Plus ça change, plus c’est la même chose?
Continuities and discontinuities in the funerary record of the northern half of Iberia

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ABSTRACT - An evolutionary approach to the study of the funerary systems in Late Prehistory allows the recognition of diverse contexts of social crises in the north of Iberia. The analysis of the radio-chronological data that we have compiled indicates five phases of use – with the newness of identifying two different cycles during the Late Neolithic – and of subsequent ‘abandonment’ in the megaliths; this is reduced to two phases in the case of the sepulchral caves. We interpret the radio-chronological results through an examination of the material culture present in the graves and dynamics of the megalithic architecture. In addition, we contrast our results with different approaches, carrying out a complementary multidisciplinary approach. In this regard, we found that megalithism served as a vehicle for responding to the different crises and changes faced by increasingly complex and unequal human groups.

KEY WORDS – Neolithic; Chalcolithic; megalithism; chronology; social crises; Iberia

Plus ça change, plus c’est la même chose?/Bolj ko se spreminja, bolj je enako?
Kontinuitete in diskontinuitete v pogrebnih zapisih na severu Iberskega polotoka

IZVLEČEK – Evolucijski pristop k preučevanju pogrebnih praks v pozni prazgodovini severne Iberije omogoča prepoznavanje različnih družbenih kriz. Analiza zbranih radio-kronoloških podatkov kaže na pet faz uporabe – z najnovejšo prepoznavo dveh različnih ciklov v pozemnem neolitiku – in kasnejših ‘opustitev’ v megalitih; to je v primeru sepulkralnih jam omejitev na dve fazi. Radio-kronološke rezultate interpretiramo s pomočjo pridalkev v grobovih in dinamiko megalitske arhitekture. Naše rezultate primerjamo z rezultati drugih pristopov, ki vključujejo primerljive multidisciplinarne analize. Ugotovili smo, da je megalitizem služil kot odziv na različne krize in spremembe, s katerimi so se soočale vse bolj kompleksne in neenakopravne skupine.

KLJUČNE BESEDE – neolitik; halkolitik; megalitizem; kronologija; družbena kriza; Iberski polotok
Introduction

Regardless of the paradigm under which we interpret the direct or indirect correspondence between the funerary archaeological record and the structure of the community (Criado Boado 1989), we will agree that social innovation will gain visibility (Hodder 1990). In this sense, the modification of the funerary expressions of prehistoric human groups represents a cultural and ideological change, although it is not easy to establish the difference between continuity and rupture when we analyze archaeological materiality. Cultures, like species (Van Valen 1973), show a strong trend, over time, to change by non-orthogenetic evolution, driven by internal and external factors, a dynamic that accelerates in contexts of competition. Therefore, change would not necessarily evidence a conflict. In contrast, ruptures occur in contexts of ‘crises’, a term that we reserve for the existence of systemic contradictions.

In the case of Late Prehistory in northern half of Iberia, the archaeological record provides a wide range of funerary items; in fact, for certain chronologies and regions, mortuary contexts contribute more to our knowledge than household contexts. In this regard, the rich megalithic funerary structures, and their equivalence in rock shelters and caves, contrast with the weakness of information about their contemporary settlements. This is a good example of the social and ideological representativeness of the funerary sphere: a monumental architecture faced with the ephemeral household constructions, and grave goods that suggest wealth opposite to ‘anodyne’ household goods. The idea needs to be qualified. Although there is a possible research bias, unlike southern Iberia, the early steps of megalithism in our study area are accompanied by a gap in the non-funerary data. Or, as a well-known saying among archaeologists puts it – ‘people died but did not live’.

In this essay we reflect on the processes of change/rupture that occurred during Late Prehistory – from the Early Neolithic to Bronze Age – on the northern half of Iberia, through their funerary corollary. To this end, we draw upon radiocarbon dating series as well as architectural and material culture analysis.

The materiality of a specific tomb is an expression of the particular circumstances of the community linked to it. We wonder if, based on this materiality, we can identify long-term patterns. In other words, we propose to change the scale of interpretation of funeral behaviour to try to infer the presence of continuities and discontinuities (Shanks, Tilley 1987).

For our purpose, it is important to consider the dichotomy between natural and artificial funeral structures for two reasons. Firstly, the megalithic structures constitute an investment of energy (Vicent 1995) or a ‘social work deposit’ (Lull, Picazo 1989, 17) that has been mobilized during its erection. Secondly, the monumentality of megaliths, as opposed to collective graves in rock shelters and caves, could fulfil a function of territorial demarcation (Renfrew 1976), and would enter into a dialogue with the surrounding space. Those differentiating attributes of megalithism would be circumscribed to their phase of construction or first cycle of use, and not, most likely, to later reuse.

Study area and period

The archaeological record and the available 14C data determine the area of study (Fig. 1). In fact, although we intended an analysis of the funerary structures in the northern half of Iberia, the area was restricted to the east of the Cantabrian coast, the Ebro River basin, the Pyrenees and specific locations in the Duero River basin. The sites located in the central Cantabrian region, Galicia, and the northern half of Portugal, with a few exceptions, could not be included in our radio-chronological database: due to the kind of the dated samples or due to the results obtained. However, as our methodology also deals with the analysis of structures and grave goods, we incorporate many undated megaliths into our reflections.

The archaeological manifestation under study, megalithism, goes through several periods of Late Prehistory. The Late Neolithic in the northern half of Iberia, when collective funerary expressions began, is characterized by the proliferation of open-air settlements in whose structures pits are common. Understood as silos, they indicate storage practices and, therefore, surplus economies. In parallel, and particularly deep into the Chalcolithic period, the use of caves and rock shelters as pens became widespread (Estremena 2003; Fernández-Eraso et al. 2017; Francés-Negro et al. 2021; Martín et al. 2010; Pérez-Romero 2021; Straus, González 2012), which suggests an efficient livestock management strategy with the use of meat, milk and, in general, ‘secondary’ products. According to the latest evidence, in the heart of our area of interest (Salinas de Añana), the first megalithic groups
Fig. 1. Locations of the funerary sites used for this study. 1 Cau d’en Calvet; 2 Tafania; 3 Pasteral; 4 Costa Can Martorell; 5 Sagrera; 6 Carrer Paris; 7 Frare; 8 Margale del Moro; 9 Cova Bonica; 10 Cova de l’Ari; 11 Cueva de Aguiles; 12 Cova de Sant Llorenç; 13 Gegant; 14 Serrat de les Tombes; 15 Les Maioles; 16 Cova del Toixó; 17 Cova de la Guineu; 18 Solar II; 19 Pera d’Ardeau; 20 Balma del Cal Porta; 21 Povia; 22 Tomba del Moro; 23 Vilar de Simosa; 24 Megàlit del Bisbe; 25 Clarà; 26 El Llord I; 27 El Llord V; 28 Ceuro II; 29 Costa dels Garrics del Caballol I; 30 Costa dels Garrics del Caballol II; 31 Santes Masses; 32 Ceuro II; 33 Feixa del Moro II; 34 Feixa del Moro III; 35 La Plana del Torrent; 36 Cova de Montanissell; 37 Reguers de Sorò; 38 Galls Carboners; 39 Bòvila Casals; 40 Forat de Conqueta; 41 Trocs; 42 Moro de Alins del Monte; 43 Las Balanzas; 44 La Capilleta; 45 Cristales; 46 Cabilar del Barranco I; 47 San Juan de Loarre; 48 Corona de Hualde; 49 Padre Areso; 50 Fauco; 51 Pieza de Luis; 52 Puente de Bigüézal; 53 Tres Montes; 54 Añautz; 55 Mina de Farangorri; 56 Sotoaldea; 57 Morea I; 58 Atzibita; 59 Charracada; 60 Martzulo; 61 Jentillari; 62 Arrazarangaña; 63 Kareaa; 64 Larrarte; 65 Mandubi Zelaia; 66 Itxcardi; 67 La Atalayaleta; 68 Longar; 69 Arantza; 70 Nardakostie; 71 Collado del Mallo; 72 Peña Guerra I; 73 Peña Guerra II; 74 Collado Palomo I; 75 Collado Palomo II; 76 Kobaederra; 77 Santimamitie; 78 La Chabola de la Hechiceria; 79 San Juan ante Portam Latinam; 80 Alto de la Huesera; 81 Layaza; 82 El Sotillo; 83 San Martin; 84 Atxoste; 85 Túmulo de la Sima; 86 Guerrandijo; 87 Las Yurdinas II; 88 San Quilez; 89 La Cascaja; 90 Kurtzebide; 91 Errekatxuetako Atxa; 92 Urratxa III; 93 Mendigana; 94 Arlampe; 95 Kobaederra; 96 Covachón III; 97 El Pendón; 98 El Hundiido; 99 Alto de Reinoso; 100 El Mirador; 101 El Portalon; 102 Peredo; 103 Portillo del Arenal; 104 Arroyal I; 105 La Velilla; 106 La Llana; 107 El Toral III; 108 Fuentenegroso; 109 Cova do Santo; 110 Pala da Vella; 111 Quinta Água Branca; 112 Agra de Antas.
worked a new resource, namely salt (Plata Montero 2020). Shortly afterwards, the case of Lagunas de Villafáfila points the massive exploitation of salt (Ayazagienea et al. 2017), and it seems clear that the related activity went beyond self-supply and trading networks had to be established. To this new source of wealth the beginnings of metallurgy were added. The emergence of a new economic order brought with it social innovations such as Bell Beaker pottery or ornamentation on exotic materials, entailing mining practices. This new material culture is almost exclusively visible in the funerary sphere. In fact, in the northern half of Iberia, apart from the funerary structures themselves, the typological and material distance between the grave goods of the first megalithic phases and following ones is the clearest testimony to the changes experienced by progressively more complex societies (Parcero-Oubiña, Criado-Boado 2013).

