and binocular, in order to preserve the physical integrity of the archaeological artefacts.

An extensive series of radiocarbon dating was carried out to determine the chronology and ‘life cycles’ of the tombs. Bayesian modelling in each tomb has made it possible to establish the different burial phases and the temporality of the funerary deposits and materials (Linares-Catela & Vera-Rodríguez 2021). The ¹⁴C dates were calibrated using the international atmospheric curve IntCal20 (Reimer *et al.* 2020) and the OxCal v 4.4 software (Bronk Ramsey 2001; 2009). In the archaeological

context and discussion, the dates are provided calibrated BC and modelled to 2σ (95 per cent probability) or 1σ (68 per cent probability).

This approach and methodology allows us to reconstruct the ‘life-history’ of the objects located in the funerary contexts, both in their previous stages of use in the domestic activities and in their role as grave goods and offerings in the sphere of the dead. In this way, we will be able to evaluate the social meaning, ritual function and symbolic value of these objects in relation to mortuary practices in the dynamics of collective funerary activity. We can also, tentatively, propose possible associations between the objects and the people buried in the tombs and consider the possible relationships of belonging, possession or offering to the deceased according to sex and age. All of this enriches our knowledge of the complex world of death in the Chalcolithic tribal communities of the southern Iberian peninsula.

The geographical and archaeological context: La Orden-Seminario site

The site of La Orden-Seminario is located on the Atlantic coast of southwestern Spain, on a 23 ha plateau to the north of the present-day city of Huelva (Fig. 1A). During the Flandrian transgressive maximum, c. 6500–4000 BP, the peninsula occupied the centre of the palaeoestuary of the Tinto-Odiel rivers, which shaped a large inlet to the sea (Fig. 1B) (Cáceres Puro *et al.* 2018; Carro *et al.* 2019). The settlement has a polynuclear necropolis, dated to the fourth and third millennia cal. BC (Linares-Catela & Vera Rodríguez 2015), organized in two groups (Fig. 1C) of structures excavated in the Tertiary silty-sandy clay substrate of the ‘Arenas de Huelva’ Formation (Baceta & Pendón 1999, 420; Mayoral & Abad 2009, 23). In both groups, there are different collective tombs from the Late Neolithic and Copper Age, including pits, hypogea and *tholoi*. Within the Copper Age tombs and in the surrounding area, there are also individual covered burials dated to the Early Bronze Age, including small ‘subterranean caves’ (rock cut tombs), stone structures and pits.

The materials studied here come from three tombs (Linares-Catela 2017): T1336 in the northwest group and T7016 and T7055 in the southeast group (Fig. 1C; Tables 1 & 2). The other two Chalcolithic tombs in the southeast necropolis, hypogeum 7005 and *tholos* 7049, have not been included in this study due to the absence of macrolithic tools, either because of an intentional under-representation of

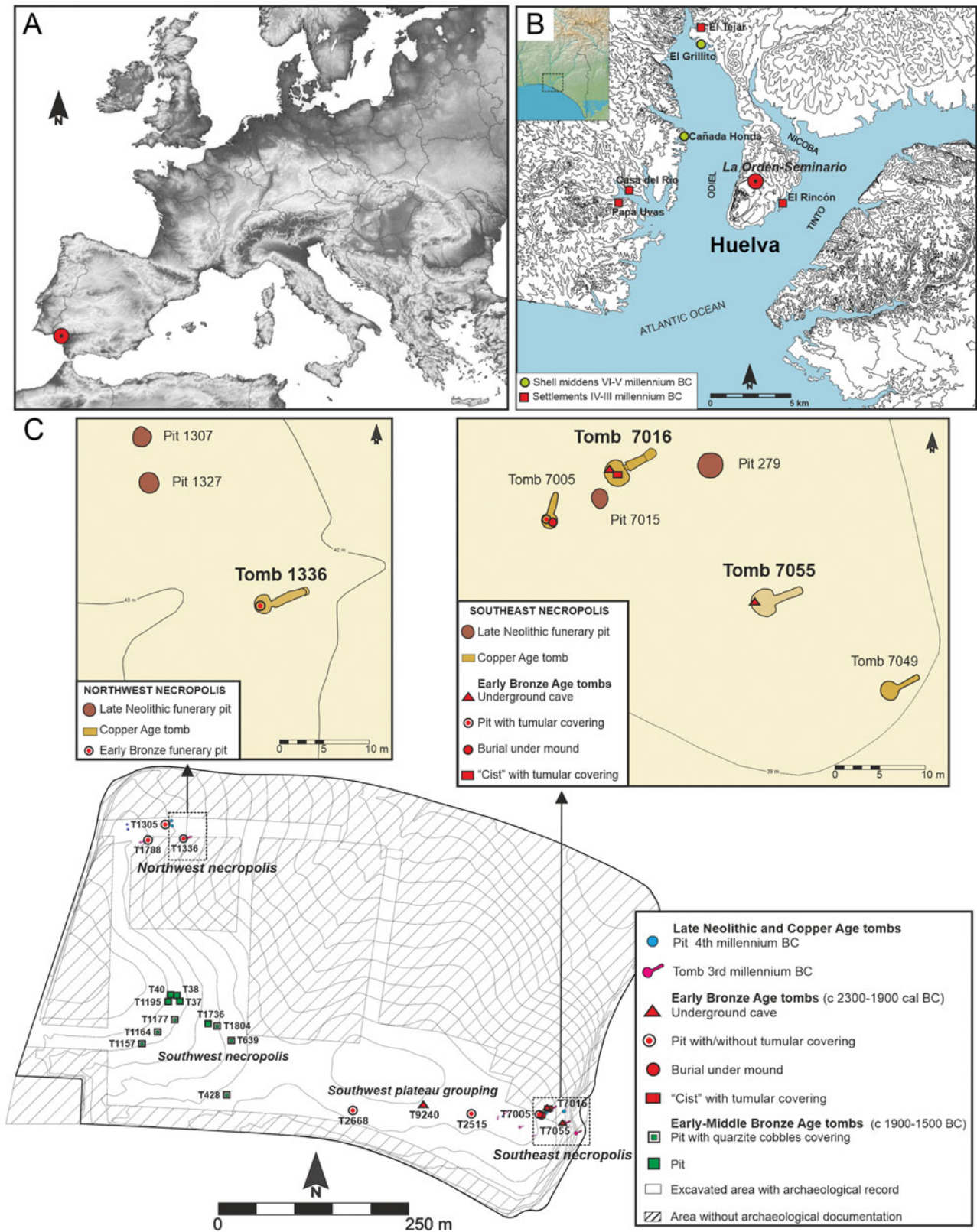


Figure 1. (A) Location of the La Orden-Seminario site; (B) Palaeogeography of La Orden-Seminario and other archaeological late prehistoric sites; (C) Necropolis of La Orden-Seminario and location of the tombs studied in this work, highlighted in bold.

Table 1. Macrolithic tools from tombs 1336, 7016 and 7055 of La Orden-Seminario (Huelva). The symbol + in the measurements indicates that the piece was fractured; these measurements have not been considered from the morphometric point of view.

Tomb	Ref. no.	Funerary level	Tool activity	Tool type	Lithology	Integrity	Active faces	Active surface type	Burned	Length (mm)	Width (mm)	Height/ Thickness (mm)	Cutting edge width (mm)	Weight (g)	Ochre
1336	70a	2		Slab	Purple slate	100%			No	151.60	86.81	16.06	55.22	181.5	No
1336	1	Reuse	Passive	Grindstone	Greywacke	50%	1	Flat-Regular	Yes	244+	165	46.52		2954	No
1336	212		Passive	Grindstone	Greywacke	-25%	1	Concave-Regular	Yes	320+	120+	104.33		7000	No
1336	6670b		Passive	Sharpener/ polisher	Greywacke	25%	1	Flat-Regular	Yes	239+	150+	73		4200	No
1336	6670a		Passive	Grindstone	Calcarenite	-25%	1	Flat	No	220+	66.44+	56.87		882.6	No
7016	5		Active	Hand hammer	Quartzite	100%			No	74.97	70.7	44.92		386.6	No
7016	438	2	Active	Axehead	Microgabbro	100%			No	135.12	59.12	29.43	54.74	464.2	No
7016	295	2	Active	Axehead	Microgabbro	100%			No	117.91	51.64	32.23	54.62	328.2	No
7016	177	2	Active	Hand hammer	Microgabbro	100%			No	127.15	44.68	41		496.6	No
7016	395	2	Active	Axehead	Microgabbro	100%			No	170.05	56.14	36.02	48.75	618.5	No
7016	396	2	Active	Axehead	Microgabbro	100%			No	138.9	51.54	33.26	39.31	367.5	No
7016	397	2	Active	Axehead	Microgabbro	100%			No	218	75.04	48.15	60.55	1296	No
7016	394	2	Active	Axehead	Microgabbro	100%			No	107.44	50.35	30.03	52.44	258.7	No
7016	427	2	Active	Axehead	Microgabbro	100%			No	112.05	58.08	22.18	58.34	235.5	No
7016	289	2	Passive	Grindstone	Greywacke	75%	1	Concave-Regular	Yes	500+	430.5	14.5		36000	No
7016	290	2	Passive	Sharpener/ polisher-stele	Greywacke	100%	2	Flat-Regular	No	660.5	350	90		35000	No
7016	167	3	Passive	Grinder	Greywacke	-25%	1	Flat-Regular	No	89.92+	29.75+	14.26		45	Yes
7016	13	3	Active	Grinder	Greywacke	-25%	1	Flat-Regular	Yes	47.92+	35.95+	38.69		92.9	No
7055	29	4	Active	Hammer	Igneous rock	100%			Yes	139.41	81.2	37.29		733.3	No
7055	188	4	Passive	Wrist-guard	Sandstone	100%			No	100.55	24.13	6.36		39.3	No

Table 2. *Macrolithic tools from tombs 1336, 7016 and 7055 of La Orden-Seminario (Huelva): types, 'life-cycles', chronology and funerary context (radiocarbon dates published in Linares-Catela & Vera-Rodríguez 2021).*

