

Reassessing Bronze Age funerary practices in Western Iberia: new evidence from the necropolis of Montes Novos (Penafiel, Portugal)

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Abstract:

The archaeological site of Montes Novos (Penafiel, Northern Portugal) was discovered in 1987 and comprised a set of remains associated mainly with Roman-period funerary practices. However, it also included various other ceramic artefacts, either whole or nearly complete, whose techno-morphological features and associations with negative structures suggest a possible association with a regional Bronze Age necropolis.

Pottery contextualisation was achieved by consulting the limited documentation held at the Museu Municipal de Penafiel (MMPNF), complemented by its techno-typological study in relation to the negative structures with which they were related.

The study highlights the creation of a Bronze Age necropolis, mainly composed of flat graves possibly used for inhumation, and the continuity of funerary practices at the site during later periods, contributing to the construction, over time, of a mortuary landscape. In some cases, the pottery shows signs of contact with fire, possibly linked to the burning of substances or to the preparation of mixtures during funerary ceremonies. The parallels between the negative structures associated with certain pottery containers recovered there and other synchronous contexts, leveraged by radiocarbon dating, support the interpretation that funerary practices at Montes Novos date back (at least) to the regional Late Bronze Age.

Keywords: River Douro basin; Late Bronze Age; Funerary landscape; Ceramic depositions; Carinated bowls.

1. Introductory note

The funerary record of the Bronze Age in Northwestern Portugal includes remarkable architectural, topographical, and ritual diversity, reflecting profound social and ideological transformations throughout the second millennium BC. Far from constituting a homogeneous phenomenon, these funerary practices display considerable regional and chronological variability, accompanying changes in settlement patterns, territorial exploitation, the intensification of agro-pastoral and metallurgical activities, and the construction of community identities themselves (BETTENCOURT, 2009, 2010a, 2010b, 2013; BETTENCOURT & SAMPAIO, 2014; SAMPAIO, 2014).

With the decline of Neo-Chalcolithic monumentality, the Bronze Age witnessed a profound reorganisation of the ways in which death was monumentalised. Whereas large funerary monuments had previously played a central role in the landscape's symbolic structura-

tion, the Bronze Age saw a progressive diversification of funerary architectures, with discreet solutions coexisting alongside forms that retained visibility within the landscape (BETTENCOURT, 2009, 2010a, 2010b, 2013). This diversity probably reflects different ways of conceptualising death, memory, and the relationship between communities and territory.

During the Early Bronze Age, the deceased continued to be highly valued as a legitimising element of territorial occupation and collective memory. In mountainous areas, small funerary monuments covered by tumuli predominated. Although these monuments were often modest in size and contained cystoid chambers or simple pits, their frequent incorporation of quartz enhanced their symbolic visibility (BETTENCOURT, 2010a, 2010b). Paradigmatic examples include the necropolises of Outeiro de Gregos (V. O. JORGE, 1980), Meninas

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do Crasto (V. O. JORGE *et al.*, 1988), Vale de Chãos (VILAS BOAS, 2014), and Chã de Arefe (SILVA *et al.*, 1981), where the persistence of tumular architectures adapted to new social realities is evident. In valley areas, by contrast, burials tended to become less monumental, frequently taking the form of cists or pits excavated into the substrate, as documented at Quinta de Água Branca (FORTES, 1906) and in the possible funerary pits of Boucinhas/Regueira (BETTENCOURT *et al.*, 2004). At the same time, the selective reuse of megalithic monuments continued. This phenomenon has been interpreted as a strategic and symbolic appropriation of the past, probably reserved for individuals of high social status, whose deposition reinforced links between emerging groups and a legitimising ancestry (BETTENCOURT, 2010a). In a similar line, the richness of certain funerary assemblages, including metal artefacts, appears to reflect social differentiation.

The Middle Bronze Age witnessed significant changes in funerary practices. Although considerable typological diversity persisted, there was a clear tendency towards simpler funerary architectures and reduced ostentation. Flat graves excavated into the bedrock became widespread, frequently grouped into small necropolises, sometimes apparently located near settlements. Examples include Pego (SAMPAIO *et al.*, 2008; SAMPAIO & BETTENCOURT, 2014), Quinta do Amorim (SAMPAIO *et al.*, 2014), Cimalha (ALMEIDA & FERNANDES, 2007, 2008), and Tapado da Caldeira (S.O. JORGE, 1980a, 1980b), among many others (SAMPAIO, 2017). Cist necropolises such as Belinho (SOEIRO, 1988) and Agra de Antas (ATAÍDE & TEIXEIRA, 1940) also persisted, alongside the occasional reuse of megalithic monuments, such as Antela da Portelagem (SARMENTO, 1933) and the Carreira da Quinta barrow (SAMPAIO *et al.*, 2013), as well as small tumuli in upland areas, including Outeiro de Gregos (V. O. JORGE, 1980c) and Vale de Chãos (VILAS BOAS, 2014). One of the most significant changes concerns the nature of funerary assemblages. Unlike the Early Bronze Age, metal objects virtually disappeared from burials, being replaced by relatively modest ceramic offerings or, in some cases, by no grave goods at all (BETTENCOURT, 2013; BETTENCOURT & SAMPAIO, 2014; SAMPAIO, 2014). This shift has been interpreted as reflecting a reduction in symbolic differentiation among the dead within communities more strongly linked to agriculture, with the deceased progressively losing their central role as agents of territorial legitimisation and collective memory. In contrast, visible tumular architectures appear to have persisted primarily among upland communities associated with pastoralism and greater mobility, suggesting different relationships with ancestors and territory (BETTENCOURT, 2010a).

Many of these trends continued throughout the Late Bronze Age, although within a context of increasing social complexity and intensified supra-regional contacts. Funerary practices continued to involve cists, cystoid structures, pits, and the reuse of megalithic monuments, probably within a framework in which inhumation and cremation coexisted, although the latter remains poorly documented archaeologically (BETTENCOURT, 2010a, 2010b). Grave goods remained discreet, while death became increasingly integrated into the everyday social dynamics of the living.

From an interpretative perspective, the Bronze Age appears to have witnessed a progressive shift in the principal arenas through

which power and collective identity were expressed and negotiated (BETTENCOURT, 2008, 2009, 2010a, 2010b, 2013). Whereas some deceased individuals continued to play an active role in legitimising territorial occupation during the Early Bronze Age, this function appears to have shifted during subsequent periods, particularly in the Late Bronze Age, towards other socially significant contexts, including settlements, metal hoards, monumental enclosures, and places associated with mining and metallurgy. The funerary landscape thus ceased to constitute the primary framework through which communities were structured, although it remained embedded within a cosmological system in which ancestral memory retained significance, notably through the reuse of ancient monuments and the persistence of symbolic places. This diversity of architectural, material, and ritual funerary solutions demonstrates that the Bronze Age of Northwestern Portugal cannot be interpreted through a single explanatory model. Rather, the coexistence of different forms of treatment of the deceased, conditioned by chronology, geographical setting, territorial strategies, and the social specificities of individual communities, must be considered. It is within this plural and complex framework of Bronze Age funerary practices that the necropolis of Croca at Montes Novos (Penafiel) should be understood.