**Chronometry**

Given the continuous deposition of bodies in the enclosures, it is very difficult to determine the beginnings and phases of collective funeral systems. In recent years, the reiteration of dates on human bones has made it clear that megalithic burials did not constitute a homogeneous process; on the contrary, different phases of use have been identified, separated by hiatus. The same dynamic is repeated in natural enclosures. Being able to place these dynamics into defined periods gives us the opportunity to relate them to the cultural changes that we already know and to reflect on the processes of continuity and change.

In this paper, we collected 389 radiocarbon dates from 112 funerary sites in caves, rock shelters and built architecture in the north of Iberia from the period 5315–2550 14C BP. A total of 154 come from 46 natural enclosures and 235 come from 66 megaliths (simple dolmens, passage graves, hypogea and burial mounds) (see Supplement). We only take into account the results obtained on human bones with standard deviations of equal or less than 100 years.

As far as we are concerned, the number of dates that constitute the sample and its quality give robustness to the exercise. Despite the geographical dispersion, the bibliography shows the existence of a cultural relationship between the different records in the catalogue, represented initially by the San Martín-El Miradero cultural facies and, later, by the development of the Bell Beaker complex (Delibes et al. 2012; García-Martínez de Lagrán et al. 2005). The discovery of spatula-idiols (Fig. 7c) first in the dolmen of San Martín (La Rioja), and later in the collective burial site of El Miradero (Valladolid), was the reason to culturally connect both geographies. Currently, we know of around 100 pieces distributed by graves in the basins of the rivers Ebro and Duero. At a later date, the Bell Beaker culture was also expressed in a singular way in the same region, with the development of the Ciemposzuelos beaker variety, as well as in international and mixed decorations, which are elements that can be used to trace exchange networks (Alday 2001). In the same way, although in a different geographical direction, the raw materials of siliceous manufactures link sites that are very far apart from each other (Turrión, Mujika-Alustiza 2004). In short, the region shares not only a common desire to erect dolmen structures, but also assumes common models and interests in habitat types, economy or material culture.

From the available dates for collective burials, we selected those obtained from samples coming from human bones, discarding, among others, the values on charcoal samples. Consequently, we eliminate the disparities caused by the 'old wood effect' (Bouman 1990). It should also be considered that the dates of human remains provide us with the moment of burial, while charcoal may have different origins – it may come from land clearing, natural fires prior to the construction of the dolmens, earth moving, and so on.

Before discussing the methodology implemented and its results, we should stop for a moment to consider the nature of the events that are dating our 14C series. When we work with samples from human bones, we place in time the moment of death of a given subject. In this way, the radio-chronological phases are constructed from a unique meaning of the concept ‘use of the tomb’: that concerning the act of burial of an individual in the grave – always under the assumption of synchrony between death and burial. Therefore, exclusively radio-chronological approaches to the identification and determination of the duration of use cycles must be properly weighed. As opposed to the short life cycles to which the 14C dates point, we cannot discard the idea that the use was extended in time through recurrent rituals of the human group linked to the tombs, despite not receiving new burials.
Methodology

For the analysis of the probability distribution of the data set we use the Kernel Density Estimation (KDE) proposed by Christopher Bronk Ramsey (2017), which is an alternative to the sum of the probability distribution that combines the use of Kernel density with a Bayesian model. The method assumes that the events we are analysing are not completely independent. Among the advantages of the implemented procedure we would like to highlight: the reduction in the noise inherent to the sum of the probability distribution that, sometimes, makes it difficult to observe the underlying distribution; the decrease in the uncertainty associated with the sample bias; a lesser effect of the uncertainties of each of the dates; and its good performance in multinomial distributions (Bronk Ramsey 2017; McLaughlin 2019). However, this approach has some limitations when it comes to identifying the abrupt end of a phase, an issue we will return to later (for a general critique of Bayesian dominant paradigm, see Weninger, Edinborough 2020).

On the procedure and its limits let us simply recall the reflection of Bernhardt Weninger et al. (2011.17) here: “Most importantly, however, perhaps we should not overlook the simple fact that it has never been claimed that Bayesian analysis can provide a closed solution to all archaeological applications, under all circumstances.” Certainly, it is necessary to have good control over each sample, its context and meaning in order to clarify the conclusions of this type of exercise, otherwise we sum up things that we do not understand. This is, moreover, fundamental because sometimes the trends that are marked by statistical modelling are opposed to the particular results of some samples: this is because statistical ‘outliers’ may not be sampling errors, reporting, on the contrary, concrete human actions that impede the standardization of historical processes.

Results

Figures 2 and 3 show the modelling resulting from the KDE method and the sum of probabilities of burials in rock shelters/caves and constructed structures, respectively (the attribution of each radiocarbon date to each specific moment based on the standard deviation and median of the marginal posterior distribution can be found in the Supplement). The incorporation of the results of the latter method is done in response to the fact that the algorithm implemented in the KDE blurs the abrupt phase endings (Bronk Ramsey 2017). Our knowledge of the archaeological record leads us to think that many of the observed funerary cycles had an abrupt end and, sometimes, their origins were also sudden. Therefore, the distribution of the sum of probabilities is a complementary approach in order to better define them.

From a radio-chronological point of view, we can observe that the practice of using natural structures such as collective graves begins in the second half of the fourth millennium BC (c. 3500 cal BC). Although, in fact, during the Mesolithic and Early Neolithic periods, individual burials were occasionally practiced between levels of occupation – Aizpea, La Braña, Los Canes or J3 are some examples of this (Barandiarán, Cava 2001; Vidal et al. 2008; Iriarte et al. 2010; Arias 2012). Their meaning and rituality, however, had no connection with what we are dealing with now. The beginning of this practice is abrupt, configuring a
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Concrete social and ideological situations, about which we will say more later.