Tomb	Tool	Lithology	Source	State	First use	Reuse and reworking	Recycling as	Deposit in the funerary space	Tomb type	MNI, sex and age	Funerary deposit	Chronology ¹⁴ C and modelled date cal. BC (1σ)
1336	Grindstone	Greywacke	Non-local	Fragmented and burned	Cereal grinding	Broken grindstone	Building material	Atrium paving, entrance	Hypogeum	MNI: 9 Sex: 6 ♂, 2 ♀, 1 n-s Age: adults	Collective: primary burials, secondary deposits and packages	Episode 1: 2740–2560 Episode 2: 2600–2470 Episode 3: 2540–2380 Episode 4: 2480–2290
1336	Grindstone	Calcarenite	Non-local	Fragmented and burned	Cereal grinding	Broken grindstone	Building material	Entrance, outdoor	Hypogeum			
1336	Sharpener/polisher	Greywacke	Non-local	Fragmented and burned	Polisher	Broken and resharpened Sharpener/polisher	Building material	Entrance, outdoor	Hypogeum			
1336	Slab-plaque	Slate	Non-local	Primary	–	–	–	Burial space, passage	Hypogeum			
1336	Grindstone, quern	Greywacke	Non-local	Fragmented and burned	Cereal grinding	Broken grindstone	–	Domestic, chamber infill	Hypogeum	–	–	Late Copper Age
7016	Sharpener/polisher-stele	Greywacke	Non-local	Reshape	Sharpener/polisher	Knapping, pecking and percussion	Stele	Atrium, entrance	Hypogeum	Phase 1A: Hypogeum MNI: 4 Sex: 2 ♂, 2 ♀ Age: adults Phase 1B: Hypogeum MNI: 3 Sex: 2 ♂, 1 n-s Age: adults	Phase 1A: collective secondary deposit Phase 1B: collective secondary deposit	Phase 1: Hypogeum 3130–2510 Phase 1A: Hypogeum 4330±60 BP: 3030–2890 cal. BC Phase 1B: Remodelled hypogeum 3960±50 BP: 2570–2350 cal. BC
7016	Grindstone	Greywacke	Non-local	Fragmented and burned	Cereal grinding	Broken grindstone	Building material	Entrance, closing wall	Hypogeum			
7016	Hand hammer	Microgabbro	Non-local	Fragmented	Cutting	Hand hammer	Hand hammer	Offering, passage	Hypogeum			
7016	Axehead	Microgabbro	Non-local	Reshape	Cutting	Fragmented, repecking and resharpened	Offering	Offering behind the stele, atrium	Hypogeum			
7016	Axehead	Microgabbro	Non-local	Reshape	Cutting	Knapping and resharpened	Broken grave goods	Grouped offering, passage	Hypogeum			
7016	Axehead	Microgabbro	Non-local	Reshape	Cutting	Fragmented, repecking and resharpened	Broken grave goods	Grouped offering, passage	Hypogeum			
7016	Axehead	Microgabbro	Non-local	Reshape	Cutting	Knapping and resharpened	Broken grave goods	Grouped offering, passage	Hypogeum			
7016	Axehead	Microgabbro	Non-local	Primary	Cutting	Disabled	Grave goods	Offering, passage	Hypogeum			
7016	Axehead	Microgabbro	Non-local	Primary	Cutting	Disabled	Grave goods	Offering, passage	Hypogeum			
7016	Axehead	Microgabbro	Non-local	Primary	Cutting	Disabled	Grave goods	Offering, passage	Hypogeum			

Continued

Table 2. *Continued*

Tomb	Tool	Lithology	Source	State	First use	Reuse and reworking	Recycling as	Deposit in the funerary space	Tomb type	MNI, sex and age	Funerary deposit	Chronology ¹⁴ C and modelled date cal. BC (1σ)
7016	Grinder	Greywacke	Non-local	Fragmented	Cereal grinding	Broken grinder	Grave goods	Chamber, grave goods	Mixed hypogeum	MNI: 2 Sex: 1 ♂, 1 ♀ Age: adults	Phase 2: collective secondary deposit	Phase 2: Mixed hypogeum 3975±45 BP: 2580–2450 cal. BC (modelled: 2560–2370)
7016	Grinder	Greywacke	Non-local	Fragmented	Cereal grinding	Broken grinder	Grave goods	Chamber, grave goods	Subterranean cave – ‘cist’	MNI: 2 Sex: 2 ♂ Age: adults	Phases 3–4: Primary burial: inhumation and secondary deposit	Early Bronze Age 2370–1800 Cave: 3796±50 BP: 2300–2140 cal. BC Cist: 3600±60 BP: 2120–1880 cal. BC
7016	Hand hammer	Quartzite	Local	Primary, with impacts	Lithic percussion		Discarded material	Atrium infill				
7055	Hammer	Igneous rock	Non-local	Primary, burned, with impacts, chipping and fractures	Hard minerals percussion	–	Building material / discarded material	Mound covering	Subterranean cave in <i>tholos</i>	MNI: 1 Sex: n-s Age: 7–8 years	Primary burial: inhumation	Phase 2: cave 3700±50 BP: 2200–1980 cal. BC (modelled: 2200–2030)
7055	Wrist-guard	Sandstone	Non-local	Primary	Archery	–	Grave goods	Cave, individual grave goods				

these materials, processes of reuse and/or the almost complete dismantling of the tombs. Likewise, in the Final Neolithic collective pits and individual Bronze Age tombs, no macrolithic tools were recorded in their grave goods or integrated into the architectural elements. In this sense, the limited number of macrolithic tools recovered in the domestic structures, as well as the scarce presence of grindstones, grinders, axes, adzes, etc., should be noted.

Stratigraphic analysis and Bayesian modelling of 17 radiocarbon dates on human skeletal remains have enabled the identification of two phases of funerary activity in the three tombs. The first is linked to collective practices, developed *c.* 2990–2330 cal. BC, with the period of greatest intensity occurring during the twenty-seventh to twenty-fifth centuries cal. BC. The second corresponds to the individual tombs dated between *c.* 2300 and 1900 cal. BC (Linares-Catela 2020; Linares-Catela & Vera-Rodríguez 2021).

Tomb 1336 is a hypogeum, 6.50 m long and up to 1.15 m maximum chamber height. It is formed by an open and stepped atrium, a longitudinal passage and an asymmetrical circular chamber 2.20 m in diameter, with the access oriented 80° east. The macrolithic objects come from differentiated spaces and contexts (Fig. 2). Two fragmented grindstones (Fig. 2:2 and 2:5), one of greywacke and one of calcarenite, and a broken sharpener/polisher of greywacke (Fig. 2:4) were documented in the atrium. These elements had been reused as construction materials for the floor paving, together with slate slabs, greywacke and calcarenite blocks and quartzite pebbles. A collective funerary deposit formed in four episodes of activity was recorded inside, consisting of juxtaposed primary and secondary skeletal remains from a minimum of nine individuals and several groups of grave goods associated with the individuals. The deposit was formed in short intervals, in which the burials of one to three individuals belonging to between one and five generations were carried out between the twenty-eighth and twenty-fourth centuries cal. BC, with an association of ‘standardized’ personal grave goods in episodes 2, 3 and 4: two pottery vessels (one open and one closed) and one or two knapped flint and/or rhyolite blades. Episode 2, consisting of three individuals deposited over the period *c.* 2630–2440 cal. BC (2 σ), included a purple slate plaque (Fig. 2:1). This object was placed together with other materials to the west of the head of individual 8, an adult male placed in the passage in right lateral flexed position with flexed upper and lower extremities. The Bayesian modelling provided the date of 2580–2520 cal. BC (1 σ) for this burial. Following the collapse of the roof and the

near complete sedimentation of the structure, the tomb was reused as a domestic space, in which a fragmentary greywacke grindstone (Fig. 2:3) was documented, in association with a workbench and several fragments of pottery. The upper level was reused for a burial during the Early Bronze Age.

Tomb 7016 presents a more complex architectural and stratigraphic sequence. It was originally built as a hypogeum oriented 65° northeast, with a maximum length of 6.20 m and a height of 1.20 m in the chamber. It consisted of a paved atrium with a stepped entrance, a longitudinal passage segmented by jambs carved into the geological substrate and a symmetrical circular chamber 3 m in diameter with a vaulted section (Fig. 3). This structure may have been built and used for a first phase of funerary activity *c.* 3100–2700 cal. BC (1 σ), housing the remains of a minimum of four adults, together with very scarce and fragmented grave goods. Subsequently, *c.* 2850–2510 cal. BC (1 σ), the spatial remodelling of the hypogeum took place, including the placement of the greywacke sharpener/polisher-stele in the atrium (Fig. 3:13), the clay floor in the atrium and passage, and the masonry wall closing the entrance, resting on a large fragment of greywacke grindstone (Fig. 3:12). Several elements were recorded on the floor of the entrance and passage: three pottery fragments from a flat dish, seven polished micrograbbro axes (one on top of the grindstone, three forming a deposit behind the south jamb, two on the threshold to the chamber and one hidden behind the stele; Figs 3:1, 3:2, 3:3, 3:4, 3:5, 3:7 & 3:8) and one micrograbbro hammer behind the north jamb (Fig. 3:6). The skeletal remains of a minimum of three individuals were identified in the chamber, forming a secondary deposit together with sparse grave goods: fragments from three pottery vessels, a flint arrowhead and a deer antler. After the collapse of the chamber, the tomb was reconstructed as a mixed hypogeum, covered by a false-domed vault made out of slate slabs and quartzite pebbles bound with clay. This mixed hypogeum housed a burial deposit, *c.* 2560–2340 cal. BC (1 σ), consisting of the remains of a minimum of two individuals, together with fragments of three hemispherical pottery bowls, a jar, a cooking dish, a volcanic rock arrowhead and a fragment of a greywacke grindstone (Fig. 3:9). After disuse, the funerary structure became sedimented. A quartzite handstone (Fig. 3:11) and a fragment of a greywacke grinder (Fig. 3:10) were documented in the fill of the atrium and passage. The space was reused in the Early Bronze Age for two individual burials, one in an ‘underground cave’ and the other in a quadrangular stone structure.