The archaeological site of Montes Novos was first identified in 1987 during the construction of a private residence. The archaeological excavation was conducted under the supervision of the governmental authority of that time, the Instituto Português do Património Cultural (IPPC), and carried out by the Serviço Regional de Arqueologia da Zona Norte (SRAZN). The fieldwork was carried out by an archaeological technician, assisted by youth trainees (OTJ) provided by the Penafiel City Council. Gilda Correia Pinto, at the time a senior technician at the Direção Regional de Cultura do Norte (DRCN), was subsequently dispatched by the Archaeology Services to bring the intervention to a formal close.

This intervention led to the identification of a set of funerary remains, the vast majority of which dated back to the Roman period. However, as the excavation progressed and other materials were uncovered⁽¹⁾, seven complete or nearly complete ceramic vessels were collected, whose technical and morphological analysis suggested an earlier chronology. These materials are currently part of the collection of the Museu Municipal de Penafiel (MMPNF).

Although these seven ceramic vessels were referenced in a master's dissertation entitled "*The Montes Novos Necropolis – Croca, a Cemetery of Late Roman Gallaecia*"⁽²⁾ (Pinto, 1996), they still lack an in-depth study. For this reason, and although they have already been the subject of a preliminary approach, it is the main goal of the present work to deepen the study of this set of previously understudied data, broadly attributed to the Bronze Age, with the aim of describing and contextualising them archaeologically, both in their micro-context and within their local and regional framework. This need to contextualise the seven ceramic vessels stemmed essentially from two main aspects: (1) the antiquity of the archaeological interventions, in which the Bronze Age remains were not addressed in a thorough and individualised manner; and (2) the importance of studying the site to enhance knowledge relating to the funerary world of regional Bronze Age societies.

(1) Incorporated in the archaeological collection of the Museu Municipal de Penafiel, these materials, totaling about 500 fragments, will not be studied in the present publication.

(2) From the original Portuguese title "A necrópole de Montes Novos - Croca, um cemitério da Gallaecia Tardorromana" (PINTO, 1996).

2. Geographical, physical, and archaeological context

The necropolis of Montes Novos is located in the parish of Croca, within the municipality of Penafiel, Porto district (Northern Portugal), at the geographical coordinates of 41.222814° and -8.245918° (decimal degrees) (Fig. 1).

Approximately 400 metres away, on a gentle south-south-east slope from the summit of Acocanha, the site offers excellent visibility between the south-western and north-eastern quadrants, particularly overlooking the valley of the Cavalum River. This river, originating in Alto de Cristêlo, at the site of Cursil (Croca), and fed by several nearby watercourses, flows from northwest to southeast and joins the left bank of the Sousa River, itself part of the Douro River basin. The surrounding area contains extensive land suitable for agriculture.

According to the Geological Map of Portugal, at a 1:50,000 scale, sheet 9-D (Penafiel), the bedrock of the area where the site is located is predominantly porphyritic granite, coarse-grained, with two micas, mainly biotite (Fig. 2). Regarding metallic mineral resources, there are references to abundant gold (Au) veins and, to a lesser extent, lead (Pb) to the southeast of Aguiar de Sousa, and tin (Sn) in

Macieira da Lixa, approximately 25 km and 20 km to the southwest and northeast, respectively, from Montes Novos. Additionally, there is evidence of alluvial cassiterite (SnO_2) within a 10-to-15 km radius, notably along the margins of the Sousa River, due to the strong presence of upstream tin mineralisation (MEDEIROS *et al.*, 1981).

In terms of nearby significant archaeological remains, mention should be made to Anta de Santa Marta (also known as Anta da Portela) and Suvidade de Recezinhos, located roughly 3 km to the southwest and northeast, respectively (Fig. 3). At the latter, during excavations directed by Teresa Soeiro in 1985, some Bronze Age ceramic materials were recovered, despite the site being primarily known for its regional Iron Age occupation (SOEIRO, 1985). As for Anta de Santa Marta (or Anta da Portela), it represents a typical Neolithic funerary structure, suggesting that the immediate area has been used for funerary purposes since ancient times. However, little is known about this monument, whose earliest reference appears in the Memórias Paroquiais of 1758, where it is referred to as “Fornos dos Mouros” (CAPELA *et al.*, 2009: 573).

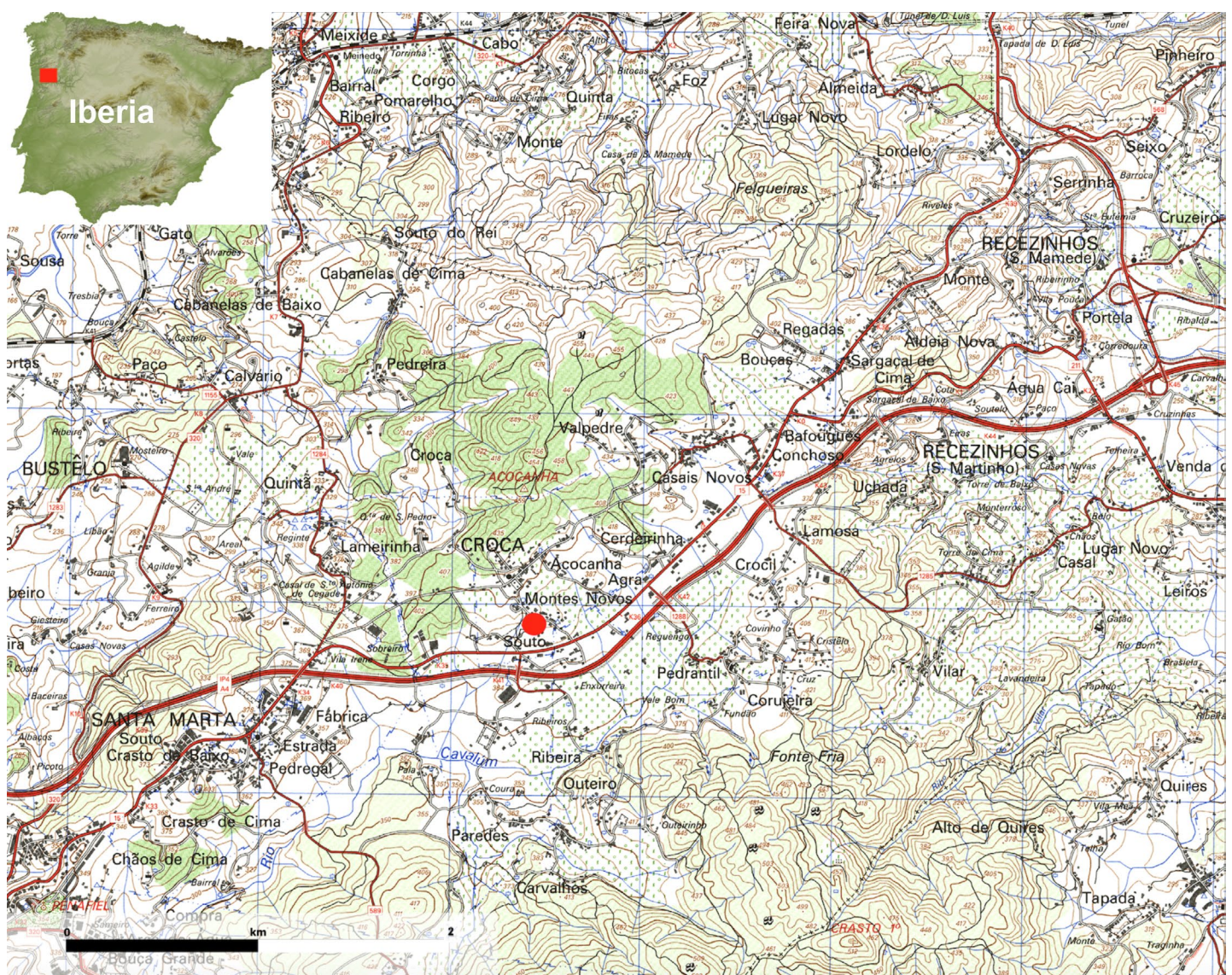


Fig. 1. Excerpt from the Military Map of Portugal, sheet 112 (Penafiel), scale 1:25,000, with the positioning of the archaeological site of Montes Novos (Penafiel).