In summary, the dynamics of collective tombs distinguish five phases and three hiatuses – where the case of collective burial caves must be matched, as we have pointed out.

Origins (c. 3800–3550 cal BC)
The construction of the first megaliths was set in place by communities that carried out a stable production economy in valleys and mountains. These are simple structures, such as those of the Catalan pre-Pyrenees (Castany i Llussà 2009) – perhaps not megalithic and with more individual than collective development (Molist, Clop 2010) – or of marked monumentality such as those of La Rioja (Galilea 2011). They are represented by the San Martín-El Miradero funerary facies (Delibes et al. 2012), at least in the northern half of the region, and what was once called the ‘Pyrenean culture’ (Pericot 1950). Probably in the pre-Pyrenean area some monuments were closed after the end of this phase – at least, they have neither more advanced dates nor grave goods. However, it will be necessary to discuss the significance of some dates which, due to their antiquity, fall outside this chronological framework.

First hiatus (c. 3550–3250 cal BC)
This period was two and a half centuries in which, in general, the graves ceased to receive new burials.

Generalization (c. 3250–2900 cal BC)
Together with the erection of new structures, several of the preceding ones underwent a new cycle of use. In the course of this phase, various signs of violence have been observed, as well as, at the end of the cycle or perhaps in the hiatus that followed it, actions of destruction, closure and ‘appropriation’ of some monuments. It is noticeable that in several inhumations (Aizibita, Charracadía, La Chabola de la Hechicería, Larrarte) most of the dated individuals belong to this phase, but there is little or no evidence of representative archaeological material assigned to these.

Fig. 3. KDE for the 14C dating set from the inhumation in megalithic architectures, performed with OxCal v4.4.4 (Bronk Ramsey 2017; Reimer et al. 2020). In dark grey the KDE estimated distribution; blue line for the mean value; blue band for the standard deviation (±1σ); light grey for the sum of the probability distributions; black crosses for the medians of the marginal posterior distributions for the events from the KDE.

The constructed structures, instead, are spread in five phases. The tradition is inaugurated by c. 3800 cal BC and went on for almost three centuries. A second phase, of as much importance as the previous one, is found in the area of study from c. 3250–2900 cal BC. A third one takes up the short but active time span by c. 2750–2200 cal BC. The fourth one is developed by the first half of the second millennium, with an epilogue of later punctual reuses. The pattern is thus of relatively short cycles with parentheses of several generations with very few burials.

It is easy to observe discrepancies and coincidences in the funeral dynamics between both types of burials. Firstly, the phase of origin of the constructed pantheons is not reflected in the burial caves. Secondly, the first cycle observed in the caves covers the second and third cycles of the constructed structures. Finally, the last phases of both types of pantheons are simultaneous. If it is not a problem of method, the parallelisms cannot be independent, nor their concurrence due to randomness: they would correspond, therefore, to
chronologies, and what has been recovered belongs to more advanced phases. It is also interesting to note that the end of this phase coincides with the presence of the first flat-retouched arrowheads, which replace the earlier projectiles (microliths chipped tools). Should the profusion of these objects in many of the funerary enclosures be read in conjunction with the signs of violence?

Second hiatus (c. 2900–2750 cal BC)

This was an interlude of 200–300 years in the early stages of the Chalcolithic, often referred to as ‘Pre-Bell Beaker’, and where acts that could be described as punitive were continued, or even increased, from the previous phase.

Third phase of activity (c. 2750–2200 cal BC)

Related to the ‘Bell Beaker impact’, this phase manifested in the megaliths but not in caves. It is remarkable that this ‘impact’ materializes in the international maritime and mixed versions, as well as in the classic decorative patterns and syntax of the Ciempozuelos beaker variety, offering homogeneous features in the collections of the western part of the region, since they do not appear in the pre-Pyrenean dolmens. Elements of personal ornamentation on exotic materials, probably for the display of wealth, also make their appearance, as well as the first manifestations of metal (Alday 1992; Soriano Llopis et al. 2012). We observed once again architectural remodelling of the monuments.

Third hiatus (c. 2200–1950 cal BC)

This corresponds to the development of regional household Bell Beaker pottery of the second half of the Chalcolithic period. It is characteristic of dwelling locations, but not from the burial ones.

Fourth phase of activity (c. 1950–1500 cal BC)

This phase comprises the first half of the Bronze Age, as it is reflected in radio-chronological data and the presence of metallic remains. The more communitarian nature of the grave goods of the first stages would be surpassed, given the sumptuary and personal characteristics of these new items. An example of the relationship between prehistoric materiality and social relevance may be Gobaederra cave (Apellániz et al. 1967), which has a set of metallic daggers and punches, perhaps associated with one of the around 100 buried individuals (see below).

Late uses (c. 1450–1250 / 1000–800 cal BC)

**Rare burials in caves and dolmens**

The proposal of cycles in the use of collective burials is based on the combination of radio-chronological values, and confirmed by analysing the particular biographies of dolmens with a sufficient number of 14C dates to cover all or part of the time span of their use. Unfortunately, caves cannot be part of this exercise since a limited number of individuals per grave have been dated.

Thus, for example, in the dolmen of La Chabola de la Hechicera, each and every one of the above-described phases of use and hiatus are documented. Radio-chronology concentrates most of the inhumations in the first two phases (Fig. 4), and the material culture – incised-impressed Bell Baker pottery, necklace beads on exotic materials, and flat-retouched arrowheads (Apellániz, Fernández Medrano 1978) – attested the mortuary rites of the dolmen during the third phase. The first megalithic phase is represented in San Martin, and, even if the radio-chronology does not suggest it, the material culture gives a clear indication of the presence of the rest of the phases (Barandianin, Fernández Medrano 1964). A similar circumstance occurs at Alto de Reinoso, despite the destruction of the upper levels of the tomb (Rojo-Guerra et al. 2015). The radio-chronological biography of the Mandubi Zelaia dolmen runs through three of the proposed phases, to which a late burial can be added (Mujika-Alustiza, Edeso 2011) (Fig. 4). At Sotillo, although there is no radiometric evidence, the grave goods suggest that it was built in earlier phases (Barandianin et al. 1971), thus completing a biography in accordance with the described phases (Fig. 4). At Collado del Mallo radio-chronology draws three of the cycles – the first of which comes from infratunnel deposits (Fig. 4) – the Bronze Age cycle not being present. Its closest neighbours Collado Palomero I and Peña Guerra II follow approximately the same pattern. The first two phases are also present at La Vellila, but neither the chronology nor the materials recovered attest to a later use (Zapatero 1991) (Fig. 4). As a final example, several funerary phases have been described in the dolmen of Arroyal I (Carmona et al. 2014) (Fig. 4). In short, the recognition of phases and hiatuses in the particular biographies of the dolmens vindicate general trends, while they tell particular stories. Several studies on the biographies of European megaliths stress this idea (Bayliss, Whittle 2007; Schulting et al. 2012; Sévin-Allouet 2013; Marçais et al. 2016).
Fig. 4. Probability distribution for the ‘biographies’ of some of the megalithic architectures mentioned in the text, performed with OxCal v4.4.4 (Bronk Ramsey 2009), IntCal20 atmospheric curve (Reimer et al. 2020).
Structures

When we are in front of a dolmen, we should be aware that the legacy is the result of its construction, cycles of use and abandonment, closures, additions, rites, the vicissitudes of time, the actions of thieves and scavengers and other possible circumstances over which we have no control (Álvarez 2003). This means that each monument had its own ‘non-innocent’ history. It is thus not easy for an archaeologist to identify the processes that have taken place in each case; nor even, sometimes, to distinguish what corresponds to human intervention and what to collapse due to the course of time.