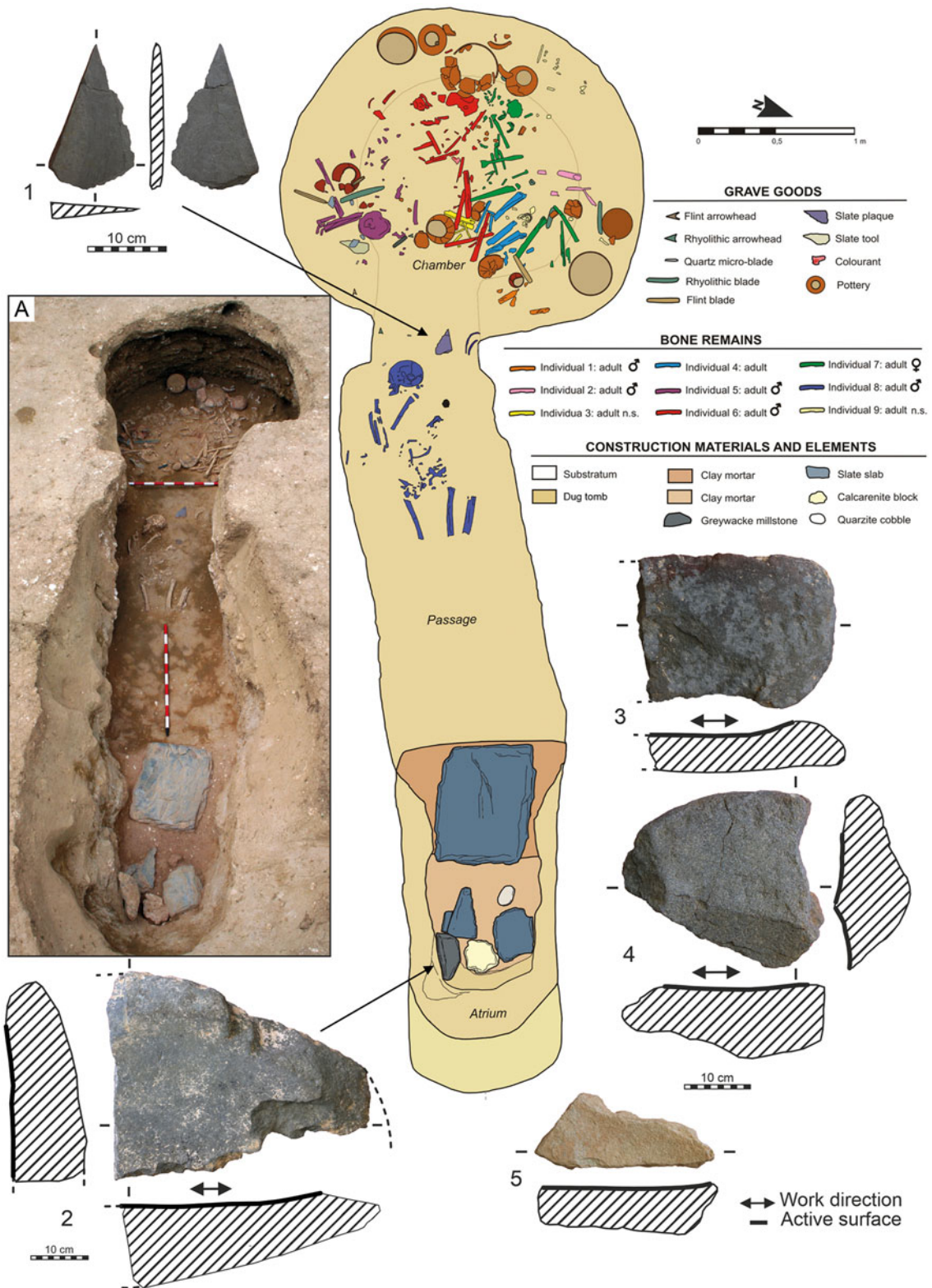


Figure 2. Plan of hypogeum 1336. (A) Photograph and location of the macrolithic elements within the tomb. Macrolithic materials; (1) Purple slate plaque (70a); (2) Greywacke grindstone (212); (3) Greywacke grindstone (1); (4) Greywacke sharpener/polisher (6670b); (5) Calcarene grindstone (6670a).

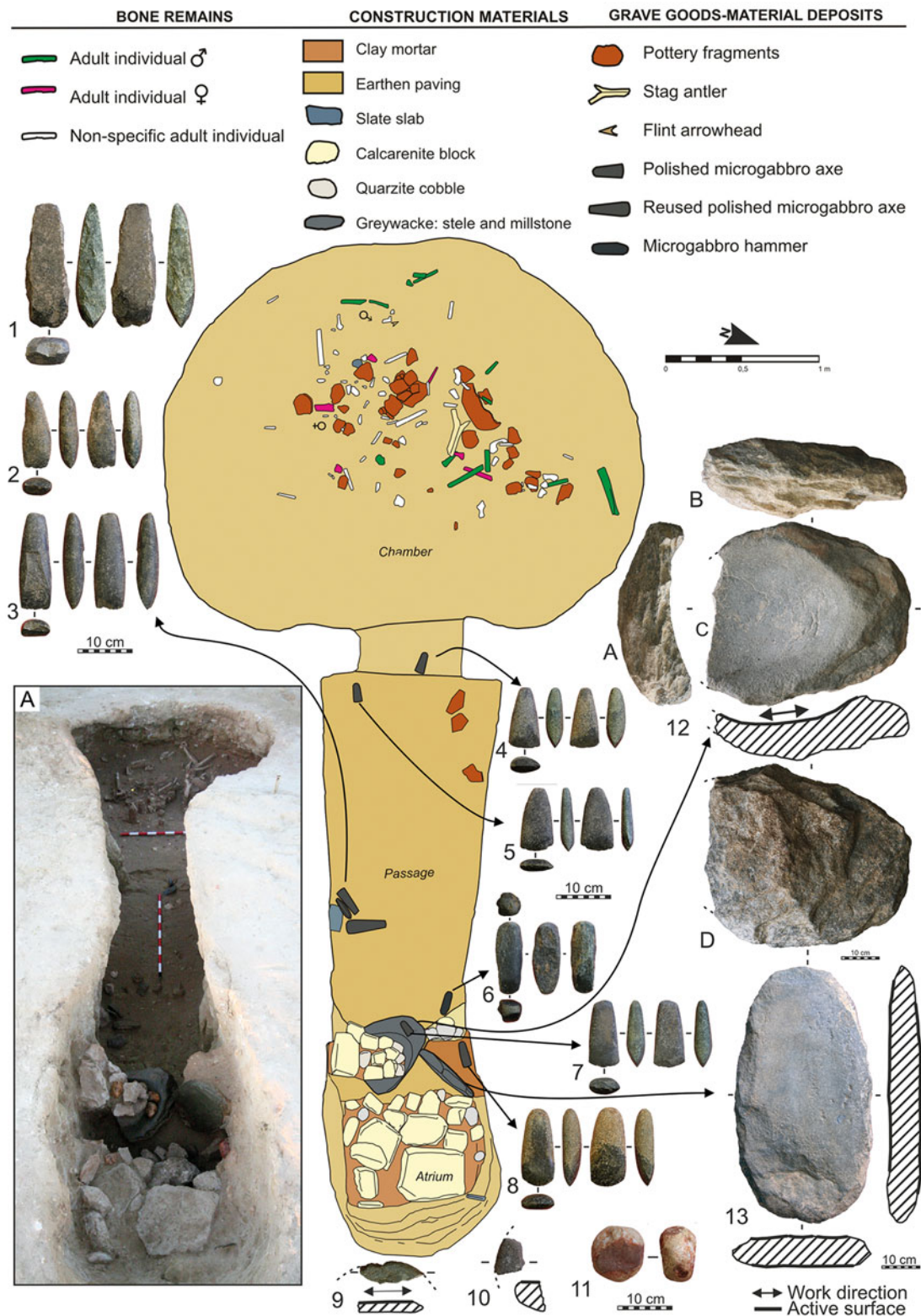


Figure 3. Plan of hypogeum 7016. (A) View and location of macrolithic elements within the tomb. Macrolithic materials: Polished stone axes 1 (397); 2 (296); 3 (395); 4 (396); 5 (427); 7 (394); 8 (438); Hammer 6 (177); Grinders 9 (13) and 10 (167); Handstone 11 (5); Grindstone 12 (289); Sharpener/polisher-stele 13 (290).

The macrolithic elements from *tholos* 7055 were recovered from the Early Bronze Age levels. The tomb is a 5 m long structure, oriented 65° northeast, partially excavated in the geological substrate and lined with blue slate slabs. It consists of an open atrium with a stepped entrance, a passage covered by slab lintels and a false-domed chamber reaching 1.70 m in maximum diameter (Fig. 4). It contains collective funerary activity dated *c.* 2780–2430 cal. BC (1 σ), with three superimposed levels in which the remains of a minimum of 17 individuals were documented with sparse grave goods. After the collapse, the tomb was reused *c.* 2200–2030 cal. BC (1 σ) to create a ‘subterranean cave’ for the burial of a 7–8-year-old child. The child was accompanied by grave goods consisting of two stacked pottery vessels, a rhomboid copper dagger and a sandstone wrist-guard (Fig. 4:1). A basic igneous rock hammer (Fig. 4:2) was recovered from the mound covering the burial.

Tool types and raw materials

The distribution of the 20 macrolithic elements is uneven between the three burials. Hypogeum 7016 contains the largest number ($n=13$), followed by hypogeum 1336 ($n=5$) and, finally, *tholos* 7055 ($n=2$). The great majority of the tools correspond to Chalcolithic funerary activity (*c.* 3000–2400/2300 cal. BC), with a probable duration of use of the collective burials of seven to three centuries and with a greater intensity of occupation of the settlement between the twenty-seventh and twenty-fifth centuries cal. BC. Only the two objects from grave 7055 correlate with the funerary dynamics of individual burials of the Early Bronze Age, dating between the twenty-second and twenty-first centuries cal. BC (Linares-Catela & Vera-Rodríguez 2021).

The assemblage includes tools of different types (Fig. 5; Table 1). From the point of view of the action they performed in the work in which they were used, passive (stationary) tools (grindstones and sharpener/polisher) and active (mobile) tools (grinders, axes, hammers and handstones) have been documented, as well as elements that do not fall into these groups, such as a slate plaque and a wrist-guard. The distribution of types between the three burials is uneven (Fig. 6). The types found in hypogeum 1336 and 7016 are grinding and polishing tools, while percussion tools are documented in tombs 7016 (hypogeum) and 7055 (*tholos*). Polished stone axes are only documented in tomb 7016, probably deposited together with

the tools used in their manufacture: the hammer and the sharpener/polisher.

From a geological perspective, most of the elements belong to materials allochthonous to the site of La Orden-Seminario (Fig. 7). In the surrounding environment there are rocky outcrops due to the geological formation of this area, composed of silty-sandy clays, and the palaeogeography of the site, located in an inlet that began to be filled from the Early Bronze Age onwards by fine sediments: sands, silts and loams (Cáceres Puro *et al.* 2018; Carro *et al.* 2019). Therefore, all the materials were obtained from places more than 10 km away, either in quarries of massive outcrops, in detached boulders or cobble stones accumulated in secondary deposits in the Odiel, Tinto and La Nicoba riverbeds. Only the quartzite hand hammer (Fig. 7:C) is from the local environment, originating in the Quaternary ‘Gravel and Red Sands of El Conquero’ Formation, outcropping in the headlands and endorheic areas less than 1 km from the site.

