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The Megalithic Architectures of Europe
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The Megalithic Architectures of Europe

edited by

Luc Laporte and Chris Scarre

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Luc Laporte & Chris Scarre

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Megalithic hollows: rock-cut tombs between the Tagus and the Guadiana

Leonor Rocha

Abstract
Neolithic monuments south of the Tagus, in Portugal, number over 1000. They are usually classified in four key types: standing stones (isolated or in groups); megalithic tombs (dolmens and passage graves); rock-cut tombs; and corbel vaulted tombs. In addition, there has been increasing evidence of an early and incipient monumentality at the late Mesolithic funerary shell mounds of the Tagus and Sado rivers. Some have timber features that may be considered to be monumental, not in terms of size but by being associated with memory.

The spatial experiences of these places are transformed by specific kinds of design and tectonics (and we use the term “tectonics” in the architectural sense). Therefore, from an alternative point of view, if we attempt to categorise the monuments in accordance with these different spatial experiences, they can be classified: as open air monuments (standing stones, timber features at shell mounds); closed monuments (shell mound cemeteries, closed megalithic chambers); and open tombs (passage graves and rock-cut tombs).

The available data concerning the region south of the Tagus and west of the Guadiana is still hampered by a number of difficulties in obtaining radiocarbon dates. However, it has been possible to show that the different types of monuments were probably sequential, most likely with chronological overlaps between the types: shell mounds (6000–5000 cal BC); then standing stones (5000–4000); then megalithic tombs (4500–3000); then rock-cut tombs (3500–3000); and lastly corbel vaulted tombs (3000–2500). However, this over-simplified scheme is still open to debate, and is obviously in need of refinement.

Keywords: megalithic tombs; rock-cut tombs; corbel vaulted tombs; Alentejo; Portugal

Looking back ...
From an early date, the monumentality of megalithic monuments attracted the attention and curiosity of people in Portugal, with whom they shared the same physical space. This often resulted in funerary reuse, or the use of the monuments as seasonal homes and shelters, most likely in prehistory, and documented in the archaeological excavations conducted since the second half of the 19th century in the south of Portugal. This first phase was led by a group of researchers who had a broad and diverse set of interests. They contributed to the identification of a remarkable number of megalithic monuments, many of them now destroyed. Carlos Ribeiro, Nery Delgado, Francisco Pereira da Costa, Estácio da Veiga, and Leite de Vasconcelos developed notable work in the inventorying (and excavating) of numerous monuments. The results of their research, often carried out at their own expense, were mainly published in national magazines.

Throughout the first half of the 20th century, knowledge of the megalithic monuments in the south of Portugal was closely connected to the actions taken by the Portuguese Ethnological Museum, through the investigations and inventories made by its directors and employees. The museum conducted a project aiming to collate a representative collection of the whole national territory. This led to the establishment of a network of regional informants/collaborators who collected or bought finds and collected information on existing monuments and sites, which they sent to their director.

However, the interest and the actions of Vergilio Correia and Manuel Heleno far exceeded the institutional activity, as they carried out what we consider to be the first projects aimed at studying megalithic Alentejo (Correia 1921; Rocha 2005; 2012). In the following decades, researchers such as Georg and Vera Leisner, Philine Kalb, Jorge de Oliveira, Victor S. Gonçalves, Manuel Calado, Rui Parreira, João Luís Cardoso, Joaquina Soares, Carlos Tavares da Silva, Rui Boaventura, and others, inventoried or reassessed dozens of megalithic monuments. At the dawn of the 21st century, knowledge of megalithic architecture seemed well defined, therefore discussions mainly centred on the finds and their evolutionary timelines (Fig. 16.1). With specific regard to megalithic architecture, although there are some differences between the coast and inland, the following types were known at this point:

(a) Hypogea, located in the coastal districts of Lisbon, Setúbal and the Algarve (Fig. 16.2). These are funerary structures carved in the rock (in this case, soft limestone), typically consisting of a rounded chamber, antechamber, and access passage (Fig. 16.3). The top of the chamber has a round opening (like a “rabbit hutch”). Usually they
appear in groups (for example, at Alapraia, Carenque, S. Pedro do Estoril, Quinta do Anjo/Casal do Pardo, Monte Canelas).