In the Iberian context, several researchers have documented the possible use of materials from previous structures in the construction of new monuments: flagstones at Azután, Gorriquía, Navalcán, Pedra Escolregadía, Puerto de los Huertos, Reguers de Soro or Soto (Villoch 1998; Gavilán, Vera 2005; López et al. 2009; Linares, García-Sanjuán 2010), and wood at El Barranquete. Such dismantling of pre-existing architecture or the subsequent ‘repair’ of dolmen structures must be read in a social key: it is not a question of shoring up deteriorated monuments, or enlarging them to make place for new burials, as most likely the purposes of such actions were of a different nature, and only the society that carried out these works has the real key to their meaning.

We can observe the magnitude of this phenomenon by focusing on one of the regions in our study area: the upper Ebro basin, to which we will add the cases of some dolmens that are nearby. It is easy to increase the evidence, but we believe that the information we are going to relate is sufficient to support an underlying hypothesis: given the coincidence of these ‘arrangements’ in the pantheons with the first phases of use and hiatus reported by the 14C, the actions must be considered as intentional and premeditated, not random at all.

At the sepulchre of La Mina, a cist-like enclosure was added to the original space of the chamber to give access to a burial, probably Bell Beaker (Narvarte 2007).

In San Martín, the archaeological excavation certified the fall, probably intentional, of the biggest flagstone of the chamber, occupying most of its surface and separating an ancient phase of burials from a more modern one; each one with its corresponding clearly differentiated grave goods (Barandiarán, Fernández Medrano 1964). The precinct of the lower level of the dolmen occurred in a terminus post quem date of 3643–3518 cal BC.

The neighbouring dolmen of El Sotillo reproduces the same situation, although the size of the flagstone was smaller and the separation of the levels was not so clear (Barandiarán, Fernández Medrano 1958).

The tumulus of the great pantheon of Aizkomendi was expanded in a second construction operation (Barandiarán 1964).

A series of excavations recently undertaken on one of the most impressive dolmens in the Basque Country, San Sebastián Sur, have allowed us to verify that its original chamber was blocked by one of the large flagstones of the corridor, which was adapted as a second adjacent chamber (Fig. 5). These changes made it necessary to reform a large part of the tumulus, on which there are also visible fires for its probable closure.

The recent excavation of the megalithic structure of Pariburu has revealed a first and singular construction which, in a second phase, was partially dismantled in order to build a new one based on the previous one (Fig. 6).

In Kurtzebide, fieldwork revealed the presence of ditches that must have supported several orthostats that were removed in a dismantling operation (Vegas 1981).

Excavations at the dolmens of La Cotorrita and Ciella revealed, as in the case of the other mentioned monuments, the collapse of some flagstones (Narvarte 2005), which can be understood as part of these actions of architectural remodelling.

The meticulous excavations in the sepulchre of Arroyal I have determined different phases of use and remodelling, in accordance with the radio-chronological information available (Carmona et al. 2014). Here too, as in the case of San Sebastián Sur, a flagstone closed off the original chamber, separating it from the access corridor.

In the pantheon of Mandubi Zelaia, the burials and grave goods from the first half of the fourth millennium were covered by a flagstone over which evidence
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The ‘biography’ of the sepulchre of Collado del Mallo had at least three stages of remodelling and use that changed the original design (López de Calle et al. 2001).

In the construction of La Atalayuela, the first structure conceived as a ‘house for the dead’ was transformed into a classic tumulus of Bell Beaker typology. A remodelling that also affected the funerary rites – from

Fig. 5. Left, general view of San Sebastián dolmen; right, northern cut: a earth tumulus from the second construction phase, actual filling; b stone tumulus from the second construction phase; c earth tumulus from the first construction phase; d stone tumulus from the first construction phase.

from the second half of the third millennium was recovered (Mujika-Alustiza, Edeso 2011). The closure occurred around 3201–2410 cal BC (5: 2893 cal BC). The roof of the hypogaeum of Longar was fractured and caved in, sealing their contents in a terminus post quem date of 3341–2924 cal BC (Armendáriz, Irigaray 1994). In this case, we do not really know to what extent a natural accident or anthropic causation is involved.

Fig. 6. Excavation process of the Pariburu dolmen: a, b western cut; c general view once the orthoses are lifted from the chamber; d eastern cut. ETB 1 is the stone tumulus structure of the old phase, covered by ETT 1 or earth tumulus structure of the same phase; at a second stage, the building was levelled to construct a new one where ETB 2 is a new stone tumulus structure, ETT 2 the earth tumulus structure that ends up covering the entire assembly.
individual collective to simultaneous collective – (Andrés, Barandiarán 2004), in the ‘appropriation’ sense, without discarding the idea of ‘continuity’.

The dolmen of Peña Guerra II includes two chambers, an eccentric one that preserved the corpses of a previous tomb and a central one, more typical of a normalised sepulchre (López de Calle, Ilarraza 1997).

Collado Palomero I shows three funerary phases that include notable architectural and ritual changes (López de Calle, Ilarraza 1997).

The Tres Montes tomb is of a very original conception (Andrés et al. 2002), with bone packages in secondary position and individuals in anatomical connection, the result of actions that included the closure, redesign and reuse of the monument.

The tumulus of La Mina revealed that the primitive passage grave was completely dismantled and its ossuary was covered with a tumulus so that it would not be completely destroyed. A second grave was built with the elements of the original monument (Rojo-Guerra et al. 2015).

These examples suggest that – especially in our study region – the megalithic monuments were live buildings (see Abad 1996), which were architecturally updated in accordance with the changing social interests. Sometimes this occurred by closing the structures and their contents – in the case of Soria, the spectacular lime-kiln tombs attest to these actions (Rojo-Guerra et al. 2004). In others, by altering their nature with additions that required significant investment of labour, in some cases, by individualizing chambers and corridors and in the most remarkable cases by building new monuments with materials from older ones.

It would be an error to consider each of the cycles of use of a given funerary structure as a rupture – in a cultural, not stratigraphic sense – with the preceding tradition. Some reuses could well represent a renewal of the community’s ritual towards a space that continues to be considered sacred (Sévin-Allouet 2016). Others, instead, would respond to a desire to break with the past. It has long been rightly argued that the act of closing an inhumation may respond to a dual and opposing intentionality: preservation versus punitive destruction (Andrés 2000).

In the light of such dynamics, questions pile up, especially in order to infer the social impulse behind them. For example, are lineages within the same community responsible for the closures and reoccupations, which take over from the previous social order and probably imply a change in the mechanisms of power? Should the structural modifications of the architecture be interpreted as indicating the arrival of new groups or individuals who infiltrate, taking social command, subduing the buried ancestors to new ritual norms? These two questions are integrated in a common dynamic that reinforces the social crises, which we believe to be present in the record of the end of the Neolithic and the early metal ages.

In the case of natural enclosures, it is not easy to observe whether they were affected by changes in conception. Except in singular cases – El Portalón de Cueva Mayor de Atapuerca (Pérez-Romero et al. 2017) – the absence of artificial structures in them reduces the possibilities of analysis. However, what has been documented on some occasions is the transformation of the function of the speleological space, superimposing another of an economic nature on the former vocation of sanctuary. A good example is Peña Larga rock shelter. The collective burial phase is stratigraphically inserted between an Early Neolithic past of habitation and another of use as a sheepfold for livestock management, after burning the human remains that were buried (Fernández-Eraso 2008), but we cannot say if this should be integrated into the social changes that we attribute to dolmen dynamics. At San Juan Ante Portam Latinam, not long after the burials were made, the roof of the rock shelter fractured and collapsed, closing and preserving a large part of the remains (Vegas et al. 2012). This event, whose punitive nature we can speculate on, occurred in a terminus post quem date 3328–2701 cal BC.