The greywackes (Fig. 7:D & 7:E), purple slates (Fig. 7:F) and sandstones (Fig. 7:G) outcrop in the alternating sequences of the Culm Group, the uppermost stratigraphic unit of the Iberian Pyritic Belt (Donaire *et al.* 2009; Moreno 1988). The detached blocks and the nearest outcrops of greywacke and sandstone are located 11 km to the northwest of the site, on the left bank of the Odiel River and along a section of the Tejar stream, in the vicinity of Gibrleón. They are hard and greyish in colour, fine sand-sized grained, with a detritic matrix. The nearest outcrops of purple slate are located some 25 km to the northwest of the site.

The calcarenites (Fig. 7:H) can be traced to the Niebla Formation of the Guadalquivir Basin (Mayoral & Abad 2009), where bioclastic calcarenites (calcarenites and calcirudites) containing abundant marine fossils and foraminifera alternate with Tertiary limestones within a 15–20 km radius, with the highest concentration to the south of Niebla.

Microgabbros (Fig. 7:I & 7:J) and basic igneous rock (Fig. 7:K) are materials outcropping approximately 30–40 km north of the site, in the Volcanic-Sedimentary Complex of the Iberian Pyritic Belt (Donaire *et al.* 2009; IGME 2015; Leistel *et al.* 1997). The axes and hammer from hypogeum 7016 are made from a fine-grained microgabbro with an equigranular phaneritic texture, composed of plagioclase and pyroxene. The basic igneous rock hammer from *tholos* 7055 displays a porphyritic aphanitic texture with abundant plagioclase phenocrysts embedded in a microcrystalline and slightly foliated matrix.

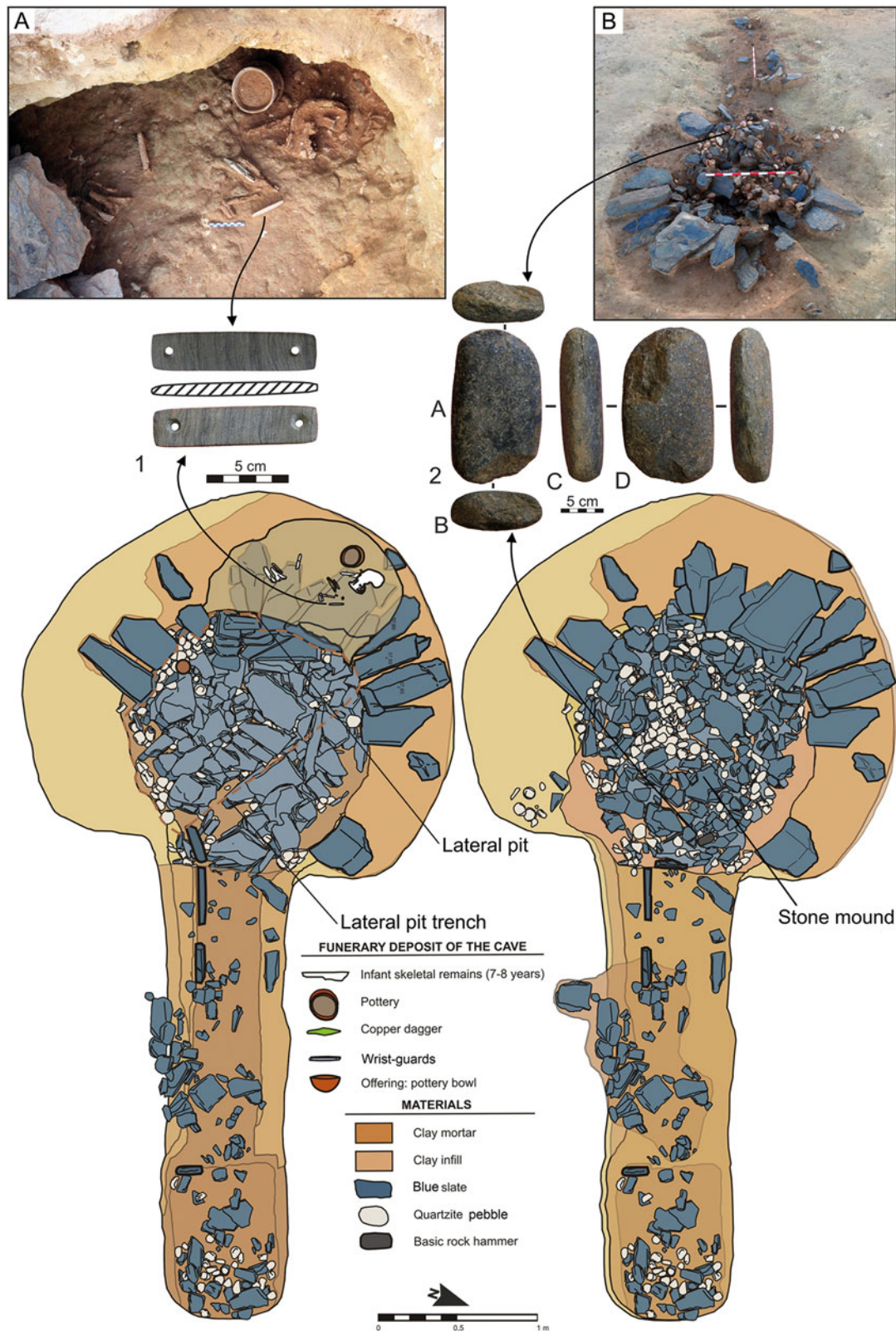


Figure 4. Plan of tholos 7055. (A) 'Underground cave' with burial with grave goods; (B) Mound over the structure. Macrolithic materials: (1) Wrist-guard (188); (2) Hammer (29).

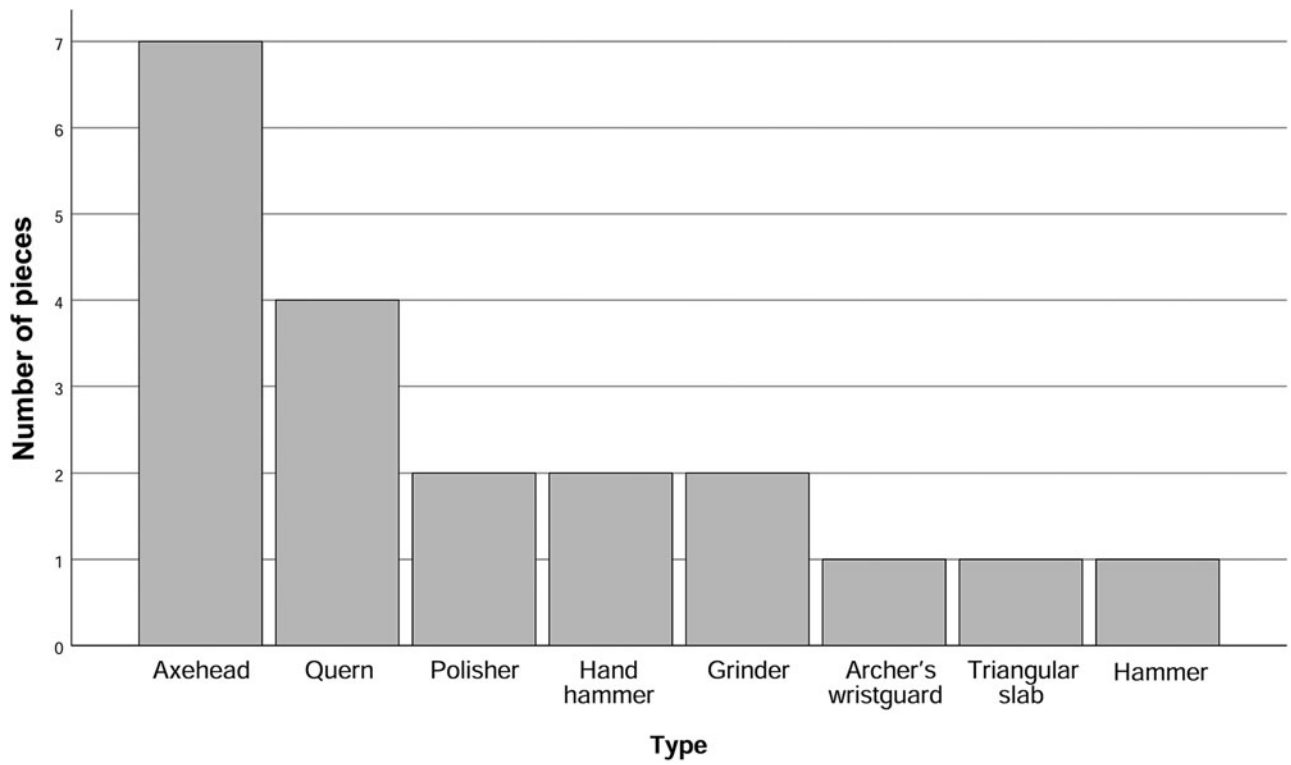


Figure 5. Bar chart with types present in the assemblage.

