The Temporality of Stone: Late Prehistoric Sculpture in Iberia

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1. Introduction

This paper seeks to explore the concept of petrification in relation to early sculptural traditions in Iberia. This region is rich in standing stones, decorated stelae and statue-menhirs whose manufacture can be broadly dated to the Neolithic (c. 5400-3500 cal BC) and the Bronze Age (c. 2200–750 cal BC). Standing stones in Iberia are variably shaped (they may have phallic form), and some are decorated with abstract, more rarely figurative, imagery. Stelae and statue-menhirs represent human bodies with elements of dress and/or weapons two-dimensionally (on stelae) or in three dimensions (statue-menhirs). Typically, these stones were considered by researchers as stable ('finished') monuments that were mostly 'de-contextualized', since they were usually non-stratified finds. Focus was placed on their stylistic traits, and they were interpreted as standing for something other than themselves, either a common long-lasting ideology or distinct cultures, group identities, or incoming ideologies.

The concept of petrification is defined in this volume by Hueglin as 'a process of consolidation and structuring — in nature or culture, in space or time, in matter or mind — which leads to something more permanent, trans-generational or even eternal.' Gramsch (this volume) suggests that the petrification of architecture could be 'a deliberately fostered process' aimed at creating permanence and resilience of a community. Could prehistoric sculptures be part of processes of petrification taking place in late prehistoric Iberia?

Certainly, these worked stones share some common traits that could be linked to processes of consolidation, such as boundary formation or the crafting of collective identities. They were landscape monuments associated with memory and commemoration (Bronze Age cases include depictions of people with attributes; a few with contextual information are clearly linked to ritual practices), and their findspots are generally found close to transition points in the landscape and valued resources, frequently as part of the fabric of 'persistent' places. But when we attend to the materiality and temporality of these stones, a more complex picture emerges.

This paper considers petrification from the point of view of matter and temporality, two issues that seem central to the notion introduced by the editors (Gramsch, this volume). It argues that petrification processes are not only related to materials and their properties (i.e. durability of stone) but also, and mainly, to the relationships in which materials become entangled. It is argued that material properties are emergent rather than inherent and that they come into being through the engagement of matter with other entities (e.g. adobe buildings can endure through maintenance, limestone exteriors of

buildings can decay relatively rapidly if affected by 'stone disease'). From this it follows that stone can be vibrant and fluid and not necessarily stable, and that it is the resilience of its relationships (rather than matter) which could forge processes akin to the concept of petrification. That is, stone may not petrify, and even when it does it needs persistent work to maintain it that way. Therefore, it is here proposed that the examination of processes of petrification needs to pay attention to materials, their relationships, and histories.

The paper starts by questioning the idea of stone as stable matter and proposes that stone can be a vibrant and dynamic material; this is discussed in connection to recent research on Late Bronze Age stelae. It is suggested that by focusing on individual boulders/slabs and examining them as on-going processes, with particular attention to those intersections by which large stone monuments came into being and were transformed, we can reveal relational properties and connected histories that would otherwise be concealed by current categorizations, such as 'granite', 'slate', 'stela' or 'statue'.

The paper then adopts a broader perspective to discuss relations and underscore the fluidity and complexity of Iberian prehistoric sculptures. These became entangled in countless relations with different temporalities through multiple engagements. Some relations (e.g. similarity; association with a place) endured or were reproduced, having an effect in the crafting of sculptural traditions or types (i.e. categories) as we know them today — some of these enduring relations could be considered within the concept of petrification as consolidation (e.g. standardization; persistent places). But even enduring relations have complex historicities (Fowler, 2013). A series of case studies are discussed to exemplify how these stones are composed of a variety of overlapping relations, which emphasise their instability and change through time.

2. Stone: fixed and stable?

Stone is regarded as 'eternal' in many cultures, past and present, across the globe. It appears to be frequently linked to monumentality and ancestor worship, both seemingly universal phenomena (Assmann, 1988; Parker Pearson & Ramilisonina, 1998). When investigating stone in the context of human-related events and processes, its durability instantly turns into a central issue in the articulation of social, cultural, and historical narratives (cf. Stabrey in this volume). In this context, stone is considered to play a key role in the so-called 'petrification' of social structures and institutions. Indeed, if compared to human temporality, stone has the potential to work within much longer-lasting temporal frames. But the durability of stone may have not always been sought after by the original builders and, thus, in some cases may also be an accidental outcome.