**Grave goods**

In the chaos of bones and materials typical of megaliths and burial caves, it is not easy to sequentially order the materials left as relics, offerings or grave goods. Even the distinction of what are truly grave goods and what are integrated as part of other actions – for example, weapons placed in the body of the deceased – is a matter of discussion. Certain stratigraphies have made it possible to distinguish material lots ascribed to more or less defined cultural/chronological phases. The clearest case, which has served as a guide when interpreting the material inventories of the
dolmens of the northern half of Iberia, is that of San Martín (Barandiarán, Fernández Medrano 1964). Two questions are of particular interest to us in this regard.

(1) That the material lots serve as a complement to the chronological information provided by the $^{14}C$. It should be noted that while only a small part of the human remains of a pantheon is dated by the $^{14}C$, the grave goods represent, in principle, the entire time in which the tomb was in use.

(2) That while chronologically we observe five funerary phases, we only venture to make two ‘packages’ with the set of the usual material inventories of the tombs, to which we can occasionally make some warnings due to the specificity of very representative objects – for example, those metallic ones that identify advanced burials. Logically, in these circumstances, it is not easy to fit the temporal quadripartite division with the dual material division. In fact, the flat-retouched arrowheads belong to the second grave goods ‘package’ (Fig. 7.b), being present both at the end of the second funerary phase – from a chronological perspective – and in the subsequent ones. In contrast, the classic Bell Beaker pottery, also included in the second ‘package’, makes its presence felt in the third chronological cycle.

It is clear that there is not always concordance between the radio-chronology and the information from the grave goods. For example, in the monument of La Chabola de la Hechicera most of the dated burials belong to the first phases of megalithism, but most of the archaeological materials recovered are from more advanced phases – in particular, those associated with the Bell Beaker ritual were recovered outside the burial chamber, in the tumulus. The suggestion would be that, in this case, the first burials were deposited without any personal or communal grave goods, which socially converts these burials, assuming we understand that there is a direct correspondence, as figuratively ‘democratic’. The phenomenon would go unrecognized were it not for the fact that it is repeated in other funerary contexts. Clearly in the dolmens of Aizibita and Charracadía, and probably – although with less certainty as fewer remains have been dated – in the Larrarte burial site. In all of them, the third phase corresponds to a smaller number of burials, but to more numerous, varied and personal material depositions. Therefore, in contrast to the previous idea, we would be dealing with less ‘democratic’ and more segregated rites.

In accordance with what we have pointed out concerning the remodelling of the structures, as an alternative, it could also be speculated that some burials...
were emptied and reused by a community that was different to the one that built them. Perhaps two representative cases would be the megalithic structures of El Sotillo, where the geometric microliths so characteristic of the early grave goods do not correspond with their radio-chronological information; and Pariburu, where there is no concordance between the size of the pantheon and the volume of their contents, neither between their microliths and the date of the only individual who was saved from the ‘cleaning’. In this second example, what is evident is that the structure had a greater social significance than the buried and their grave goods.

On the other hand, the dolmen of San Martín reveals a different situation, since the excavations have identified two funerary phases in its chamber – immediately below and above the large flagstone that interrupted the practice of burial. Both have an acceptable number of individuals associated at each phase with rich and varied grave goods, Pre-Bell Beaker in the earlier phase (Fig. 7.a,c) and Bell Beaker in the more modern one. This means that either the practice of no or few grave goods in the first phase is not uniformly applicable for all the megalithic period – which turns the social interpretations upside down – or the shortest route was chosen here: instead of emptying the pantheon, it was decided to invalidate it and hide its contents by breaking down the flagstone of the chamber.

However, the presence and chronology of the so-called ‘spatula-idols’ is very remarkable in San Martín: objects commonly made on ovicaprid tibia that could well be abstractions of female bodies (Fig. 7.c,d). Discovered for the first time in pantheons in Araba, today we know of around 100 such objects distributed in about twenty tombs in the northern plateau of Iberia – plus some cases from outside this region (De Libes et al. 2012; Bellido 2015). Very interesting are the radio-chronological values given by the dating of the two spatula-idols from San Martín (Fernández-Eraso et al. 2015). The dates of 4335–4060 cal BC (Beta-339542) and 4904–4709 cal BC (Beta-317865) turn out to be from 500 to 1000 years earlier with respect to the first individuals buried in the dolmens, and it is evident that we need to consider this issue in more detail.

There is one more element of the funerary grave goods that deserves attention: the flat-retouched arrowheads that are found at the end of the second funerary phase, just before the following generations decided not to bury their dead in the megalithic tombs and proceeded to ruin them – at least partially. First of all, we must ask ourselves about their origin in these Chalcolithic times. It is true that, at first look, they do not seem to be an evolution, from the technological point of view, of the Neolithic projectiles, so it is understandable that an allochthonous origin or inspiration has been suggested (Andrés 1998). However, some levels of habitation sites do seem to show the reduction of some early prototypes of these points (Alday 1998), which over time will evolve into the usual forms found in dolmens and burial caves. In any case, we suggest that there must have been a more or less direct relationship between the presence of these new projectiles at the end of the second funerary phase, the abandonment for a couple of centuries of the practice of burying in communal pantheons, and the evidence of violence in several burials. However, it is not easy for the archaeologist to define the degree of generalization of this violence, how many people were involved and whether it was intergroup, intragroup or a combination of both. To get an idea of the situation, in the nearby sites of San Juan Ante Portam Latinam, Longar and Las Yurdinas, traces of violence – very striking in the first two cases and less so in the last one – have been detected that deserve an explanation (Armendáriz, Irigaray 1994; Rivera 2011; Fernández-Crespo, De-la-Rúa 2015; Fernández-Crespo et al. 2018). The most classical explanation is that of a competition for territories and their resources, but other alternatives should not be excluded (Esparza et al. 2008). Moreover, in funerary deposits from the east of the region violent actions are also alluded to as a cause of death of some of the inhumed (Davi i Salvador 2019).

There are several lessons to be learned from these brief reflections on the grave goods of collective burials.

1. That the nature of the grave goods and their distribution inside the tombs would define two funerary phases: there were probably more, but the jumbled arrangement of the materials in the ossuaries does not allow us to detail them.

2. That, with a few exceptions, the grave goods of the first two chronological phases are discrete – or simply did not exist – giving a more ‘democratic’ character to the burials. This idea of egalitarianism in the face of death does not exclude the possibility that society
established minimum rules, or biases, about who should rest, and who should not, in these funerary monuments (Fernández-Crespo, De-la-Rúa 2015).

(3) That, in what is a clear ideological evolution, in the third funerary phase some of the deceased are buried with objects that identify personal prestige – whether related to power, wealth or for other reasons. An example of a relationship between prehistorical material and a relevant social individual is the Gobaederra cave (Apellániz et al. 1967), with a set of daggers and metal awls probably associated with one of the around 100 people buried in the cave (Fig. 7.e).

(4) That, therefore, the symbolic value that the grave goods of the first ‘package’ – evident in the spatu-la-idols – seems to transmute to a more individual value in the second ‘package’, such as the necklace beads on exotic materials (Allday 1987; Borrell, Bosch 2012; Odriozola et al. 2016).

(5) That the presence of projectiles in some cases may have originated in violent deaths, while in others they may be funerary depositions.

(6) That, in general, it can be deduced that the sense, volume and nature of the grave goods of each funerary phase varied considerably, as has been previously documented, for instance, on collective graves in the Paris Basin (Sohn 2002).

Discussion

Previous radio-chronological approaches

This is not the first time that analysis of funerary practices has been approached from the perspective of \(^{14}\)C. It is, however, one that deals with it from a greater number of radio-chronological references, which we also compare with those of other regions and non-funerary sets. In Iberia interest has focused mainly on the megalithic phenomenon in southern Spain and Portugal (Boaventura 2011; García-Sanjuán et al. 2011; Lozano and Aranda 2017; Carvalho, Cardoso 2015). The proposals contained in these works have certain similarities with our numerical evolutionary modelling of funerary practices for the northern half of Iberia – with the exception of our identification of two phases for the Neolithic. However, if we take into account the large number of dates that integrate our study, the exclusive selection of human bone samples – as opposed to those evaluations that mix them with charcoal samples – and the use of advanced statistical techniques, we believe that the proposal presented here is more robust.