(b) *Tholoi*, located in small numbers on the coast or inland. These are funerary structures whose architecture has some variation. Type 1: chambers built with orthostats upon which the false dome sits (such as OP2 at Escoural), and a passage of varied length, also built with orthostats. Type 2: chambers built with dry stone walls, upon which the false dome sits, and a passage of varied length, also built with dry stone walling (such as Pai Mogo, and Praia das Maças). Type 3: fully built chambers with a false dome system (e.g. Alcalar) and a passage built from dry stone walling. In the Alentejo, with the exception of the tholos at Escoural which is isolated, the identified *tholoi* are located in Reguengos de Monsaraz and are structurally related to the passage grave.

(c) *Megalithic graves*, mainly located in transition areas from the coast to inland, in the Alentejo and Algarve. They consist of small megalithic structures (closed, open, and/or with a small passage), built in schist or granite, with a very variable number of orthostats (3–11). Some are still covered by the tumulus (Fig. 16.4).

(d) *Passage graves*, (short, medium or long), located either on the coast or in land, although the greatest concentration is between the north and the centre of the Alentejo (Fig. 16.5). These megalithic structures have variable sizes in terms of height, number of pillars, and passage length.

(e) *Irregular structures*, located, just like the small graves, mainly in transition areas from the coast to inland, in natural passage areas. They present unique or less widespread forms of megalithic architecture, such as passage graves without a passage and rectangular graves. Some of these monuments, especially the most monumental, may also exhibit greater structural complexity, with compartmentalisation in the chamber and/or passage, and the presence of niches, antechambers, annexed graves, atriums, burials and/or depositions outside (tumulus).

**Understanding the invisible: new architecture**

After rescue measures were undertaken during the building of the Alqueva Dam and its associated infrastructure, information regarding the known setting of funerary structures changed radically. A set of amazing new funerary monuments, unparalleled in this area but with some similarities to others
16. Megalithic hollows: rock-cut tombs between the Tagus and the Guadiana

identified in southern Spain (Bueno Ramírez et al. 2010) were identified and excavated, in the 19th and 20th centuries, as well as on the Portuguese coast, particularly in the Lisbon and Setúbal area (Soares 2003). These sites, which went unnoticed until the first decade of this century, are located in areas dominated by a smoothly undulating topography, with small elevations and excellent visibility over the surrounding area. They have a relatively dense hydrological system, with many small watercourses of irregular flow. The lands is heavily utilised for agriculture, especially for growing grain, olive groves and cattle grazing.

The hypogeum of Sobreira de Cima (Fig. 16.6) was the first to be identified (although partially destroyed) in 2006, during the construction work of the Alqueva Power Plant. It alerted the Portuguese archaeological community to the existence of funerary structures within the Alentejo region, excavated from the rock, and showing no surface evidence (Valera 2009).

This cemetery consists of seven hypogeas, five of which are located in the construction area. Three of these were already partially destroyed when they were identified, but two were fully excavated. Two other hypogeas were identified via geophysical prospecting outside the area designated for the dam: these have not been examined. However, this set had some differences between them in terms of their architecture.

• **Hypogeum 1 and 2** had circular chambers with a short passage and access through a vertical well. **Hypogeum 1** also had an entrance sealed with mortared clay with bits of mixed amphibolites (in addition to the access well into the chamber).
• **Hypogeum 3** had an oval and elongated chamber with a narrow entrance, with a well.
• **Hypogeum 4 and 5** had circular chambers with antechambers and an access passage with a ramp.
• **Hypogeum 5** had small monoliths at the entrance of the passage: these seem to show the existence of a structure that indicated the entrance to this monument.

The good state of preservation of the osteological remains (a rare phenomenon in the Alentejo) recovered in this necropolis show a low number of burials, without overlap or reuse. The materials collected are very similar, and have a total lack of pottery (Valera and Philip 2012).

Further construction work for the channels of the Alqueva dam led to the continuation of archaeological work, revealing that this cemetery is part of a wide range of funerary structures (Fig. 16.7). This extended the funerary variety that had been recorded in southern Spain in recent decades into inland Portugal.

These monuments are normally grouped, and are located within settlements with hollows, in border areas, or seemingly isolated. Porto Torrão, one of the largest Chalcolithic settlements known in Europe, has a complex network of funerary structures both inside and outside the hollows. These include **hypogeas**, pits, and other associated burials (Valera 2010). Some burials were identified in pits/dumps within the hollows. In the space between two hollows a **hypogeum** was
also identified. As it partially overlaps the exterior hollow, its construction must have occurred at a later stage.