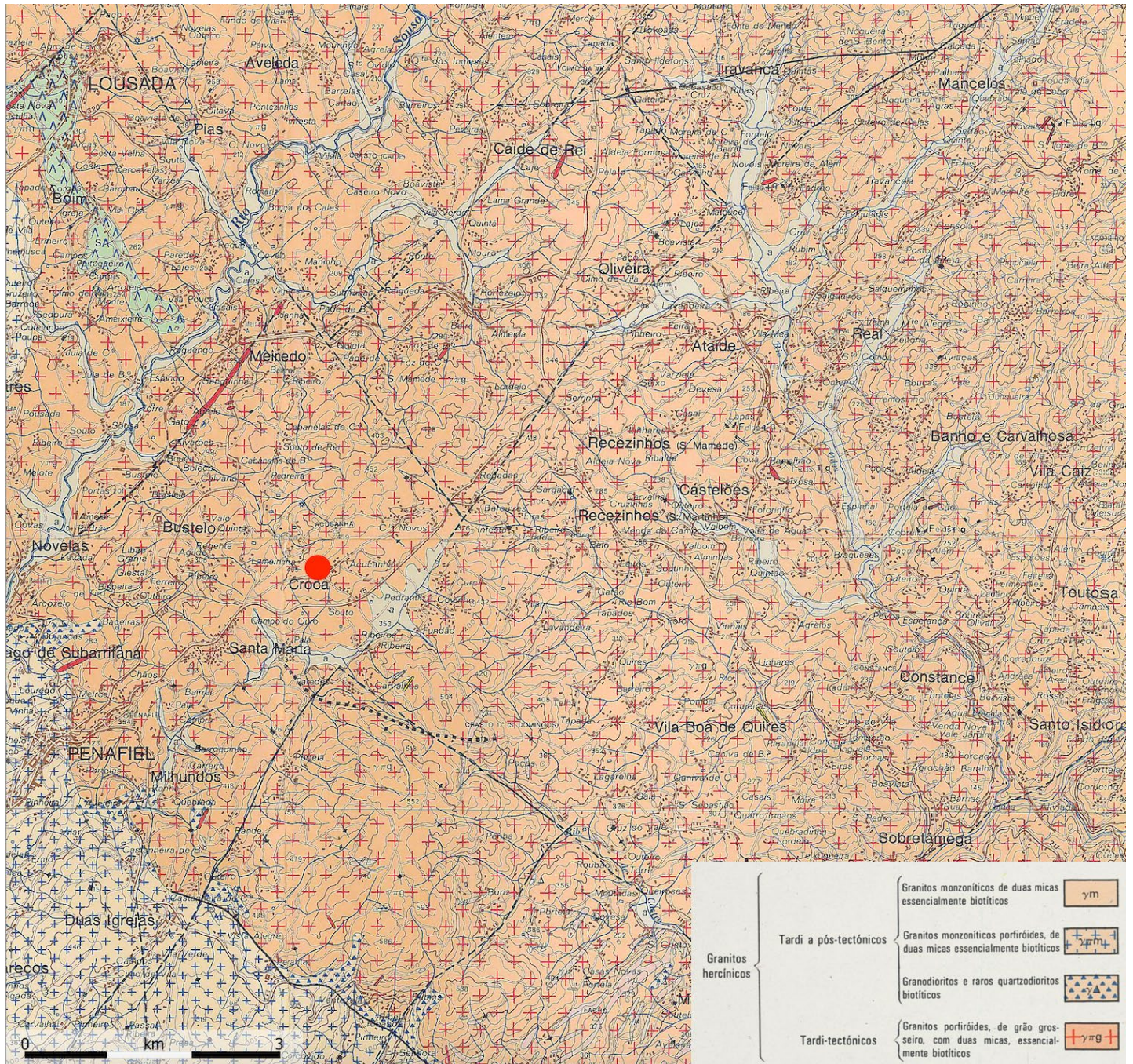


Fig. 2. Location of the archaeological site of Montes Novos (Penafiel) on the Geological Map of Portugal, sheet 9-D (Penafiel), scale 1:50,000 (modified).

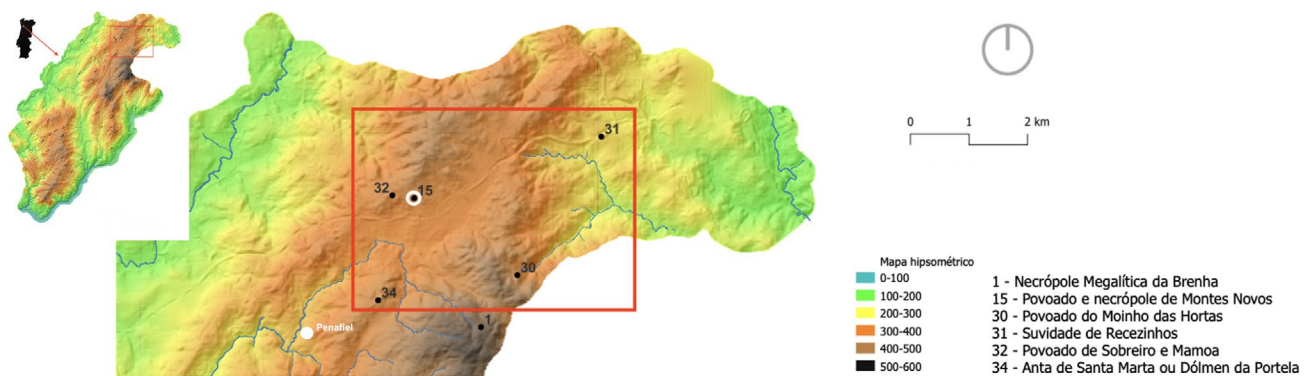


Fig. 3. Proximity from the necropolis of Montes Novos (white circle, n. 15) in relation to the Settlement of Sobreiro and Mound⁽³⁾ (n. 32), to the Anta de Santa Marta or Dólmen da Portela (n. 34), to the Settlement of Moinho das Hortas (n. 30), and to the Settlement of Suvidade de Recezinhos (n. 31) (BERNARDO & SAMPAIO 2021).

(3) This probable monument was identified during the survey carried out throughout the entire municipality within the scope of the revision of the Plano Diretor Municipal and its Carta do Património (BERNARDO & SAMPAIO, 2021).

3. Methodology

To achieve the stated aims, it became necessary to carry out a techno-typological study of the ceramic materials and the negative structures with which they were associated. This was done to narrow down their period of use, define features, functions and uses, and to assess a wider biography of the site.

To this end, the formal typology tables proposed by BETTENCOURT (1999) were essential. This analysis was later complemented using parallels with already known coeval contexts, as well as by AMS dating. The latter was carried out at Vilnius Radiocarbon, based in Vilnius, Lithuania.