Among the exclusively radio-chronological approaches to the megalithic phenomenon, the recent work of Schulz (2017; 2019) stands out; among other reasons, because his conclusions have crossed over the walls of academia. Without diminishing the relevance of the enormous effort of working with 2401 dates from pre-megalithic, megalithic and non-megalithic contexts on the European continent, nor the general validity of his conclusions, the chronology that he establishes for our study region differs from the one that we use. Thus, Schulz places the expansion and rise of dolmenism c. 4000–3500 cal BC on the Atlantic slope of the northern Iberia – with even earlier dates for the northwest. We, instead, believe that this chronology should be delayed – which is mainly based on chronological values obtained from charcoal samples, whose direct relationship with the process of erection of the architectures is highly debatable.

The ‘outliers’

Before rejecting certain dates as erroneous – considering that they do not conform to a pre-established cultural model – the singularity of some dates must be understood and interpreted in the cultural context in which the funerary dynamic takes place. This is the case, for example, of some dates of human remains from Iberian dolmens – not necessarily from the region under study, but which warn us of the problem – which seem to precede the time of their construction. The most plausible explanation is the transfer of ancient burials to the new structures that are now beginning to be erected for the first time. Alternatively, it could be argued that we are dealing with the first cases of built monuments. We are not convinced by this last possibility: neither do the grave goods suggest this, nor is there a territorial logic in which these cases appear, nor would the typology of the monuments support such a hypothesis.

Other dates, however, do not seem to fit the proposed model by placing some inhumation events between phases of use (see Fig. 4.). Nevertheless, perhaps these ‘outliers’ may be simple sampling errors, they may in fact refer to specific human actions that prevent the normativization of historical processes. Alternatively, they may also alert us to more local singularities that may define nuances in the different patterns of funerary development, thus preventing the deterministic application of general rules at small-scales. In any
case, this fact does not detract from the validity of the proposed model, as evidenced by the law of large numbers (Bernoulli 1713): even though a value of a variable may deviate from the expected value, repetition will enable us to approach the expected value.

**The two phases**

From the perspective of the definition of cycles of use, one of the novelties introduced by our work is the identification of two different phases in the so far considered first period of megalithism. Nevertheless, is this division real? Alternatively, is it merely a statistical ‘artefact’? We believe that there are sufficient elements in the archaeological record to support the existence of two funerary phases, beyond the numerical control of the dating and their concentration in two time-steps.

The most eloquent is represented by the San Martín-El Miradero funerary facies and its characteristic spatula-idols. Their presence in the funerary record seems closely linked to the oldest inhumations of the earliest architectures of the western half of the study region, and their absence is very significant both in later inhumations and in the tombs of what we could call ‘second generation’. Thus, these objects seem to be exclusive to the funerary rituals developed in the first half of the fourth millennium. They are, if we may use the expression, the ‘index fossil’ of the first phase.

This is not the only evidence that we have. The funerary activity of some of the artificial structures erected in the Catalan pre-Pyrenees area is, if this is not a research bias, limited to the first phase, after which they did not recover their activity (Ceuró II, El Lord I, El Vilar de Simosa, Feixa del Moro, Garrics de Caballo, Povia, Solar III, Tomba del Moro). They have the particularity of being simple semi-buried structures, of small sizes compared to those of the San Martín-El Miradero facies, which mostly contain dual burials – either individual or cumulative burials of up to a maximum of seven corpses (Castany i Llussà 2009).

As a third argument, already pointed out in previous sections, the particular radio-chronological biographies of those dolmens with extensive radio-chronological series clearly show two phases for the Early Neolithic. This last point leads us to reject the idea that the binominal drawing of the curve is the result of an overlapping of the same dynamics with different chronologies for the territories.

There is one last aspect that allows us to distinguish between the phases. If during the first phase burial in artificial enclosures is practically testimonial, it is during the second phase that the generalization or ‘democratization’ of burials in caves of a collective nature begins.

**‘Index fossil’ issue**

Some doubts arise when it is necessary to interpret the meaning and, especially, the management that the groups made of such characteristic objects as the spatula-idols. Their analysis is of special interest because their presence in the archaeological record suggests a community of interests in the territory under study, giving more certainty to the generalizing aspect of our reflections. It should be noted that the 100 or so documented artefacts have been recovered from pantheons built in very different ways: burials in pit graves (El Miradero), in roundels (La Velilla), in lime-kiln tombs (Túmulo de la Sima) or in passage graves (San Martín) (Delibes, De Paz 2000; Delibes et al. 2012; Bellido 2015). In addition, two convergent facts should be highlighted: the first is that, overall, the spatula-idols belong to chronologies much earlier than those considered for megalithism; the second is that their only known extra-Iberian parallels refer us to the eastern Mediterranean (Molist 1996; Mujika-Alustiza 1998; Taha et al. 2017).

At present, the three specimens that have been directly dated come from the tombs of San Martín and Kurtzebide (Fernández-Eraso, Mujika-Alustiza 2021). As we mentioned earlier, the dates give an antiquity for their base materials of between 500 and 1000 years before the first burials in Iberian megaliths. Given the temporal distance, we handle the hypothesis that the spatula-idols constitute relic goods that circulated in terms of generations before their definitive amortization at the time of the coming of the new funerary-ideological cycle, reflected on the megalithic architectures. However, are we faced with a break in funerary practices or, in contrast, perhaps we should interpret these secondary depositions as a kind of ‘ancestral rites’ (Kinnes 1975; Barrett 1988) and, therefore, of a certain continuity? Probably, in this case, the spatula-idols would play the role of a conduit of memories between a past and new rites. However, on other occasions the answers to these questions will depend on how we interpret the funerary record. In this sense, we turn our eyes once again to the dolmens of San Martin, but focusing on another moment in its biography, the episode of the col-
lapse of the great chambered flagstone, which must have occurred between the second and third of the chronological phases we have described. What was the intention behind the architectural realignment of the monument? Was it an act of ‘appropriation’ of the previous ideological world in order to give continuity to a new funerary-ideological code? Or was it an act of destruction and, therefore, of rupture with the previous symbolism, since the enclosure housing the new burials is still the same? In short, San Martín can exemplify the development of different social behaviours in the face of death and what it represents in the life of the communities: (1) of paradoxical continuity – even though the construction of megaliths represents an unprecedented social challenge – with the amortization of the spatula-idols; (2) of continuity versus rupture, depending on how we interpret the voluntary realignment of the original architecture by the demolition of one of its flagstones.

From a similar perspective, we should discuss whether other characteristic objects of the first two funerary phases also represented a role in the amortization of previous rites/ideologies: is this perhaps the case of the geometric microliths which, absent in contemporary settlements, are reminiscent of materials from the Mesolithic and early Neolithic periods? According to what has been documented in the tomb of San Quílez (Alday et al. 2008), the scarce material that accompanied the buried would have an eminently symbolic character. The pantheon is located next to one of the most intensely exploited siliceous outcrops in regional prehistory (Tarritio 2001) and, nevertheless, the microliths and flint blades that were deposited as offered goods were made in a siliceous variety at least 100 linear kilometres away. It is not a better-quality material than that available at such a short distance away, but it is different from it because of its striking whitish colour, which is frequent in these objects that are so common in ancient dolmens (Cava 1984). In the case of San Quílez the burials are secondary, with a selection of what has been moved to the funerary enclosure. Perhaps this is a new case in which ideological changes require the ancient burials to be redirected towards the new ritual.