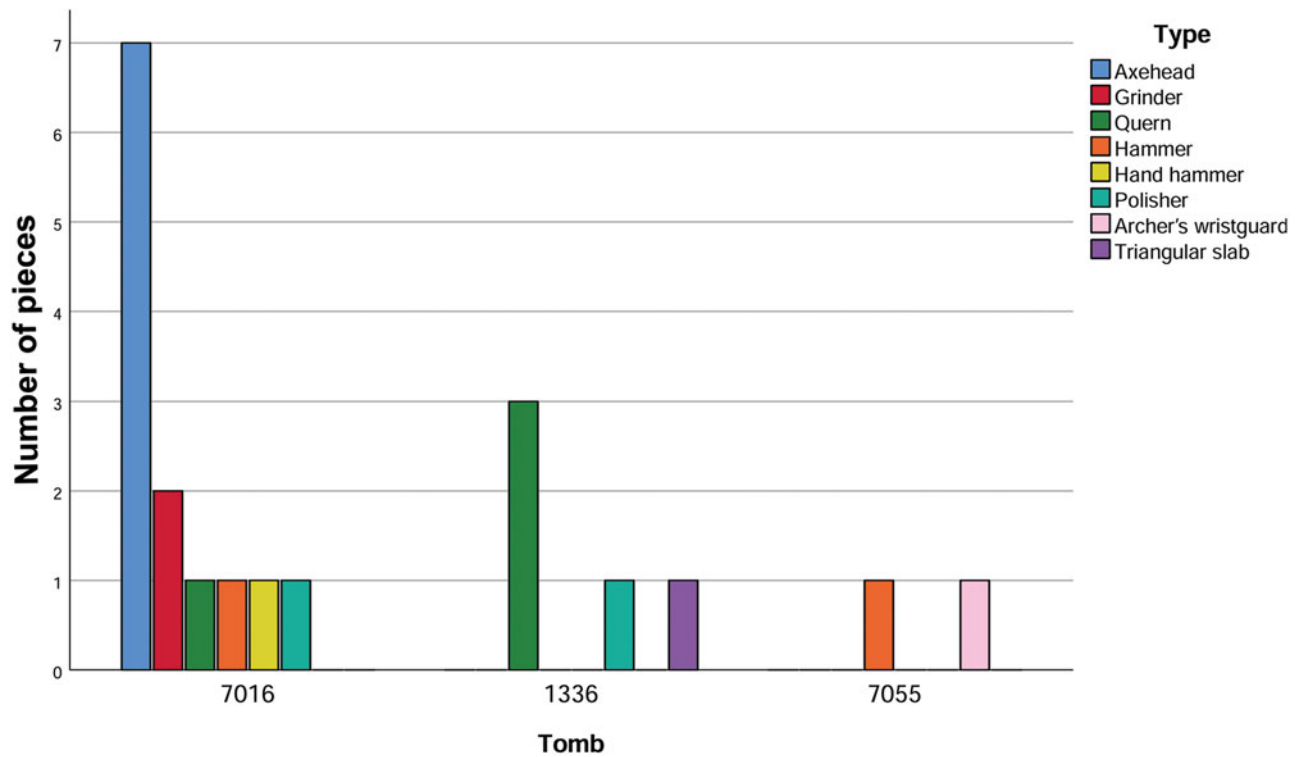
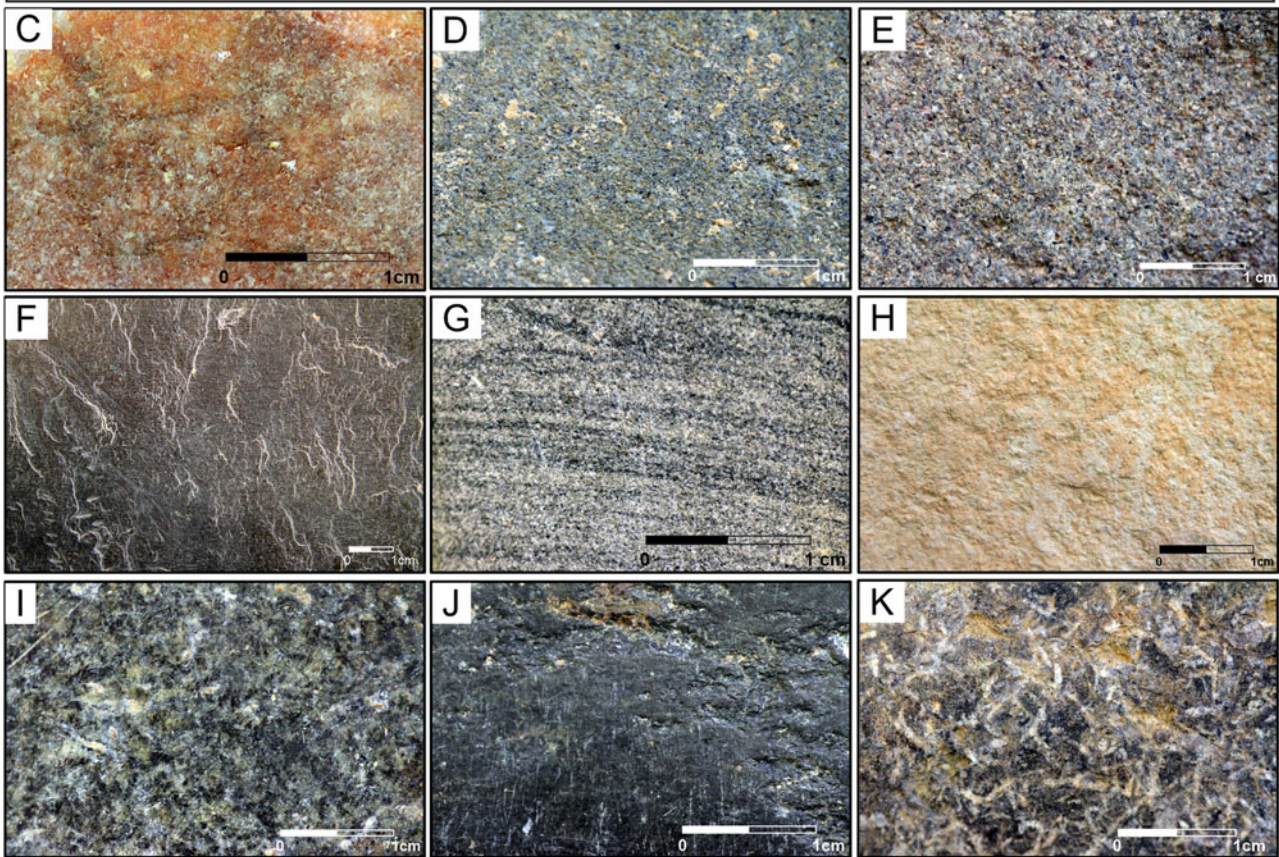
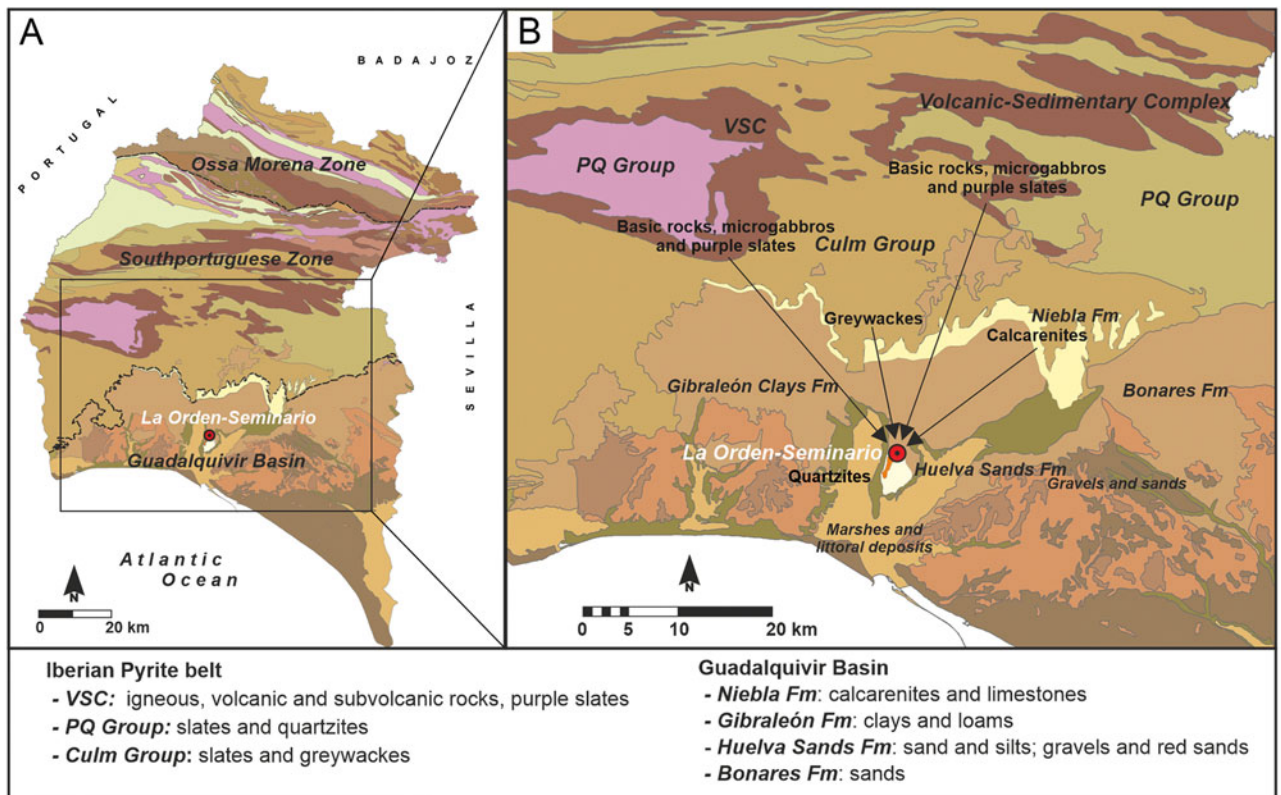


Figure 6. Bar chart with types per tomb.



The lives of the macrolithic tools at the necropolis of La Orden-Seminario

The macrolithic elements contained in the tombs are completely finished tools, that were used and, to a large extent, reused for a second purpose, even recycled, and finally deposited and placed in the tombs for various purposes: as building materials, as symbolic elements, as grave goods or as ritual offerings of the dead and/or tribute to the persons or ancestors.

Production, use, reuse and recycling

The reconstruction of the processes of production, use and reuse (e.g. Adams 2002; Baysal & Wright 2005; Dubreuil 2002), enables us to reconstruct the complex biographies of these objects. Reuse or recycling is one of the aspects that has been considered most carefully, given the funerary context in which these tools were deposited. The recycling of functional elements in the archaeological record has been defined as the repurposing of the tool for a new use (Schiffer & Skibo 1987), or what other authors have called 'redesigned tools' (Adams 2002). In this way, we understand that recycling implies a change in the type of use for which a tool was originally made. The biographies of the macrolithic elements that we have reconstructed in our study have been divided into two groups: grinding and sharpening/polishing tools, and tools related to cutting or percussion.