Contextualisation was achieved through consultation of the excavation records currently available at the MMPNF, and of the notes associated with the ceramic materials⁽⁴⁾. These data were linked to an identifier consisting of a reference to the institution, the year in which it was inventoried and the museum inventory number (e.g. MMPNF/2008/4591) and were cross-referenced and supplemented by those published by the excavation coordinator (PINTO, 1996, 1998).

At the fieldwork level, it was necessary to visit the excavated site to describe its geomorphology, and its physical and environmental surroundings. In the laboratory, soot samples were collected from ceramic vessels for AMS dating, which were then sent to the aforementioned laboratory.

Finally, as part of the advanced desk-based work, archaeological drawings of the ceramic materials under study were produced, and the data gathered were interpreted at different scales: the microscale of deposition, the intra-site scale, and the regional scale, with the aim of situating Montes Novos within the funerary practices of the Portuguese Northwestern Bronze Age.

Some fundamental theoretical concepts underpinning the interpretative process to follow are also outlined. While remaining focused on the main objective, it is still relevant to briefly clarify the concepts of landscape, place, network of places, and funerary landscape.

A dynamic conception of landscape is adopted, whereby it is perceived as the dialectical result of human agency and the physical environment inhabited and interacted with by communities (INGOLD, 2000). Landscape is always shaped by the perceptions and experiences that communities derive from the world they inhabit, which are inherently tied to chronological, social, cultural, and ideological factors that are temporally and spatially determined. As such, landscape remains a complex and continually reconstructed element over time, also acting as an agent upon the communities themselves.

It is through this overlapping of time and space that communities activate and deactivate, remember and forget, frequent and abandon, celebrate and neglect different places. By embodying and (re) creating practised spaces, human groups promote social integration, communal identity, and collective memory, projecting onto a loca-

tion a sense of place (FELD & BASSO, 1996; VAN DYKE & ALCOCK, 2003; VAN DYKE, 2016) and belonging. The interrelationship between these places and a range of actions, histories, feelings, meanings, experiences, expectations, needs and values becomes inseparable, and their everyday reality materialised through a network of places (THOMAS, 2001; DAVID & THOMAS, 2016). The use and reuse of these places – sometimes archaeologically (in)visible – incorporate features that establish an interconnection, not only practical but also emotional, between communities and these places. As Archaeology has often shown, this does not necessarily imply their monumentalisation (BRADLEY, 2000). The distinctiveness of a place may stem from an event, some natural features, or another unique quality now lost to our eyes, but certainly grounded in a set of social, cultural, ideological, and symbolic assumptions relevant at that time.

Dealing with death has long been a process intrinsically tied to life. The body of archaeological evidence across different geographies and chronologies shows that these contexts have been treated in exceptional ways since Prehistory. Depositional rites, treatment of the dead, offerings, architectural investment in structures, and spatial organisation – all point to how death was handled by the living in a manner that marked both the moment and the space of the rite of passage.

Going beyond the concept of necropolis, funerary landscapes emerge as the physical materialisation, shaped over time, of a connection between death and specific places that hosted particular rites and practices. Because the relationship with landscape enables the living to constantly remember their ancestors – and, thus, their lines of descent (THOMAS, 2001) – it is believed that the location of necropolises, often revisited spaces, was not arbitrary (SAMPAIO, 2014; SAMPAIO & BETTENCOURT, 2014). Therefore, the use, reuse, and transformation of these spaces allowed for the construction of landscapes of memory, or “*memoryscapes*” (CLACK, 2011), where people, agencies, and memories converged and contributed to the formation of funerary landscapes or “*deathscapes*” (COOK, 2011).

So, understanding these scenarios of identity construction and negotiation, of memory and attitudes towards human loss (COOK, 2011), is of great significance to our knowledge of the symbolic, ritual, and social world of Bronze Age communities.

(4) Due to circumstances beyond our control, the available information that we consulted is partial. All the artefacts recovered during this intervention went through several institutions before being housed in the Museu Municipal de Penafiel. Initially deposited at the SRAZN in Braga, they were later sent to the now-defunct Escola de Arqueologia do Freixo in Marco de Canaveses, where they were washed and treated. The graphic documentation and photographic records from the fieldwork, which had been deposited in the DRP-IPPAR in Porto and the Museu D. Diogo de Sousa in Braga, became dispersed, and their current whereabouts are unknown. These limitations have significantly constrained the study of this site.

4. The necropolis of Montes Novos: Bronze Age structures and ceramic materials

The identification of the Montes Novos necropolis occurred by chance, during earthmoving works on a plot of land intended for the construction of a private residence. Most of the funerary remains identified at the site date to the Roman period, totalling 139 structures with varied orientations, encompassing both inhumation and cremation rites (PINTO, 1996) (Fig. 4). However, the excavation also led to the identification and recovery of seven ceramic vessels, either complete or fragmentary, which can be typologically and chronologically attributed to the regional Bronze Age.

In addition to four specific negative structures where the association with Bronze Age ceramic forms was clear, the remaining three vessels could only be tentatively linked to other negative structures through a cross-referencing of the available excavation records, the inventory sheets in possession of the MMPNF, and the notes accompanying the pottery remains.

As mentioned above, except for structures 36, 106a, and 120, which are older and were associated with three ceramic vessels, it is worth noting that the recovery of the other four vessels was, according to the excavation director, likely the result of their reuse in a later phase, namely within the context of the Roman-period necropolis. This “re-use” may reflect disturbances of earlier structures during Roman-period activities. In one case, based on the label accompanying one of the ceramic vessels, a possible association was made with structure 24 (MMPNF/2008/5581).

4.1. Depositional structures

Through the archaeological excavation, it was possible to identify three negative (subsoil-cut) structures (S36, S106a, and S120) which were unequivocally constructed during the earliest known use of the area, broadly attributable to the regional Bronze Age (PINTO, 1998). However, a larger set of excavated ceramic materials, along with oth-

er nearly complete forms, appears to relate to additional negative structures. For this reason, the data will be presented in two sections: (1) one encompassing structures 36, 106a, and 120, whose association with the ceramic vessels is well documented (Tab. 1); and (2) another including structures 1, 24, 49, and 78, whose association with ceramic remains was established during later research carried out in the course of this study (Tab. 2).

Structure 36

This structure has a sub-rectangular outline with rounded corners and was cut into the local bedrock. Its longer axis was oriented north-northwest to south-southeast, measuring 163 cm in length, 89 cm in width, and 16 cm in depth. At the southern end, towards the centre, a ceramic vessel (reference MMPNF/2008/4591) was recovered from its fill. During the excavation, it was noted as distinct from the Roman necropolis (PINTO, 1998: 201).

Structure 106a

During the excavation, PINTO (1998: 219) notes that “*Beneath grave 106, there was another [grave], older, preceding the Roman-period use*”, which she describes as “*An ovoid pit cut into the underlying gravel, filled with fine, compact, light brown soil*” (PINTO, 1998: 224). Based on the available records, specifically the field drawings, it was possible to determine that this structure measured 220 cm in length and 60 cm in width; unfortunately, its depth remains unknown. The author also mentioned that “*at the centre of which was a carinated, hand-made vessel, made of coarse sandy, dark brown fabric with abundant mica. The outer surface was well smoothed*” (PINTO, 1998: 224). The ceramic vessel recovered from this structure is registered under the reference MMPNF/2008/4592.