It is tempting to correlate these hypotheses with the certainty that orthostats from earlier structures were used in the construction of the new ones, with the limits imposed by the chronological certification of these recycled building materials – in other words, whether they took place during the first construction of the necropolis or in a second phase of its use. In this sense, both at Pedra Escorregadia and Azután – two of those cases with bone dates of ancient results – it is suspected that flagstones from earlier structures were brought in for the construction of the monuments (Villoch 1998; Gavilán, Vera 2005; López et al. 2009; Linares, García-Sanjuañ 2010). A similar idea was put forward by Rui J. N. Boaventura (2011) with regard to the pantheons of Monte do Castelo and São Pedro do Estoril (Portugal).

An agitated Neolithic

One issue that cannot be avoided in the analysis of social crises in the Early Neolithic to the Metal Ages is the aggressiveness or violence between groups. Interpersonal, intergroup or intragroup violence corresponded to instability situations. Paleoanthropological studies have identified episodes of violence in the referred territory. An exceptional case is that of San Juan Ante Portam Latinam, a burial site with more than 300 individuals, some cases showing arrow impacts, Monteggia fractures and several traumas (Etzeberria, Herrasti 2007). Fourteen kilometres from this rock shelter, the hypogeum of Longar holds more than 100 burials (Rivera 2011), some of which were injured by arrowheads (Etzeberria et al. 2005). Although in both cases the discussion on the simultaneity of these mass funerary episodes – understood as a ‘mass grave/war layer’ – is still under consideration (Fernández-Crespo et al. 2018), the extensive radiocarbon information available allows us to delimit the cycle of use of the ossuaries and, therefore, to ponder the possibility of regional instabilities (Fig. 8). Taking into account the combination of San Juan Ante Portam Latinam dating, we obtained a chronological frame of 3339–3101 cal BC 95.4% (χ²-Test: df=15 T=25.0 (5% 25.0)). We obtained similar results for Longar: 3360–3102 cal BC 95.4% (χ²: 3217 cal BC) (χ²-Test: df=6 T=5.5 (5% 12.6)).

Even if the two cases mentioned above are undoubtedly the most remarkable, others can be added in the region. In the Las Yurdimas II rock shelter (Fernández-Crespo 2017), two arrowhead wounds fit chronologically around 3016–2895 cal BC 95.4% (χ²: 2952 cal BC) (χ²-Test: X²-Test: df=2 T=2.1 (5% 6.0)). In the dolmen of Aizibita (Beguiristain, Elizberria 1994), aggression with survival has been documented around 3361–3022 cal BC at 95.4% (χ²: 3196 cal BC). In the funerary sites of La Peña de Marañón (Fernández-Crespo 2017) and Alto de la Huesera (Fernández-Crespo et al. 2018), we have not been able to establish with
sufficient reliability the chronology of the episodes, although several of the dates available for the second of these would be congruent with the previous ones. We found indirect evidence of aggressive – skeletal trauma with signs of healing, arrowheads with impact fracture – at, for example, La Atalayuela or Charracadi (Laborda 2016). Other regional cases can be identified by consulting Angel Esparza et al. (2008) and Daniel Davi i Salvanyà (2019), noting that these actions are prolonged in time and affect both ‘ordinary people’ and what are assumed to be social elites. We are convinced that a thorough review of anthropological collections would return a larger number of cases.

**Different approaches**

The work of Antonio Blanco-González et al. (2018) is noteworthy as among the most interesting approaches to peninsular prehistoric dynamics, although focused on the transition between the Chalcolithic and the Bronze Age. In contrast with the static ‘picture’ that they draw for the north of Iberia, the considerable evidence collected in our work reveals a horizon of profound changes that had their correspondence in the funerary record. Taking into account the reservations about the validity of the sum of probabilities procedure (SCDPD or SCDRD) as a demographic proxy – for the Iberian case, with references to the problems of the method: Alfonso Alday and Adriana Soto (2018) – the work of Blanco-González et al. (2018) shows a retraction of prehistoric settlement c. 2200 cal BC, which would not recover until c. 1600 cal BC. We would agree with the probable existence of cycles of demographic expansion and contraction during the recent prehistory of our region, but not in the sense described by these authors. In fact, the exercise of compiling the dating of habitation contexts from the same geographical area and chronological range – once the research bias has been corrected according to the methodology presented in Alday and Soto (2018) – reports a relative stability of regional settlement, with a loss of data c. 1600 cal BC, perhaps more justified by changes in settlement strategies than by demographic deficits (Fig. 8).

![Fig. 8. Above, KDE for natural enclosures; below, KDE for the megalithic architectures. In purple SCDPD for our area of study; in light purple SCDPD corrected for research, taphonomic bias; in orange SCDPD for Iberia (Balsera et al. 2015); in green 4.2 ky BP climate change event (Blanco-González et al. 2018); in red population movements (Olalde et al. 2019). Performed with OxCal v4.4.3 (Bronk Ramsey 2017; Reimer et al. 2020).](image-url)
This chronology would put in to one side those hypotheses that emphasise the abrupt ‘climatic event of 4.2 ky BP’ as the driving force behind the transformations observed in the archaeological record. This event has been linked to the collapse of well-organized societies in Mesopotamia or Egypt, as a consequence of climatic aridity processes (Gibbons 1993; Weiss et al. 1993; Fagan 2007). The influence of this episode is discussed globally, on a Mediterranean scale – emphasizing the local heterogeneity of its effects (Bini et al. 2019; Di Rita, Magri 2019) – and also at Iberia. Lillios et al. (2016) analyse the case in three peninsular areas, observing signs of aridity as well as local anthropic impacts of different signs in the southeast and southwest of the peninsula. However, this would not be evident in the northern half of Portugal, the Cantabrian and the upper Ebro River valley (see Blanco-González et al. 2018; Julià et al. 2001; Roland et al. 2014). We do not have detailed studies for the territory under analysis, but, in any case, varied natural responses are to be expected here too, given that the region includes coastal, inland – between 500 and 1000 metres above sea level – and high-altitude areas. In the upper Ebro River valley interruptions in tufa edifices have been demonstrated (González-Amuchastegui 2000; González-Amuchastegui, Serrano 2015), in the Iberian system relatively intense erosional series (Peña-Monné et al. 2011; Peña-Monné 2018), and in the Chalcolithic site of Torrentejo (Araba) a gypsisol resulting from aridity conditions possibly related to the 4.2 ky BP event (Narbarte-Hernández et al. 2019). In any case, the radio-chronological values related to habitats suggest continuity without interruptions, and there are no data to estimate changes in social response or settlement strategies to these events. Whether this should be reflected in the funerary phases is a highly suggestive hypothesis yet to be explored, for which more evidence will have to be gathered.

Between the demographic dynamics and the funerary perspective of our work, we do observe coincidences during the episode of contraction or ‘crisis’ c. 3500 cal BC: this circumstance was documented by Verónica Balsera et al. (2015) and Blanco-González et al. (2018), and confirmed by our own data. Balsera and colleagues warn about its significance, and we add that, once the taphonomic bias (light purple line of Figure 8) is corrected, the contraction is more relative than the one implied by the raw data that, not in our case, include habitation and funerary deposits. In any case, the coincidence of this episode with the hiatus that separates the two funerary phases proposed for the Neolithic is relevant. We must also draw attention to the sharp retraction of activity observed around 1500 cal BC, in accordance with the definitive loss of interest in the built structures.

New genomic revelations relating to Iberia have brought back into focus the probable demic population movements as a factor or catalyst for social crises. The genomic history of Iberia over the last 8000 years, as formulated by Olalde et al. (2019), establishes a replacement of 40% of the population with Iberian ancestry c. 2000 cal BC by a population with Pontic steppe ancestry. Interestingly, this population burst onto the scene c. 2500 cal BC, coinciding with the rise of the third dolmen phase (Fig. 9). The coexistence between autochthonous and allochthonous groups would have extended throughout the third hiatus, suggesting that the replacement – especially of the male population – would have occurred in synchrony with the renewed interest in dolmens. As a counterpoint, it should be noted that the study by Íñigo Olalde et al. minimizes the nature of the process for the area under study in terms of extra-Iberian genetic contribution, in line with what has been observed in other works (Valdiosera et al. 2018).