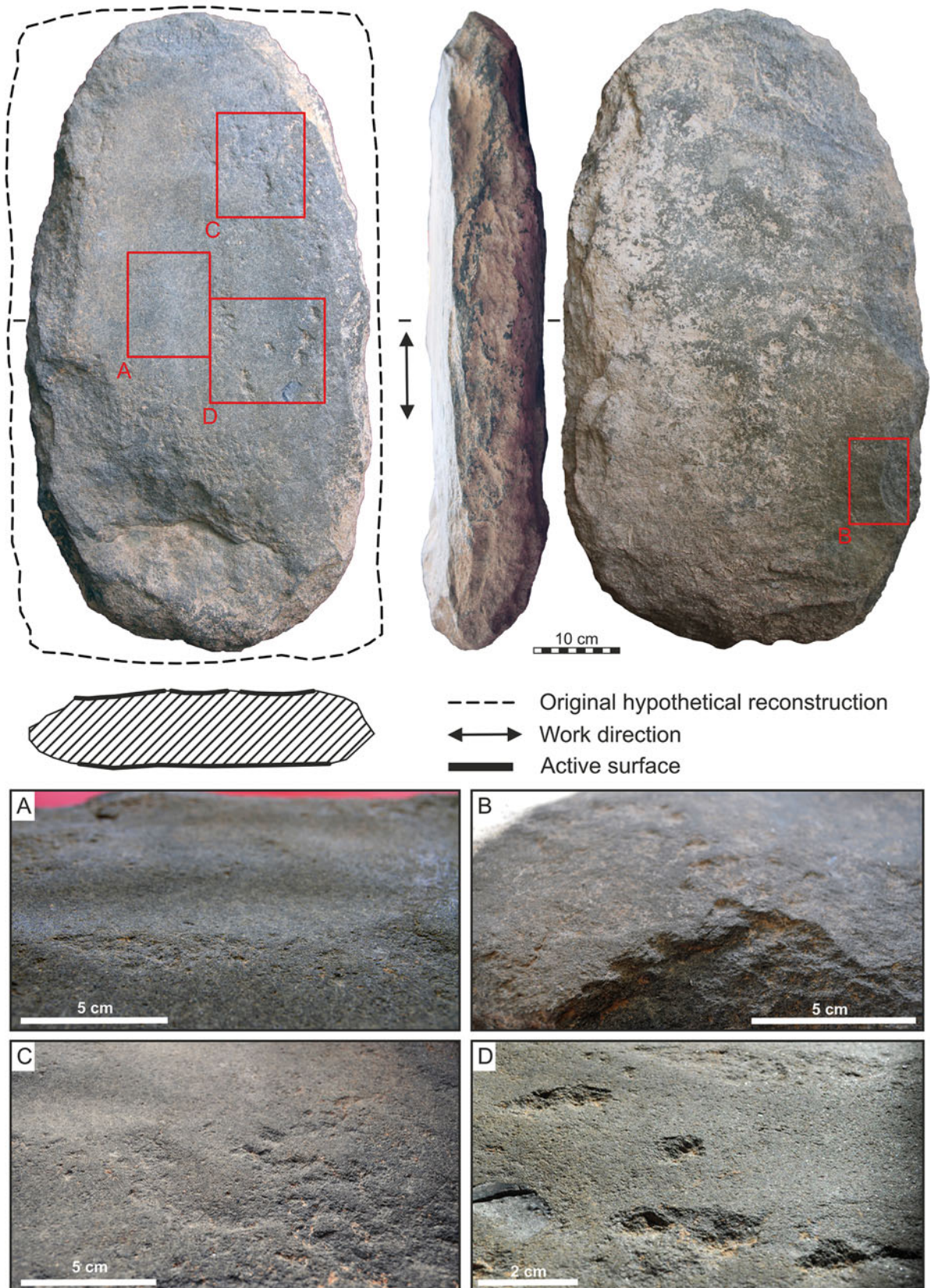
Grindstones, sharpener/polisher and grinders:

The technology used to make grindstones and sharpeners/polishers can be identified on the bases of the pieces and on the outer edges, although it is rarely possible to reconstruct the complete production sequence, since we are dealing with completely finished and used tools. In the best-preserved element from hypogeum 7016, a number of extractions can be identified on the underside, in order to achieve the convex shape (Fig. 3:12B and 3:12D). The evidence of flaking is indicative of a violent direct percussion technique with the purpose of rounding the sharp areas of the natural support and shaping the underside of the grindstone. The shaping technique has been replicated experimentally and there is a

technical concordance between both procedures (Aranda Jiménez *et al.* 2012, 56; Martínez-Sevilla *et al.* 2020). The reverse side of the tools is barely worked, maintaining the original natural appearance or displaying the extractions resulting from rough knapping. The next step in the manufacturing process is the configuration of the active work surfaces by pecking (Martínez-Sevilla *et al.* 2020). This technique is documented residually in the external areas of the active surfaces of some elements of the analysed assemblage, and is differentiated by a regular sinuous surface with numerous pits of different depths (Fig. 3:12C). In the case of the sharpener/polisher, the natural surface does not display pecking, and their polished appearance is the result of the work carried out (Fig. 2:4). Based on the macroscopic evidence of the grinding and polishing tools, the *chaîne opératoire* of production is similar to that documented in other contexts of the late prehistory of the Iberian Peninsula. The selection of natural supports and their transformation by external knapping and pecking of the working surfaces is similar in assemblages from the Late Neolithic (Aranda Jiménez *et al.* 2012, 60), the Copper Age (Martínez-Sevilla *et al.* 2020; Risch 2008) and even the Bronze Age (Delgado-Raack 2008; Delgado-Raack & Risch 2016; Risch 1995).

The grinding and polishing tools display use-wear that is indicative of their use in different activities. In the case of the sharpener/polisher, the active surfaces with abrasions and polishing, as well as the grooves resulting from these activities, indicate the polishing and/or sharpening of cutting tools (Fig. 2:4). In the case of the grindstones, the study of their work surfaces, as well as the direction of the use-wear, enables us to define two types of kinematics: on flat (Fig. 2:3 & 2:5) and concave (Fig. 2:2 and Fig. 3:12) surfaces. In both cases, the wear patterns are typical of mechanical friction between two stone elements. Likewise, all active surfaces show pits or pecking. These irregularities created in the surface are essential for processing cereals. Moreover, the grain wear patterns correlate with the active areas of the documented grinders and grinders (Fig. 3:9 & 3:10). These display regular flat topographies with the levelling of the grains and pits produced by pecking. These features are linked to

Figure 7 (opposite). (A) Geological formations on which the La Orden-Seminario site is located; (B) Provenance of the raw materials used in the macrolithic tools; (C) Quartzite (hammer, 5, T7016); (D) Greywacke (quern, 212, T1336); (E) Greywacke (quern, 1, T1336); (F) Purple slate (plaque, 70a, T1336); (G) Sandstone (wrist-guard, 188, T7055); (H) Calcarenite (quern, 6670a, T1336); (I) Microgabbro (axe head, 395, T7016); (J) Microgabbro (hammer, 177, T7016); (K) Basic igneous rock, (hammer, 29, T7055).



the processing of cereals, as is supported by the comparison of these traces with those obtained from experimental work (Bofill *et al.* 2013; Delgado-Raack 2008; Dubreuil 2002; Hamon 2008; Hamon & Plisson 2009; Menasanch *et al.* 2002; Risch 2002; Verbaas & van Gjin 2008; Zurro *et al.* 2005). These data confirm that the subsistence of the community of La Orden-Seminario was mainly based on two resources: a) the consumption of cereals; b) shellfish gathering, with a very high presence of malacological remains in the domestic structures (Vera Rodríguez *et al.* 2010).

The grindstones and sharpener/polisher had all reached the end of their use-life and/or have been recycled for other purposes. Breaks caused by the continued use of the active surfaces have been documented on grindstones (Fig. 2:2 & 2:3) and, possibly, in the case of one of the sharpeners/polishers (Fig. 2:4). Similarly, two cases of recycling have been documented: the intentional fracturing of a large grindstone (Fig. 3:12) and the reshaping of a sharpener/polisher by knapping and pecking it into an element in the shape of a stele (Fig. 8). In the case of the grindstone, the raised fractures in the section of the active surface are indicative of intentional breakage (Fig. 3:12C). Breakage, in grindstones with prolonged use, generally occurs in the central part due to the surface being pecked by percussion, and not on one of the sides of the proximal area. The sharpener/polisher, for its part, was transformed into a new element by means of direct percussion along the edges (Fig. 8:B) and pecking in order to smooth the outer areas and the grooves created from its original use (Fig. 8:C & 8:D).

Percussion tools, axes, hammers and grinders:

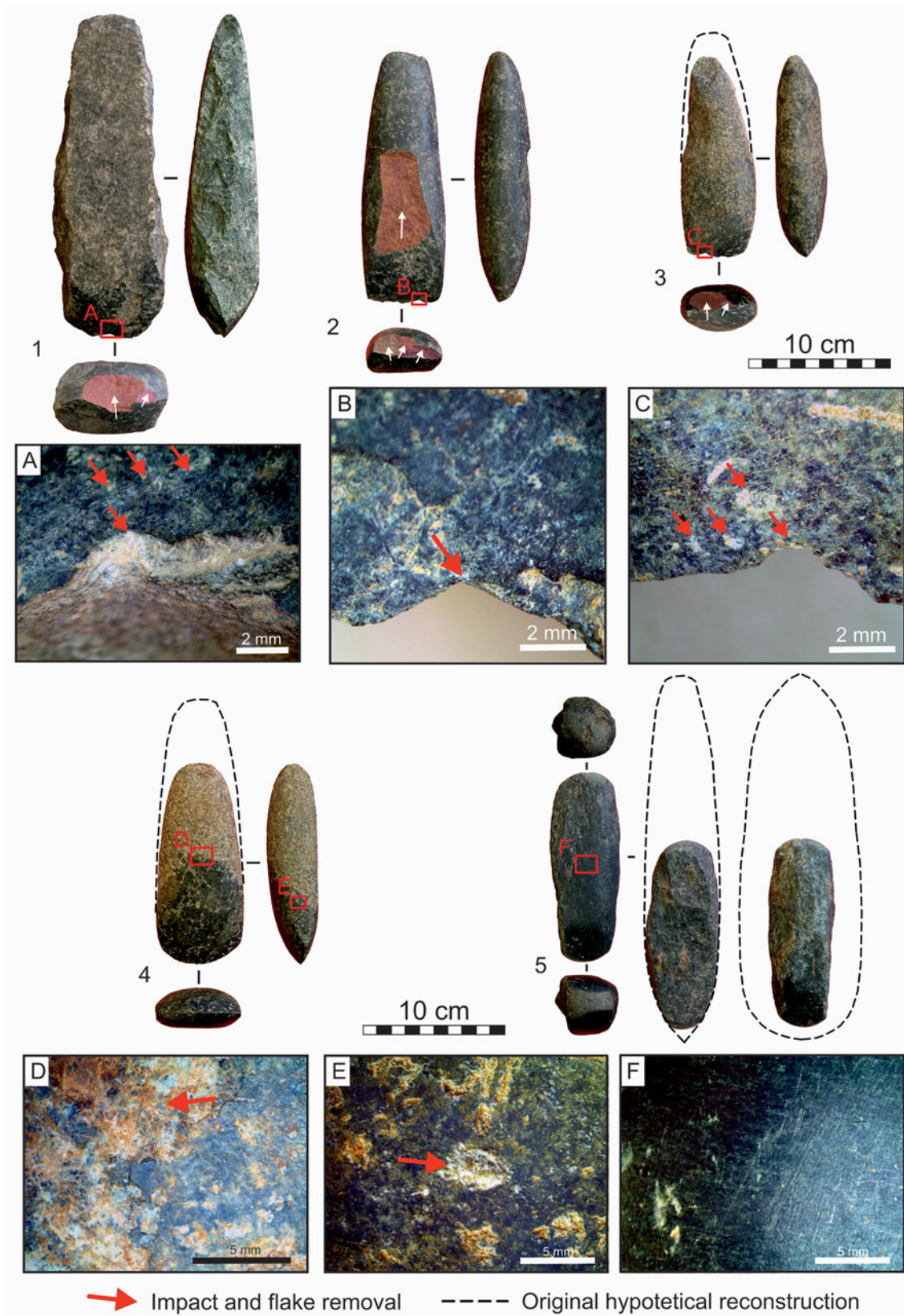
The techniques used in the production of axes are mainly knapping and pecking, followed by the final polishing (Morgado *et al.* 2013). The shaping of the preform is carried out by pecking the surface, until the final appearance of the tool is almost achieved (Morgado & Martínez-Sevilla 2013). Evidence of knapping has been identified on the sides of one of the elements shaped from a natural support (Fig. 9:1). Pecking is recurrently present in all the pieces, on all or part of the surfaces (Fig. 9). Polishing is the technique applied to finish the active surfaces of the tool and increases their uniformity and resistance to impacts. The polished elements

may appear fully polished or this treatment may be restricted to the working edge only. In ethnographic studies, total or partial polishing is linked both to the type of function of the tool and to the cultural traditions in different groups (Pétrequin & Pétrequin 1993). In our assemblage, there are elements with polishing of all of the surfaces (Fig. 3:1, 3:3, 3:5 & 3:6) or marginal and restricted to the edge (Fig. 3:2, 3:4, 3:7 & 3:8).