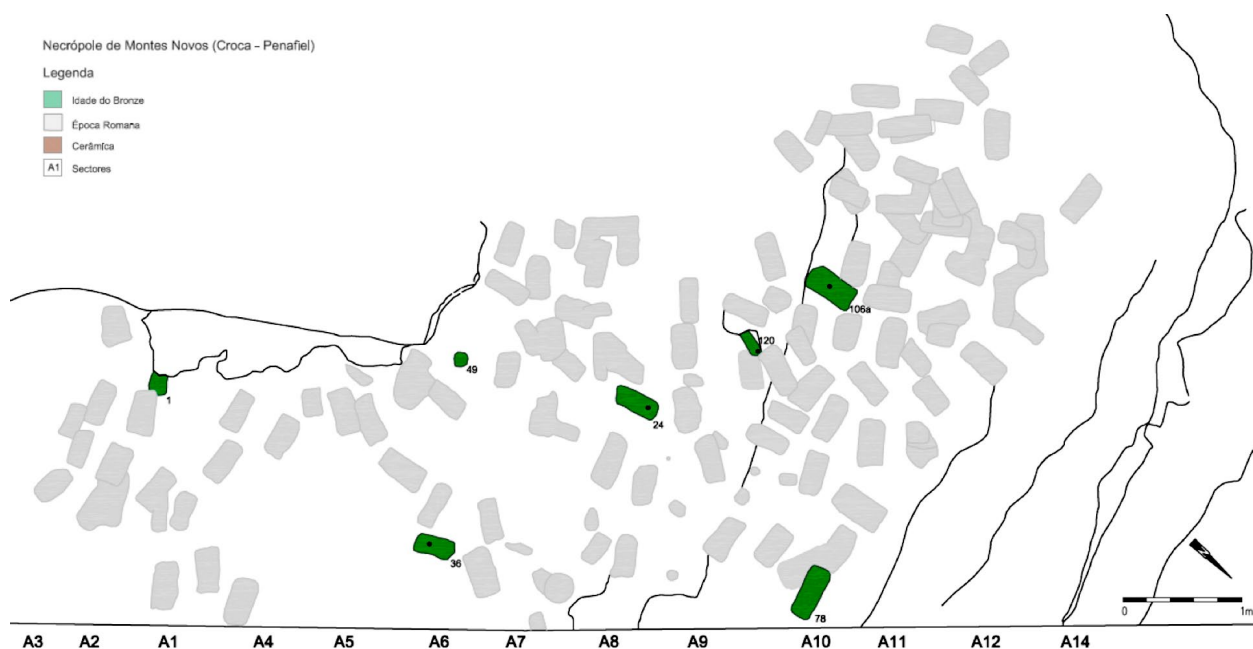


Fig. 4. Plan of the Montes Novos necropolis, showing the Bronze Age structures in green (adapted from PINTO, 1996: no pages; PINTO, 1998: 230).

Structure 120

This is a sub-rectangular structure with rounded corners, cut into the local bedrock. Its longer axis was oriented northwest to south-east, measuring approximately 114 cm in length, 48 cm in width, and 50 cm in depth.

From within the structure, at the northwest end, a ceramic vessel with the reference MMPNF/2008/4594 was recovered. As with the others, it was noted during the excavation as distinct from the Roman necropolis (PINTO, 1998: 222–223).

Structure 1⁽⁵⁾

This structure has a sub-rectangular outline with rounded corners, cut into the local bedrock, whose longer axis extended in a northeast-southwest direction. It measured 80 cm in width and 12 cm in depth. Its length was impossible to determine as it was truncated.

Although not described by PINTO (1998: 194), it is possible to associate a ceramic vessel with the reference MMPNF/2008/4593 with this structure. This association was established through the marking preserved on the bottom of the vessel.

Structure 24

This structure has also a sub-rectangular outline with rounded corners, cut into the local bedrock dating to the Roman period, whose longer axis extended in a north-south direction. It measured 180 cm in length, 89 cm in width, and 20 cm in depth.

From within the structure, at the northern end, a ceramic vessel referenced as MMPNF/2008/5581 was recovered. Pinto (1998) situates this context within the Roman phase, during which the ceramic vessel of earlier chronology was likely reused, alongside 19 other more recent objects.

Structure 49

This structure has a sub-quadrangular outline, cut into the local bedrock. It had a maximum width of 60 cm (in a northeast-southwest direction), a minimum width of 52 cm, and a depth of 9 cm.

According to the field record related to the object, and roughly in the central area⁽⁶⁾, a ceramic vessel bearing the reference MMPNF/2008/4595 was recovered from its interior.

Structure 78

This structure has a sub-rectangular outline with rounded corners, cut into the local bedrock, whose longer axis extended in a north-northeast-to-south-southwest direction. It measured 232 cm in length, 90 cm in width, and 86 cm in depth.

Based on the field record accompanying the ceramic vessel, a link was established between this burial and the ceramic vessel referenced as MMPNF/2008/4590, which was recovered at the northern end of the fill of this structure.

The main features of the described structures are summarised below (Tab. 1 and Tab. 2).

The orientations of their longer axes vary, ranging between north-south (S24, S106a), northeast-southwest (S1, S78), northwest-southeast (S120), and north-northwest-south-southeast (S36).

Regarding their outlines, they are sub-rectangular with rounded corners, except for one case (S49), which has a sub-circular contour. The measurements vary between 60 and 232 cm in length, 48 and 90 cm in width, and 16 and 86 cm in depth. All these structures contained a ceramic vessel, but their positioning also varied: to the north (S24 and S78), northwest (S120), central area (S49 and S106a), and south (S36). In one case, the vessel's position is unknown (S1).

Table 1. List of orientations, measurements (in cm), outlines, and positions of vessels within Bronze Age structures whose association is assumed in the published results (PINTO, 1996)

Structure	Contour	Orientation	Length	Width	Depth	Vessel position
S36	Sub-rectangular	N-NW/S-SE	163	89	16	South
S106a ⁽⁷⁾	Sub-rectangular	N/S	c. 220	c. 60	?	Centre
S120	Sub-rectangular	NW/SE	c. 114	48	50	Northwest

Table 2. List of orientations, measurements (in cm), outlines, and positions of vessels within Bronze Age structures whose association was confirmed through desk-based research

Structure	Contour	Orientation	Length	Width	Depth	Vessel position
S1	Sub-rectangular	NE/SW	?	80	12	Undetermined
S24	Sub-rectangular	N/S	180	89	20	North
S49	Sub-circular	NE/SW	60	52	9	Central area
S78	Sub-rectangular	NE/SW	232	90	86	North

(5) Designated as S1 from the path.

(6) Although this vessel is the only “funerary artefact” which could suggest a Bronze Age chronology for the structure, the inclusion of charcoal and nails in its fill – features attributable to the use of that area during the Roman period – provides evidence of yet another instance of reuse of the older vessel.

(7) Since PINTO (1998: 219) does not provide the dimensions of structure 106a, its dimensions were estimated from the vectorized drawing.

4.2. Ceramic containers

As previously mentioned, the identified ceramic materials include complete or nearly complete vessels which, in three cases, were specifically associated with flat graves. These vessels have the following references: MMPNF/2008/4591 (S36), MMPNF/2008/4592 (S106a), and MMPNF/2008/4594 (S120). The other four cases were also associated with four other structures, according to the excavation data available at the MMPNF and the field notes/records linked to those same materials. These are the vessels with the references MMPNF/2008/4593 (S1), MMPNF/2008/5581 (S24), MMPNF/2008/4595 (S49), and MMPNF/2008/4590 (S78). The materials will be presented in this order.