As an example, Monte do Carrascal 2, one of the necropolises associated with the Porto Torrão settlement, presents great diversity and complexity within the funerary architecture (Valera 2010). This includes the following features:

• A large ditch/hollow, excavated in the rock, with graves (hypogea) on both sides. It has a depth of about 2.10m and a width at the mouth of about 4m on the west side, narrowing to the east. The profile is generally trapezoidal, but somewhat irregular. The base of this hollow, by which the graves were accessed, was covered with red clay (Valera et al. 2010).

• Hypogea with a chamber and one or two access passages, with openings on the top like the hypogea on the coast. Parts of the chamber wall were built of stone, and they were closed by schist capstones. In addition, the entrances to the hypogea were closed with stones and, at hypogea 1, two river pebbles, a conch and a whole pottery container were placed there.

• Collective burials.

• Secondary depositions of bones, some of which were burned at the entrance.

• The hollow/atrium filled by a succession of passage floors in beaten clay and a lot of rubble.

All materials in this set point to a Chalcolithic date.

Records of other sites correspond to large necropolises, with many hypogea and pits in the same area. For example, at Montinhos 6, at Brinches, Serpa, 14 hypogea and 130 pits were identified. In this case, there were also architectural differences. The hypogea had variations in: their antechambers (sub-circular or sub-rectangular); the number of chambers (one or two); and the possible presence of earlier pits that were incorporated into the new monument. In Alto de Brinches 3, out of the 231 negative structures like pits, only a few had burials. Given current knowledge, it seems that the hypogea usually contained adult burials, with associated objects. Conversely, the pits contain mostly sub-adult burials with no associated objects.

This diversity could correspond to prolonged use/ construction over time, as the collected assemblages suggest monument use from the Neolithic to the Bronze Age.

Types of structures

Hypogea

Normally the hypogea have rectangular or quadrangular antechambers that give access to one or more circular or sub-circular chambers of different sizes. In addition, they are built on flat ground, with recessed or re-entrant walls (concave) that are more pronounced in the upper half. The entrance of the chamber is closed with vertical slabs (as seen as Sobreira de Cima, Outeiro Alto 2 – B nucleus). Some of the rooms have an opening in the ceiling, commonly referred to as “rabbit hutch” type structure: this is also common in the hypogea identified in the Lisbon and Setúbal areas. In some cases, access to the chambers is through a short passage and a more-or-less vertical well (such as at Sobreira de Cima 1 and 2, Outeiro Alto 2 – C nucleus). The passage area may be filled with soil and stones.

Hypogea are constructed on a reasonably soft, rocky substrate (calcareous or soft schist), from which sediments were probably removed. Structurally speaking, its construction could be complex work, especially if we consider the theories that identify the pit or the access passage as the starting point (Valera and Filipe 2012). In fact, when looking at the access side wells, these are, as a general rule, not very wide (around 1.5m diameter) and are more or less vertical. Given this, it seems to me that the idea
developed by Pedro Alvim (pers. comm.) is more feasible. He suggests that the construction of this type of hypogeum must have started from the opening of the chamber ceiling. From there, it would have been much easier to broaden the chamber, remove the rock, and build the passage or the access well. In this way it would have been possible to control the entire construction process, which would not be the case if the construction had been started from the access well. There, the circulation of workers would be greatly hampered by the scarcity of space, the lack of light and the dust, particularly when reaching deeper levels.

Pits/silos
These have a wide mouth, and are built on narrower, flat or concave ground. They have a significantly a truncated-conical shape.

Complexes
Hypogeum complexes result from the transformation of previous structures. In the better documented cases (such as Ourém 7), the transformation of pits into hypogeum can be seen. These structures may be connected by tunnels.