As regards their function, polished stone tools are used as elements shafted to a handle, mainly for cutting and chopping. This type of tool is intended for working wood in its broadest sense. In the case of larger pieces such as axes, these may have had a polyfunctional use, as is shown by ethnoarchaeological (Pétrequin & Pétrequin 1993) and traceological (Masclans *et al.* 2021; Masclans Latorre *et al.* 2017a,b) studies. Their main function would have been woodworking, but they may additionally have been used for other purposes such as cutting meat or vegetable fibres or even tanning skins. Cutting activities have created use wear on the active surfaces of all of the elements of the assemblage, leading to blunting and rounding of the edges (Fig. 9) and to accidental chipping from impacts (Fig. 9:2). Damage from impacts during use may eventually disable the cutting edge of the tool and require resharpening by polishing and reshaping the cutting edge. These maintenance activities have been observed on one of the elements, in which a chip has been polished over on the cutting edge (Fig. 9:2).

Once the cutting function was lost, these tools may be reused as percussion elements, thus obliterating the cutting edges. Among the studied elements, a fragment of polished stone has been reused on both sides as a hammer for pounding hard minerals (Fig. 9:5). Likewise, the other hammer and handstone were used for the same type of activity. This function can be inferred from the traces on the active surfaces created by repetitive impacts (Fig. 4:2B), accidental chipping (Fig. 4:2D) and even hairline fractures (Fig. 4:2C). The repurposing of tools is observed, in addition to the case of the aforementioned hammer, in two axes, probably due to fractures in the proximal areas (Fig. 9:3 & 9:4). This interpretation is based on the morphology of the elements and the superimposition of the pecking over the polishing that would have previously covered the entire

Figure 8 (opposite). *Technological and use-wear evidence on the sharpener/polisher-stele (290) from hypogeum 7016: (A) abrasion grooves from the polishing of sharp-edged tools; (B) traces of direct percussion impacts to shape the stele; (C) pecked surface to smooth the stele; (D) violent and irregular impacts between the abrasion grooves to flatten the surface.*



surface of these elements (Fig. 9:4D & 9:4E). One of the most outstanding behaviours associated with the group of polished axes is the deliberate disabling of the active cutting edges. This action has been identified in a group of three axes placed in the passage of tomb 7016 (Fig. 9:1, 9:2 & 9:3). Although the cutting edges of these pieces show signs of proper use, the blades have been rendered useless by direct percussion, creating two or three large removals (Fig. 9:A, 9:B & 9:C). The evidence of damaging percussion (Fig. 9:A & 9:B) and chipping are linked to the same pattern of intentional breakage and rendering the tool useless. Considering the orientation, angle and depth of the removals, it would be very difficult to recuperate the cutting edge, as opposed to the more superficial and enveloping accidental damage.

The work processes described, from the types of raw materials, the production, use and recycling of these tools, enable us to speak of non-specialized activities with a low cost in terms of time investment. The term non-specialized refers to the fact that these activities were domestic, without the need for the participation of craftspeople with special skills. As for the low labour investment, it refers to the choice of the most efficient process to obtain a given tool with a specific function.

In summary, the 'life-cycles' of the analysed objects show techniques of production, use and reuse that are typical of domestic activities linked to the production of food in the daily life of an agricultural community. These activities are the processing of materials of plant origin, especially the grinding of cereals, and the macrolithic assemblage also includes the tools used in the production and maintenance of the elements needed for these activities. As for the processes of recycling and repurposing of tools, in some cases they are typical of domestic contexts, but others can be related to their use in the funerary context with which we are dealing. This is the case of the disabled axes or the repurposing of grindstones and sharpeners/polishers for their inclusion in the funerary structures.

Patterns of deposition and ritual practices in the tombs

The materials that we have analysed were placed inside the tombs to fulfil specific functions. Why, how, where, in what form and in what state these tools were deposited can be linked to the ritual

practices and deposition patterns of objects in the collective and individual tombs. Taking into account the function of the elements and their place of deposition, we can divide them into two types of materials: on the one hand, tools used or incorporated into the structures of the tombs themselves as building materials, for the pavements and enclosing devices, such as grindstones or sharpeners/polishers, or mark the entrance, such the sharpener/polisher-stele; on the other hand, grave goods and offerings, understood as tools deposited in the burial chambers, passages and ritual and transitional spaces, as in the case of the polished stone axes, the hammer and wrist-guard.

However, each tomb presents specific deposition patterns, probably due to the particular funerary biography and the different roles of macrolithic tools in the sphere of death and the development of ritual practices.

In tomb 1336 two fragmented grindstones and a sharpener/polisher were arranged as elements of the stepped pavement of the access atrium to the tomb. These materials show signs of use-wear and fractures typical of discarded elements. They are therefore elements that had reached the end of their useful life. The purple slate triangular slab was found in the transition space between the passage and the chamber, probably associated with individual 8 as part of his grave goods. The fine triangular slab is a fragmented natural stone, with no traces of manufacture, treatment or use.

In hypogeum 7016, different patterns are observed depending on the funerary activity, phase of use and type of material. In this burial, there are both completely disabled tools, such as the grinders, and others that were in use or could still have been used or been repurposed, either fractured in the case of the grindstone, modified in the case of the sharpener/polisher, turned into a stele, or disabled in the case of some axes.

Associated with the second funerary level of the hypogeum and possibly prior to and/or in connection with the intentional closure, a set of macrolithic tools was deposited and rearranged at the same time with different functions and meanings, forming structured groups with distinct ritual roles.

The stele was placed at the entrance and an axe was hidden behind it. At the base of the wall

Figure 9 (opposite). *Technological and use-wear evidence on the polished stone axes from hypogeum 7016: 1 (397); 2 (395); 3 (396); 4 (438); 5 (177). (A), (B), (C) intentional direct percussion impacts on the cutting edges of the tools; (D), (E) pecking on the polished surface typical of repurposing; (F) trace of transversal polishing from the shaft of the axe fragment used as a hammer.*

enclosing the entrance, a large fragmented grindstone was integrated into it, on top of which another axe was placed. Inside, behind the jamb, a hammer was placed. Contextual and formal analysis of the artefacts suggests that this assemblage of materials may have been placed and deposited simultaneously during the architectural remodelling of the entrance, which involved the laying of a pavement in the passage, sealing and closure of the burial.

The sharpener/polisher-stele and the grindstone were modified and placed in order to close and mark the entrance to the tomb. The contextual association of these two elements with the hammer reveals that that this percussion instrument may have been employed for the repurposing of the grindstone and the knapping of the sharpener/polisher and that these works were carried out in the same context in which the deposition took place. Likewise, the violence of the extractions and the lack of finesse with which the stele was worked may indicate that these processes of transformation were carried out in parallel, quickly and probably *in situ*. Afterwards, the hammer was deposited inside the tomb.

The axes were tools used over a long period of time, as indicated by the edges, with evidence of maintenance and resharpening, similar to the polished tools with cutting edges recovered from most settlements and some funerary contexts, such as the 'lime-kiln' tombs (Orozco & Rojo 2006). Therefore, they are not objects made expressly for death, but have been reused as funerary deposits, unlike other sites of different regions and chronologies, as in the case of the burial caves at Algar do Bom Santo, Cova da Moura and Lugar do Canto, where intact axes and adzes were deposited as funerary offerings (Cardoso 2014; Cardoso & Carvalho 2008; Lillios 2000). In this sense, the long biographies of axes at La Orden-Seminario, their placement in the entrance, passage and the access to the chamber, together with their non-association with buried individuals, might suggest that they were offerings made to the deceased, either collectively or to specific individuals. These materials show the existence of different patterns and ritual practices specific to polished objects. One pattern is represented by the two axes deposited at the entrance related to different spaces and events of the closure. The axe behind the support denotes an interesting functional and symbolic association with the sharpener/polisher-stele, as it could be related to the first use as a sharpener/polisher, where the axe (and others) was possibly sharpened, and at the same time as a material offering that accompanied the stele, being one of the attributes

recurrently represented in this element. It is plausible that the axe on the grindstone was deposited as the last offering in the act of closing the tomb, being placed at the point marking the axis of symmetry of the tomb. The other pattern is that of the three disabled axes placed in a group in the passage. The action of 'sacrifice' by breaking the axe edges may have taken place at the same time. In this case, the intentional 'condemnation' would have been intended to prevent the reuse of these objects in the future, thus linking the offering to the burial site. Likewise, the intentional breakage of grindstones for their inclusion in burials has been documented ethnographically (Adams 2008). The other two axes, complete, are located at the threshold of access to the chamber.

The incorporation of these tools in the funerary structures at La Orden-Seminario can be interpreted in two complementary ways. On the one hand, from a functional point of view, in a context with scarce lithic resources in the surroundings, elements that have already come to the end of their use-life are repurposed, as indicated by their long biographies. On the other hand, from a ritual and symbolic perspective, tools that have been used in domestic life are incorporated into the funerary context as 'offerings', either in commemoration or tribute to the group of people buried in these tombs or as belongings linked to specific individuals. Thus, with the exception of two objects that are in connection with the skeletal remains of the individuals in the burial spaces, most of the macrolithic tools are located in the entrances and transition spaces, and must have functioned as offerings. However, we do not rule out the possibility that some of these materials, such as the axes of tomb 7016, may have been grave goods that accompanied the dead buried in the chambers at a previous stage, changing their position towards the passage and entrance at a specific stage of the funerary biography of tomb.