Vessel MMPNF/2008/4591 (Structure 36) (Fig. 5)

Ceramic vessel made by hand modelling, with a coarse and sandy fabric containing medium-sized non-plastic elements, including quartz grains. It shows mixed firing and a light greyish-brown colouration, with a vertical rim, and a thin convex lip. The body is hemispherical, and the base is convex. It measures 4.5 cm in maximum height and 9.5 cm in maximum mouth diameter. Its surface finish is smoothed. It shows no signs of soot or organic residues. It is a bowl or Form 22 according to BETTENCOURT (1999).

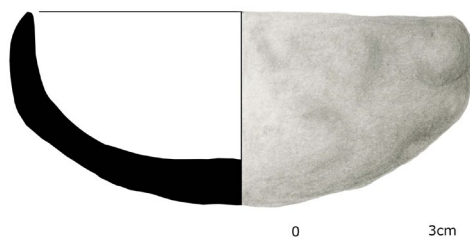


Fig. 5. Drawing of vessel MMPNF/2008/4591 (authorship: Rita D'Alte).

Vessel MMPNF/2008/4592 (Structure 106a) (Fig. 6)

Ceramic vessel made by hand modelling, with a coarse fabric containing medium-sized non-plastic elements, including quartz grains. It shows a reducing firing atmosphere and a dark brown colouration, with an open rim, and a rounded lip. The body has a high carination and a slightly concave base. It measures 6.9 cm in maximum height, 6.8 cm in minimum height, and 8.7 cm in maximum mouth diameter. Its surface finish is smoothed. It shows the presence of soot or other organic residues on the upper inner third and the upper two-thirds of the exterior, indicating contact with fire or its use as a container for substances possibly exposed to heat. It is a carinated bowl or Form 12 according to BETTENCOURT (1999).

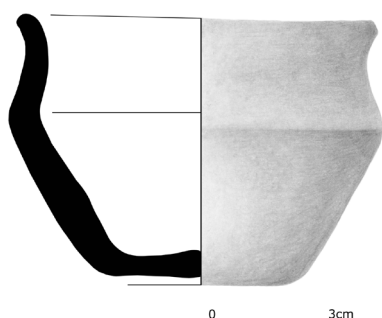


Fig. 6. Drawing of vessel MMPNF/2008/4592 (authorship: Rita D'Alte).

Vessel MMPNF/2008/4594 (Structure 120) (Fig. 7)

Ceramic vessel made by hand modelling, with a coarse sandy fabric containing medium-sized non-plastic elements, including quartz grains. It shows mixed firing and a light greyish-brown colouration, with an open rim, and a rounded lip. The body has a pronounced high carination and a concave base. It features a horizontal grip element in the form of a lug, with an elliptical cross-section. Its surface finish is smoothed. It measures 6.2 cm in maximum height, 6 cm in minimum height, and 11.4 cm in maximum mouth diameter. There is no evidence of soot or organic residues. The interior base and parts of the inner wall exhibit extensive surface flaking, coinciding with an equally flaked area on the exterior wall surface and part of the base. It is a carinated bowl or Form 12 according to BETTENCOURT (1999).

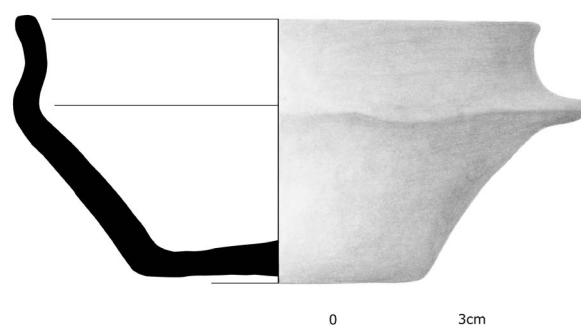


Fig. 7. Drawing of vessel MMPNF/2008/4594 (authorship: Rita D'Alte).

Vessel MMPNF/2008/4593 (Structure 1) (Fig. 8)

Ceramic vessel made by hand modelling using strips or coils, with a coarse fabric containing medium-sized non-plastic elements, including quartz grains. It shows mixed firing and a dark greyish-brown colouration, with a reverted rim, and a rounded lip. The body is irregular, being rounded on one side and sharply carinated on the other. The base is flat but thicker towards the central interior. Its surface finish is smoothed. It has an irregular height, measuring 4.9 cm at its maximum, 4.5 cm at its minimum, and 8 cm in maximum mouth diameter. There is no evidence of soot or organic residues. It is a hybrid form between a bowl and a high-carinated cup.

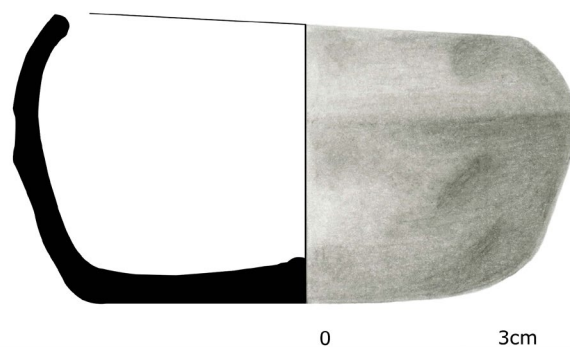


Fig. 8. Drawing of vessel MMPNF/2008/4593 (authorship: Rita D'Alte).

Vessel MMPNF/2008/5581 (Structure 24) (Fig. 9)

Ceramic vessel made by hand modelling using coils or strips, with a sandy fabric containing medium-sized non-plastic elements, including quartz grains, resulting in a coarse texture. It shows mixed firing and a light greyish-brown colouration, with a vertical rim, and a thin convex lip. The body has a high carination, and the base is flat but thicker towards the central interior. The surface finish is smoothed. It measures approximately 6.3 cm in maximum height and 8.2 cm in maximum mouth diameter. There is no evidence of soot or organic residues, but there is a colour alteration on part of the inner wall, coinciding with part of the outer wall, which may indicate contact with fire or use as a container for substances possibly exposed to heat. It is a small carinated bowl with a high carination, or Form 12 according to BETTENCOURT (1999).

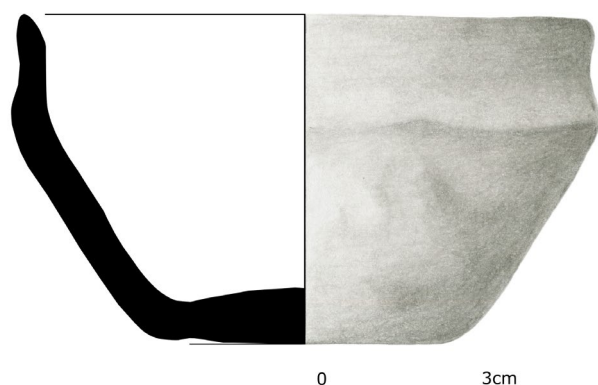


Fig. 9. Drawing of vessel MMPNF/2008/5581 (authorship: Rita D'Alte).

Vessel MMPNF/2008/4595 (Structure 49) (Fig. 10)

Ceramic vessel made by hand modelling, with a coarse sandy fabric containing medium-sized non-plastic elements, including quartz grains. It shows reducing firing and a light greyish-brown colouration. Its surface finish is smoothed. The rim varies between vertical and slightly open, with a straight lip. The body has a high carination, and the base is slightly concave. It measures 7 cm in maximum height, 6.6 cm in minimum height, and 10.3 cm in maximum mouth diameter. There is no evidence of soot or altered organic residues. Parts of the interior base and wall surfaces exhibit flaking, coinciding with a darkened area on the exterior wall surface and part of the base. It is a carinated bowl or Form 12 according to BETTENCOURT (1999).