Table 16.1: Radiocarbon dates from hypogea in southern Portugal

<table>
<thead>
<tr>
<th>Monument</th>
<th>Site</th>
<th>Determination BP</th>
<th>Date cal Bc 1σ</th>
<th>Date cal BC 2 σ</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monte do Castelo</td>
<td>Lisbon</td>
<td>4630±45</td>
<td>3497–3351</td>
<td>3509–3147</td>
<td>Cardoso 1991</td>
</tr>
<tr>
<td>Alapraia 4</td>
<td>Cascais</td>
<td>4110±40</td>
<td>2860–2580</td>
<td>2870–2500</td>
<td>Gonçalves 2005</td>
</tr>
<tr>
<td>S. Pedro do Estoril 1</td>
<td>Estoril</td>
<td>4720±40</td>
<td>3620–3380</td>
<td>3640–3770</td>
<td>Gonçalves 2005</td>
</tr>
<tr>
<td>S. Pedro do Estoril 2</td>
<td>Estoril</td>
<td>3850±40</td>
<td>2400–2220</td>
<td>2460–2200</td>
<td>Gonçalves 2005</td>
</tr>
<tr>
<td>S. Paulo 2</td>
<td>Almada</td>
<td>3960±190</td>
<td>2845–2200</td>
<td>2905–1950</td>
<td>Silva 2002</td>
</tr>
<tr>
<td>Quinta do Anjo</td>
<td>Palmela</td>
<td>4040±70</td>
<td>2836–2472</td>
<td>2873–2351</td>
<td>?</td>
</tr>
<tr>
<td>Sobreira Cima1</td>
<td>Vidigueira</td>
<td>4530±50</td>
<td>3360–3110/</td>
<td>3370–3030</td>
<td>Valera et al. 2008</td>
</tr>
<tr>
<td>Sobreira Cima 3</td>
<td>Vidigueira</td>
<td>4670±50</td>
<td>3520–3370</td>
<td>3630–3350</td>
<td>Valera et al. 2008</td>
</tr>
<tr>
<td>Monte Canelas</td>
<td>Alcalar</td>
<td>4420±60</td>
<td>3311–2923</td>
<td>3336–2911</td>
<td>?</td>
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Absolute dating
A brief analysis was conducted of the available dating of these negative structures (hypogea) between Lisbon and the Algarve (Table 16.1). We note that the dating obtained for the Sobreira de Cima hypogea (the only ones so far with known dating) fits perfectly within the same chronology. As can be seen from Table 16.1, if we extend this comparison to the megalithic graves, we can see that the passage graves, tholoi and hypogea are being built and used in the south of Portugal in the same time period (Table 16.2).

Table 16.2 shows the chronological framework of the Quinta do Anjo artificial caves, according to the recently submitted proposals, are built at an initial stage from the Late Neolithic, during which these structures were built (as some hypogea of the Alentejo). This reading is based two forms of evidence: a comparative analysis of the cultural material recovered (for example, the presence of the schist plaques); and a comparison with contemporary structures used for shorter durations, such as hypogeum 1 of S. Paulo (Almada), or other artificial caves, such as Monte do Castelo (Oeiras) or Monte Canelas (Lagos). Their chronologies point to the second half of the 4th millennium BC. The area of the artificial caves was used throughout the Chalcolithic, although it was already abandoned in the Later Chalcolithic. The C14 dating from at Quinta do Anjo, obtained from a bone object and a human bone sample, gives beginning of the 5th millennium BC.

This chronology is similarly to that proposed for other carved structures in rock, such as S. Paulo (whose architectural typology and the material culture are similar). It is also shared by other artificial caves in Extremadura, such as Alapraia or Carenque (Gonçalves, 2005).

Built to show or hide?
Although it has been proven that the communities of southern Portugal had contact with each other, and exchanged various materials, their megalithic monuments show that they opted for different construction techniques to bury their dead ... in different types of monumental structures.

The new information acquired from the projects in
southern inland Portugal has shown significant differences within settlements and funerary spaces within this area, particularly during the 4th and 3rd millennium BC. With respect to the funerary world, we now have two new types of funerary structures:

(1) Type one occurs inside the settlements. The best examples are Perdigões and Porto Torrão, although they have different architectural designs. Perdigões contains tholoi, and Porto Torrão contains hypogea and pits. However, in both cases the osteological remains occur within a garbage context.

(2) Type two consists of more-or-less grouped funerary structures, in some cases constituting real “funerary cities”. These occupy large areas and are constructed and occupied over a long period of time. The space management and architecture reflect an unprecedented situation in the southern peninsula, with clear links to the Mediterranean world. According to recent data (Valera and Filipe 2012), some of these structures might have had some sort of markers that made them easily identifiable within the landscape for these communities. It could have been stelae (Sobreira de Cima), wooden structures (Outeiro Alto 2), or landscape markers. In fact, the number and complexity of the existing structures, which had no spatial overlap, in some of the cemeteries, must have required some form of surface marker as they would not have all been built simultaneously.

Once all the new data has been studied and published, it will revitalise current research. At present, many of these sites are either not published, or have been given only short presentations at professional conferences and or in journals. Trying to understand what led these communities to perceive the space of the living as different from the space of the dead naturally requires further reflection and – above all – a reassessment of the existing models.

Acknowledgments
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