In *tholos* 7055, the only macrolithic tool preserved is a hammer with evidence of intensive use in percussion work with rocks. This element may also correspond to the tasks of opening the trench and breaking the slate slabs that formed the underground chamber of the mound-covered tomb built in the Early Bronze Age. The wrist-guard is part of the grave goods of a child buried in the subterranean cave. It was made by polishing the surfaces and drilling two holes in the ends, being the most common typology in the Iberian peninsula (Muñoz 2017). At one end, near the rim, there is a small, millimetre-sized concavity that may be due to a fault at the beginning of the perforation or to a recess for the

inlay of a metal drop as an ornament. This object was also not manufactured for death, as it shows traces of having been used in archery activities, probably carried out by an adult individual. The surface shows striations with depression at an oblique angle to the piece, probably caused by the bowstring hitting the support, as has been documented on other Iberian bracers (Barroso Bermejo *et al.* 2022). The presence of some parallel striations probably represented traces of the final polishing of the wrist-guard surface by stone abraders (Kaňáková & Peška 2023). There are no traces of sharpening of metallic elements, as has been identified in some of the Iberian bracers (Delgado-Raack & Risch 2008; Muñoz 2017).

Social practices and relationship between objects and individuals

The material types and depositional patterns in the tombs of La Orden-Seminario raise a number of questions and considerations about the role of these macrolithic tools in the sphere of the dead and their significance in the social dynamics of the community, especially the meaning of the domestic objects incorporated in the mortuary spaces.

In this sense, and assuming the limitations of the archaeological record, we will try to answer several questions in key hypotheses: is the fragmentation and recycle of objects a functional issue or a socially sanctioned ritual practice? To whom did the tools deposited in the internal spaces or placed in the entrance of the tombs belong? Were they tools belonging to the people buried there or to living relatives? Were the offerings made individually or collectively? Was grave looting to recuperate tools a common practice, hence the need to render them useless?

Most of the macrolithic tools of La Orden-Seminario are present in a fragmentary state, as are other elements of the collective grave goods (pottery, knapped blades, a copper axe, etc.) and even the skeletal remains, as is often the case in the Late Neolithic and Copper Age societies of the southwest of the Iberian peninsula (Valera 2019). Intentional fragmentation has been interpreted as a social practice intended to regulate social conflicts or tensions between individuals caused by the accumulation and possession of certain prestige objects (Chapman 2000; Chapman & Gaydarska 2007). This ritual behaviour was intended to share particular objects, promoting more balanced relationships between individuals in terms of ownership, possession and identity.

In the case of La Orden-Seminario, the intentional or accidental fragmentation of domestic objects

incorporated in the tombs may respond to diverse social practices: 1) discard after their fragmentations and/or last use, such grinders and hammers incorporated in infills and covering mounds; 2) functional and symbolic recycling of disabled elements as construction materials after their disuse in domestic contexts, in the case of the grindstones, grinders and sharpener/polisher; 3) recycling and recharacterization as an element of special symbolic and ritual meaning, in the case of the sharpener/polisher-stele, placed at the entrance of hypogeum 7016 as a landmark and perhaps as an apotropaic element; 4) condemnation and disablement in the case of the three axes grouped together, by breaking the cutting edges, to prevent the use of these personal objects by other individuals, in the domain both of the living and the dead.

Finding a link between the objects deposited in the tombs and the individuals buried is a very complicated matter. In the case of La Orden-Seminario, we also face the limitations of commingled deposits, the low MMI, the limited number of macrolithic objects and unequal representation in the three collective tombs. However, we can explore hypothetically whether there is any correspondence between these domestic objects and the individuals buried in the tombs, given that it is plausible that the macrolithic tools (as well as the rest of the grave goods) represent people and the activities they carried out in their daily lives. Likewise, it is likely that these tombs were reserved for members of the same family units according to the funerary deposits, anthropological data and the short duration of the funerary cycles (Linares-Catela & Vera Rodríguez 2021). These are characteristic patterns of the tribal societies of southern Iberia in the third millennium BC, organized in lineages with hierarchical social relations and communities with a structured sexual division of activities.

It is likely that the presence of macrolithic objects is not only due to functional and ritual reasons, but also to symbolic meanings. Some are re-used materials and others are belongings of the deceased arranged as grave goods or burial offerings, which may represent the different 'life-cycles' of the objects themselves and the activities carried out by the individuals in their daily lives. In this sense, the arrangement of these materials and the rest of the grave goods seems to create a symbolic staging of the social role and activities carried out by these people. Likewise, their presence and visualization in the sphere of the dead must have contributed to the maintenance of the memory of these ancestors.

In tomb 1336, the nine adults (six males, two females and one of undetermined sex) are associated with recurrent and uniform grave goods, with most of the individuals possessing two ceramic vessels (one open and one closed shape) and one or two rhyolite and/or flint blades, regardless of the sex and treatment of the bodies. The two grindstones and the sharpener/polisher were integrated into the access pavement to the tomb, being the space that allows them to be seen and recognized from the outside. Therefore, the presence of these unused elements is probably not only due to a functional or opportunistic reason as construction materials, but also to an intentional metaphorical representation (Lidström Holmberg 1998) of the domestic activities and gender of the buried individuals. In this sense, the numerical correspondence between the two querns and the two buried females is striking, the sex traditionally associated with cereal-milling activities, which has been widely verified ethnographically in agrarian communities (Haaland 1997).

In hypogeum 7016, in the two funerary levels of the hypogeum, the remains of seven adults (four males and three females) were documented. The various fragmented ceramic objects, an arrowhead, a deer antler and several macrolithic objects could correspond to them as collective or individual funerary offerings. The grindstone could correspond to the females, symbolically representing the domestic sphere in the hypogeum. The rest of the elements are technologically and functionally related with the knapping and percussion (hammer), polishing and sharpening (sharpener/polisher) of the axes.

The axes contain a prominent gender role as ethnographic studies support the idea that these tools are individually owned by men and that several axes may be owned during a person's lifetime (Pétrequin & Pétrequin 1993). It is therefore likely that these objects belonged to the four buried male individuals who used these objects during their lifetime. Perhaps this is the main reason why axes only appear in this tomb, being an equally scarce material in domestic contexts in view of the unavailability of hard rocks nearby. We can even venture two types of offerings. The first group consists of the tools (stele-sharpener/polisher, the two axes placed at the entrance and the hammer behind the jamb) that could represent the collective. Of these elements, we highlight the stele-sharpener/polisher for its multiple significance: a) it represents the work of manufacturing and maintaining the axes; b) it identifies the individuals buried, who would have carried out various daily activities of felling wood and cutting other materials; c) it protects and dissuades possible

attempts of violation as it is a symbolic element placed for the custody of the tomb. The second type, made up of axes deposited in the passage, could be associated with the four male buried in the chamber, who could have a relevant social status by possessing these objects. These offerings could correspond to one for each individual, if we consider the group of three disabled axes as a single package, or they could have a different distribution. It is impossible to answer these questions because there is no physical connection between the axes and the individuals.

In the mixed hypogeum, at least two individuals were buried, one male and one female, accompanied by three ceramic bowls, an arrowhead and a grinder fragment. Again, it would be possible to associate the macrolithic object with the female, evoking the gender and domestic activity carried out by her.

In the subterranean cave of *tholos* 7055, the wrist-guard is associated with a 'child warrior', forming part of prestigious grave goods in keeping with an individual of high social rank, acquired from birth (Linares-Catela 2020), as has been found in other Iberian sites (Barroso Bermejo *et al.* 2022; Herrero Corral *et al.* 2019). The hammer was intentionally discarded in the covering mound after fracturing.

Conclusion

The combined study of technology, use-wear and funerary contexts has made it possible to reconstruct the biography of macrolithic tools, determine the patterns of deposition and ritual role in the sphere of the dead and propose possible links with the individuals buried in the tombs during the third millennium BC.

The analysed assemblage of macrolithic elements in the collective tombs corresponds to domestic activities such as the processing of cereals and materials of plant origin, as well as to the tools used in the production and maintenance of the implements required for these activities. The materials studied here are linked to the daily life of an agricultural community, without the presence of objects made specifically to be placed in the burial contexts.

The diversity of raw materials among the macrolithic elements and their exogenous provenance indicate the high degree of mobility and territorial interaction of the Copper Age community, implying the transport and/or exchange of these raw materials to the site. Indeed, these materials come from outcrops located within a 10–40 km radius, as is the case of other lithic resources and copper products.

The deposition of these materials in the tombs can be interpreted from multiple perspectives, as indicated by their long biographies. In a certain way, in a site with limited stone resources, it would be reasonable from a functional point of view to reuse and recycle elements that had already reached the end of their useful life. But in addition, the incorporation of domestic life tools in the spaces of the dead must contain a symbolic, ritual and social meaning, which could reproduce patterns of sexual division of activities according to the sex or gender of the buried adults.

The grindstones and grinders could represent cereal-grinding activities and evoke female individuals. The deposition of these fragmentary materials can be seen in two practices: the most common is their arrangement at the entrances to the tombs, and as grave goods. The axes, as well as the tools associated with their manufacture, polishing and sharpening, could represent the activities carried out by male individuals. The deposition of this set of objects reveals the existence of various ritual practices carried out during an event of remodelling and closure of the tomb: a) the transformation of the sharpener/polisher into a stele and its symbolic resignification as landmark; b) the placement of axes as offerings in the transition spaces at the entrance and passage and behind the stele; c) the 'condemnation' of the group of three disabled axes with the intentional action to prevent their reuse.

The objects associated with the 'child warrior' from the Early Bronze Age tomb are indicative of his high social prestige acquired at birth, which may have been an inheritance from his ancestor or his family.

Hopefully, this modest contribution and subsequent detailed studies of macrolithic assemblages associated with tombs will help to elucidate the ritual and symbolic practices linked to these significant materials.

Acknowledgements

This study has been carried out within the framework of the R+D+i Project 'MEGA-LITHOS. Geo-archaeological study methods for the investigation of the Huelva megalithisms' (UHU-1263153), at the University of Huelva, funded by the Operative Programme ERDF 2014-2020 and the Department of Economy and Knowledge of the Government of Andalusia. The funding of the open access fee has been covered by the University of Huelva, thanks to an agreement with Cambridge University Press. We are grateful to Dr Juan Carlos Vera-Rodríguez for facilitating the study of the materials and Dr Teodosio Donaire Romero for his collaboration in the petrographic analysis.

We are grateful for the valuable comments of the anonymous reviewers and the editor, as their suggestions and recommendations have enriched the work.

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