Conclusions

The Holocene funerary record of Iberia is extraordinarily rich, although with an unequal geographical and chronological distribution. In the Mesolithic, in shell middens and rock shelters, individual burials were common, which in some cases generated necropolises (Bicho et al. 2017; Gibaja et al. 2017; Gonçalves et al. 2014). During the Early Neolithic this custom remained, in conjunction with burials in negative structures in the settlements (Rojo-Guerra et al. 2016). In the fourth millennium we witnessed a major renovation of the funerary systems, through the construction of megalithic structures, to which collective burials inside the caves and rock shelters would be added very shortly afterwards. These were parallel phenomena, but with evident asymmetries in their cycles of use. Thus, accentuating the distances that ideologically and visually separate them: some structures for the memory in landscapes and societies, others for concealment, whose visibility and access are not always evident. Both structures are also instruments of cohesion for groups who, through them, reaffirm their belonging to certain spaces and socio-economic commitments. The wide extension of
the megalithic phenomenon is a symptom of a community of interests that, among other things, is also manifested in the dense networks of exchange. A new ‘imagined order’ (Harari 2014) embedded in the material world shared by hundreds of groups in the recent Prehistory of Western Europe.

Based on chronology, architecture and grave goods, we argue that during the long period of collective burials, nearly two and a half millennia, the meanings, orientations and cycles of use of funerary monuments mutated: the apparent stability that one believes seen in front of the powerful megalithic architectures changes into a polymorphous reality when observing their details. However, we believe that it is an inaccuracy to identify each of the observed phases of the funerary behaviour (peaks and valleys) as a rupture, in cultural terms, with the preceding tradition. It is true that around 3800 cal BC we witness a profound change in funerary practices with the recourse to the construction of structures. However, does this innovation constitute a break with the preceding tradition? If we look at the material links with the immediate past – spatula-idols and occasionally secondary burials – it seems that this is not the case, at least, as we have seen, during the first phases. The emergence of collective burials is followed by a hiatus of three centuries, in synchrony with a possible demographic retraction – if we interpret the proxies correctly, which new studies will have to evaluate in detail. Does the emergence of collective burials constitute, therefore, the epilogue of a crisis? Are we facing the last effort of some societies to guarantee their permanence? (Griado Boado 1989) Plus ça change, plus c’est la même chose? (Karr 1849).

Whether or not it was a demographic crisis, the evidence shows there was a reduction in social work, at least with regard to funerary investment (Lull, Pica- zo 1989). Thus, the very active second phase of these sepulchres would be a reflection of communities that were once again in surplus and which, through the construction of some new architectures, would give continuity to the preceding tradition, while also burying collectively in the caves. Although we are faced with what appears to be the same practice, the role played by megaliths during a large part of the second phase changes: they are a vehicle for conflict. During what some authors have described as a ‘conflicitive demographic increase’, the groups of the Late Neolithic/Early Chalcolithic seemed to adopt more violent behaviours (Guilaine, Zammit 2002), and punitive actions against megaliths – memory and legitimacy deposits over the territory – followed one another, something also observed in other European areas (Masset 2010; Jagu, Masset 2010). It is highly significant that the episodes of violence and the abnormal use of the enclosures (mass graves/war layers) in the region correlate with the climax of this phase, even though they are not exclusive to it.

The investment of social work in monumental tombs has been linked to a strong hierarchization in European Late Prehistory, and vice versa (Ruby 1999). As matter of fact, the organization of the human groups that managed to overcome this crisis does not seem to be the same from now on. Collective burial in artificial or natural structures seems to ‘democratize’ the world of the dead, but perhaps not in exact correspondence with the world of the living. In the region under analysis, dietary differences have been documented between individuals resting in dolmens and those resting in rock shelters and caves (Fernández-Crespo, Schulting 2017). If we may be self-critical, we believe that this idea should find more cases and a better foundation. We must dispel the doubt as to whether the differences in diet respond more to particular ways of life – family units that exploited the mountains with their cattle versus those who cultivated fields in the plains, neither of which are exclusive practices – than to social causes.

More doubtful is the interpretation of the subsequent hiatus. The structures considered in this article seem to show no funerary activity or architectural reformulations. Have the groups lost interest in them, or, having overcome the crisis, have they ceased to be a vehicle for conflict and become the object of conservation and periodic rituals that leave no evidence in the archaeological record? The answer may lie in how we interpret the third phase of reuse of the tombs. Thus, after a few generations, they are revitalized: the more abundant grave goods, which involve the circulation of exotic materials, are linked to important figures; the result of a social reformulation, and new ceremonies that would include libations and banquets. We can formulate this another way: perhaps social inequalities are being normalized, which does not exclude cohesive activities through the funerary image. At this point, it is easy to fall into the temptation of bringing into the scene allochthonous populations that have been integrating into the local communities for some time. However, the documented cases are not only heterogeneous, as several of them also
allow for different readings, and thus the danger of excessive generalizations. In this regard, a relevant example is that of the tumulus of El Virgazal (Delibes et al. 2019): it tells the story of an individual with recent allochthonous ancestors, although perhaps he himself was not. He was buried with high-value jewellery and accompanied by, among others buried there, an individual transferred from a previous grave. In this case, are we dealing with an ‘ancestral rite’ in which a new hierarchy legitimizes its position of pre-eminence over the indigenous population? If so, it is clear that during the preceding hiatus the groups must have preserved and passed on their interest in these memory deposits. In other words, there was no “abandonment or rupture of the social and cultural relationship” (Andrés 2005), although there was in its archaeological expression. This situation could well have been reproduced during the interlude that separates the phases corresponding to the different metal ages.

In a fourth phase, during the Early Bronze Age, collective burials were reactivated; perhaps this was related to the spread of metallurgy and its relationship with individuals of prestige, as well as the new opportunities that arose and the consequent socio-cultural changes that they brought about (Costa-Caramé, García-Sanjuán 2009). It is also true that, at this point, there is a striking increase in the number of habitation sites reported by their dating, and the process of population replacement occurring at the end of the period may not be completely unrelated to the explanation for this renewed interest.

It is evident that behind the interruptions of funerary depositions and later reuse of the graves there must have been major social intentions, although they are not easy to identify. The very fact that the trend is reproduced over such a wide area, regardless of the type of tombs, suggest that we are dealing with a first-order social, economic and/or political dynamic. With the aim of outlining areas for future research, it would be interesting to explore to what extent between the first the second phases, and even more in the third, individual rather than collective burials were becoming the norm. If that were the case, given the relationship of the Bell Beaker and the emergence of metallurgy with the rise of personal leadership, we would be witnessing a phenomenon of appropriation of the previous memories by individuals looking for legitimacy. In this regard, we believe that it would be of interest to replicate our approach in other regions, particularly in those where complex social processes are well documented – such as southern Iberia (Soares, Gomes 2021).

From the perspective of the longue durée, it is in the meaning that communities give to the graves where we believe we can find the ruptures. That is, the ruptures have more to do with the significance of megalithism than with the signifier. As Ian Hodder stated (1990): “New usage within an existing context may have implications that lead to more radical change”. In this respect, we find more relevant the changes observed in the patterns of access to the pantheons (more or less restrictive), the beginning and the end of funerary collectivism, some documented intentional destructions or the emergence of the Bell Beaker as ‘iconography of power’. It is true that we are still far from establishing at what moments ruptures occurred in the communities of recent prehistory in the north of Iberia, although we suspect that the answers lie more in the interior of the phases than in the transition between them.

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