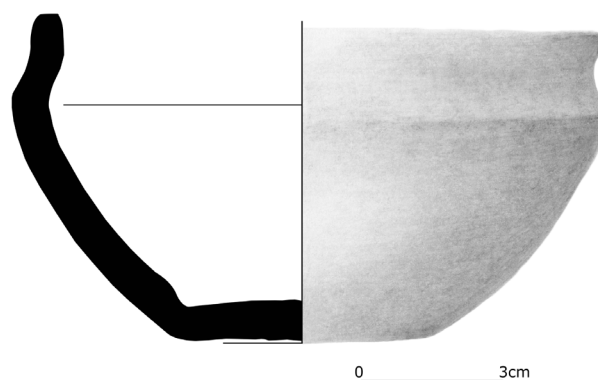


Fig. 10. Drawing of vessel MMPNF/2008/4595 (authorship: Rita D'Alte).

Vessel MMPNF/2008/4590 (Structure 78) (Fig. 11)

Ceramic vessel made by hand modelling, with a coarse sandy fabric containing medium-sized non-plastic elements, including quartz grains. It shows mixed firing and a light greyish-brown colouration. Its surface finish is smoothed, with an open rim and straight lip. The body is generally ovoid, and the base is simple and flat. It measures 9.9 cm in maximum height, 9.6 cm in minimum height, and has a maximum mouth diameter of 8.6 cm. There is evidence of soot or cooked organic residues on the upper inner third and in various exterior parts of the body, indicating contact with fire or its use as a container for cooked substances. This is a form of small pot with a slightly ovoid body and a narrow neck, corresponding to Forms 10 and 14 according to BETTENCOURT (1999).



Fig. 11. Drawing of vessel MMPNF/2008/4590 (authorship: Rita D'Alte).

In summary, all the ceramic vessels indicate handmade manufacture, sandy fabrics, and mixed or reducing firing atmospheres, with predominantly greyish-brown colours ranging from light to dark brown tones.

Regarding the manufacturing technique, some pieces appear to have been modelled (vessels MMPNF/2008/4590, MMPNF/2008/4591, MMPNF/2008/4592, MMPNF/2008/4593, MMPNF/2008/4594, and MMPNF/2008/4595), showing pronounced finger impressions. In two cases (MMPNF/2008/5581 and MMPNF/2008/4593), the manufacture seems to have been more careful, achieved by the addition of coils or strips.

Except for two specimens (MMPNF/2008/4590 and MMPNF/2008/4591), the ceramic forms feature a carination on the body, mainly in a high position (MMPNF/2008/5581, MMPNF/2008/4592, MMPNF/2008/4593, MMPNF/2008/4594, and MMPNF/2008/4595), which is very pronounced in three cases (MMPNF/2008/4592, MMPNF/2008/4593, and MMPNF/2008/4594).

Among the identified ceramic forms are four carinated bowls, one bowl-shaped vessel, one small pot, and one hybrid form between

a bowl and a carinated cup. The bowls have vertical or open rims. Only one has a horizontal grip element, represented by a lug with an elliptical cross-section (MMPNF/2008/4594).

The most distinctive bases are concave, with three specimens (MMPNF/2008/4592, MMPNF/2008/4594, and MMPNF/2008/4595), followed by two specimens with flat bases (MMPNF/2008/4593 and MMPNF/2008/5581), one with a simple flat base (MMPNF/2008/4590), and another with a convex base (MMPNF/2008/4591).

Two ceramic vessels show evidence of organic residues or soot (MMPNF/2008/4590 and MMPNF/2008/4592), located, in both cases, on the upper inner third and the exterior, while three others show ambiguous traces (MMPNF/2008/5581, MMPNF/2008/4594, and MMPNF/2008/4595). Two of the forms (MMPNF/2008/4591 and MMPNF/2008/4593) show no soot or possible contact with fire. These data are compiled in Table 3.

Table 3. Relation of ceramic vessels with measures (in cm) of height and diameter, distribution of residues or soot (when present) and other observations

Ref.	State	Form	Height max/min	Diam.	Res./Soot.	Observations
2008.5581	fragm.	carinated bowl	6,3	8,2	?	Surface cracking (fire action?)
2008.4590	fragm.	small pot	9,9/9,6	8,6	S	Internal and external upper third
2008.4591	fragm.	bowl	4,5	9,5	N	-
2008.4592	complete	carinated bowl	6,8/6,9	8,7	S	Inner upper third and outer upper two-thirds
2008.4593	complete	bowl/cup	4,5/4,9	8	N	-
2008.4594	complete	carinated bowl	6/6,2	11,4	?	Surface cracking (fire action?)
2008.4595	complete	carinated bowl	6,6/7	10,3	?	Surface cracking (fire action?)

5. Radiocarbon dating

With the aim of narrowing the chronology of the occupation/frequentation of Montes Novos, two radiocarbon dates were obtained from the residues found in the vessels. The dates were calibrated

using the OxCal 4.4 software and the IntCal20 curve (REIMER *et al.*, 2020), with the results presented in Table 4.

Table 4. Results of the ¹⁴C dating performed on organic residues from the ceramic vessels MMPNF/2008/4590 and MMPNF/2008/4592 from Montes Novos (Penafiel).

Lab. Ref.	Material	Context	Age BP	2 δ (cal BC)
FTMC-LE28-15	soot	Vessel MMPNF/2008/4590 (Structure 78)	12012±50	12085-11844 (95.4%)
FTMC-LE28-14	soot	Vessel MMPNF/2008/4592 (Structure 106a)	2851±39	1187-1180 (0.6%) 1154-1149 (0.4%) 1126-906 (94.4%)

Unfortunately, one of the results (FTMC-LE28-15) is considered anomalous, since it dates to a much older period, which is not consistent with the human occupation of the area. This can hypothetically be explained by the incorporation of older organic material and sediments during the infilling of the grave, after the deposition of the ceramic vessel within it.

The other result, however, confirms the occupation/frequentation of the site at least during what is conventionally defined as the regional Late Bronze Age, more precisely, between the 10th and 9th centuries BC (Table 4). This supports what two of the authors had previously proposed (SAMPAIO & BERNARDO, 2016).

6. Data discussion

It is important to start by highlighting the inherent difficulties of interpreting the excavation record currently held by the Museu Municipal de Penafiel, since this older intervention is only documented by a set of fragmented drawings and field sheets recording the finds. For this reason, and following from the previous point, the relative nature of some of the proposed associations must also be acknowledged, particularly regarding the assumed connections between structures 1, 49, and 78 and ceramic vessels MMPNF/2008/4593, MMPNF/2008/4595, and MMPNF/2008/4590, respectively. Nonetheless, and even if the collection of some of these materials may, in certain cases, raise questions concerning their precise micro-contexts of deposition, it seems viable to propose some hypotheses.

Firstly, there is no doubt that this was a site frequented during the Bronze Age. This is suggested by the ceramic materials analysed, whose morphological and typological features clearly place them within that chrono-cultural period, confirming that kind of site's occupation. Taking this into consideration, and based on the 14C dates available, at least during the regional Late Bronze Age the site was used for funerary practices that included the deposition of ceramic vessels, probably related to the practice of rites.

Secondly, due to the complete, or nearly complete, preservation of ceramic containers, it is strongly believed that intentional deposition acts took place at Montes Novos. Indeed, the pottery integrity can only be understood according to structured actions that culminated in its deliberate placement in clearly defined contexts, contrary to the act of disposing or discarding. However, it remains unclear whether the vessels were deposited during a relatively short lifespan or, alternatively, if they are the result of a continuous process of revisiting the site over decades or even centuries. Interpretatively, these two scenarios have different implications, especially considering that the sustained significance of a site within the cognitive universe of Bronze Age communities can only be understood in terms of generational transmission of memories and practices, which linked that space to something memorable and enduring.

Thirdly, structures 24, 36, 106a, and 120, where these vessels were deposited, can be considered flat graves – possibly for inhumation – based on formal parallels with other known examples from the Northwest of Portugal. These include Vale Ferreiro (SAMPAIO & BETTENCOURT, 2018) in Fafe, Pego (SAMPAIO *et al.*, 2008; SAMPAIO, 2014), Quinta do Amorim II (SAMPAIO *et al.*, 2014), and Quarteirão dos CTT (SAMPAIO, 2014) in Braga; Cimalha (ALMEIDA & FERNANDES, 2007, 2008) in Felgueiras, Chã da Mourisca (VILAS BOAS, 2020) in Ponte de Lima, and Tapado da Caldeira (JORGE, 1980a, 1980b, 1983) in Baião. The dimensions of these structures (ranging from 114 to 220 cm in length, 40 to 89 cm in width, and 16 to 50 cm in depth) also support this interpretation, which has been addressed by JORGE (1999), BETTENCOURT (2011), SAMPAIO *et al.* (2008), and SAMPAIO (2014). At Montes Novos, this reading is further reinforced by the specific deposition of four vessels, whose association with structures 24, 36, 106a, and 120 is fully confirmed. Structure 49 raises more interpretative doubts due to its subcircular shape. It is worth noting that PINTO (1998: 206) considered this structure compatible with a Roman cremation grave, which may suggest that charcoal or ashes were present

in its fill. Nevertheless, it would still represent a depositional feature. In any case, based on these data, the existence of a Late Bronze Age necropolis at Montes Novos can be inferred.

Fourthly, although these types of pottery are fairly common in settlement contexts from the Middle and Late Bronze Age in Northern Portugal – both in coastal areas (MARTINS, 1987; BETTENCOURT, 1999; SAMPAIO, 2014) and in the Douro basin (JORGE *et al.*, 1988/1989; SILVA, 1999; CANHA, 2002; LUÍS, 2013), as well as in Early/Middle Bronze Age enclosures in the Upper Douro (VARELA, 2000) – it should be noted that they also appear in funerary contexts. This includes carinated bowls with everted rims and handles, which are found in the funerary chamber of the tumulus monument of Casinha Derribada, in Viseu, radiocarbon-dated to the Middle Bronze Age (CRUZ *et al.*, 1998), and in the burial cave of Lorga de Dine, in Vinhais, where a carinated bowl with an everted rim and lateral lug (unpublished) may correspond to Early or Middle Bronze Age burials (PEREIRA *et al.*, 2018). A reused carinated bowl with a vertical rim is also known from the Mamoa de Lordelo de Cima / Chafé, in Viana do Castelo (BETTENCOURT, 2010a), although it lacks precise dating. Small pots similar to vessel MMPNF/2008/4590 are more typical of Early and Middle Bronze Age funerary contexts in the Northwest of the Iberian Peninsula. They are found in a flat grave at Vale Ferreiro, in Fafe (SAMPAIO & BETTENCOURT, 2018), and in the cist of O Cubillón (RAMIL SONEIRA & VÁZQUEZ VARELA, 1979), in Lugo, among other examples with more pronounced forms in funerary contexts across the region (BETTENCOURT, 1997; MEIJIDE CAMESELLE, 1995, 1996). Nevertheless, what sets this necropolis apart is precisely the representative number of carinated bowls with open/everted rims.

Fifthly, the presence of soot or organic residues on some of the pottery is noteworthy. This is undoubtedly related to the use of these vessels, possibly during the funerary rites performed at the site. Such evidence is common in funerary contexts across the Northwest of the Iberian Peninsula, where ceramic vessels frequently exhibit clear traces of organic residues or soot, possibly linked to the burning of substances inside them or to the preparation of mixtures involving animal or plant fats (GONÇALVES *et al.*, 2010; BETTENCOURT, 2011; SAMPAIO, 2014, 2017; BACK *et al.*, 2025). Their use for the consumption or storage of beverages such as beer (PRIETO-MARTÍNEZ *et al.*, 2005; PRIETO-MARTÍNEZ *et al.*, 2009), or for commensal practices during funerary ceremonies – as proposed for the El Argar horizon (ARANDA JIMÉNEZ & ESQUÍVEL GUERRERO, 2006, 2007) – should not be excluded.

Sixthly, the location of this necropolis deserves attention. The model previously proposed for the Ave River basin (SAMPAIO, 2014; SAMPAIO & BETTENCOURT, 2014), where a clear relationship appears between Bronze Age necropolises and hillslopes, is also evident at Montes Novos. The idea that these funerary practices were implemented in liminal or transitional locations – between the valley and the hilltop, between earth and sky – seems intentional, possibly perceiving death as a moment of passage between two states. A preference for sunnier slopes, typically between the eastern and southern quadrants, is also observable, raising the hypothetical link to solar or lunar cycles, perhaps associating death with a cosmic cycle or journey.

Finally, but no less important, it should be emphasised that the continuous use of this site within the funerary landscape of the local populations – from the Bronze Age to the Roman period, and even today (with the current parish cemetery located less than 100 metres from the site) – reinforces its longstanding funerary character, persisting across millennia.

It seems clear that Montes Novos was certainly part of a network of places known, frequented, and (re)used (at least) by local Late Bronze Age communities, as defended by THOMAS (2001). When considering the remaining known set of contemporary data, it seems possible that Montes Novos integrated a wider set of places associated with different everyday activities. Whether only visited for funerary purposes or connected to other practices that are currently difficult to identify, Montes Novos embodies the way local Late Prehistory communities interacted with the surroundings, and, in line with INGOLD (2000), “recording” their passage in the landscape according to their values, perceptions, needs, and expectations, eventually, throughout generations (THOMAS, 2001), but never in an arbitrary manner (SAMPAIO, 2014; SAMPAIO & BETTENCOURT, 2014). Thereby, it seems also possible to perceive Montes Novos as a place for (re)union, celebration, and prestige or power negotiation, con-

tributing to a broader conception of social belonging and identity, integration and collective memory, according to the notion given by FELD & BASSO (1996) or VAN DYKE & ALCOCK (2003). However, and as BRADLEY (2000) pointed out, it is clearly noticeable that this interaction did not imply an intense monumentalisation of the landscape, as it can be inferred by the presence of negative structures, with slight visual impact when compared to other types of funerary architectures. This may point to other mechanisms of social transmission, which reinforced and legitimized the sense of belonging of these communities to the land.

It is also plausible to assume that dealing with the loss and death of some community members, regardless of their social roles, was convincingly marked by the deposition, parallel to other practices, of ceramic vessels. We may discuss their real purposes within the funerary rites, but it seems reasonable to understand their presence as an added value to that specific “physical space”, contributing to a wider conception of a “memoryscape” or “deathscape”, in line with COOK (2011) and CLACK (2011), respectively, seasonally or recurrently playing its part in the construction of something communally meaningful and significant.

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