Stone, and particularly monuments made of stone, play a significant role in Jan Assmann's theory of 'cultural memory' (Assmann, 1988; 1995), which complements Halbwachs' concept of social memory in considering the mediatory role of the material. Cultural memory, after Assmann, entails memory of events of the past objectivized and fixed

through 'figures of memory' (i.e. texts, rites, monuments). It differs from 'communicative' (or everyday) memory in that it is more stable and works across longer-term temporalities. 'Figures of memory', Assmann argues (1995: 129), have a temporality 'suspended from time'. *Stein und Zeit* (1988), one of his most influential works, assesses the role of stone and monuments in the crafting of cultural memory in ancient Egyptian society. Written sources from Antiquity underline two key interrelated dimensions of monuments: their connection with social or collective identity, and their temporality. Stone monuments were believed to have a sacred aura which was linked to claims of eternity by a collective (Assmann, 1988: 90). Ultimately, Egypt's monumental culture sought to stabilize a specific worldview and self-image and, in this context, practices of commemoration would mediate the reproduction of social relations. Assmann's concept of cultural memory is established in opposition to that of everyday memory. While cultural memory is durable and sacred, objectivized through stone in the form of monuments, everyday memory is transient, unstable, and relates to less stable cultural forms (e.g. clay, functional buildings).

A similar dichotomized view of the durable and the sacred *versus* the transient and the profane was put forward by Parker Pearson and Ramilisonina (hereafter PP&R, 1998) for the stone settings at Stonehenge. By using a relational analogy from Madagascar, PP&R proposed that the Late Neolithic/Early Bronze Age landscape at Stonehenge was structured by a series of principles linking the ancestors to stone (stone settings) and the living to wood (henges and related timber circles). They argue that the physical properties of materials (stone, wood, water and fire) 'resist certain interpretations and understandings and invite others' (PP&R, 1998: 310). In this context, stone would be characterized by its durability, hardness, solidity and weight, having a different temporality to that of wood (PP&R, 1998: 310–11), although they also note that in Madagascar wood can stand for stone in certain contexts or that earth can be considered durable (PP&R, 1998: Note 2). It is relevant to note that PP&R's interpretation was criticised for suggesting universality in ancestor cult and the relationship between materials and social behaviour, as it was based on a single ethnographic example (Barrett & Fewster, 1998).

Thes spatial and material differentiation proposed for Stonehenge was also identified by PP&R in the Avebury landscape, whereby the area of Avebury where the huge earthen henge and stone circles stand would be that of the ancestors, while the area of West Kennet, with wooden palisades, would be that of the living (PP&R, 1998: 319–20). Just a year later, Gillings and Pollard (1999) showed how the sarsen stones at Avebury accumulated complex biographies, although their account is more focused on the changing meanings attached to them rather than on their active roles, physical transformations or movements. Sarsens are seen as 'fixed', stable stones in a changing landscape, as a 'metaphor for the durability, persistence and timelessness of ancestral worlds' (Gillings & Pollard, 1999: 183). While linking the stones to the ancestral realm, Gillings and Pollard make the argument of the stones as embodying ancestors' spirits during the Late Neolithic (p. 184; cf. Scarre, 2008, who proposes that anthropomorphic representations of stone in France embody human qualities and attributes).

Consequently, the stone settings could be considered as a gathering of ancestors (Gillings & Pollard, 1999: 184–85).

There is a common understanding in these approaches of stone as durable and static, and here I would like to argue that this idea of the 'permanency' and 'fixity' of stone is mainly derived from a process of objectivization conducted by archaeologists whereby a range of materials with a broad variety of changing properties are categorized as 'stone' or a specific lithology (e.g. sarsen), rendering them as static and mute (see also Harris & Crellin, 2018). As Jones (2012: 192–95) argued in relation to the way archaeologists analyse archaeological artefacts and sites, the process of objectivization to which they are subjected when ordered and categorized obscures the vitality and significance of materials; 'What remains are a series of discrete units or categories of things that are mobilized only by the meanings attached to them by human subjects' (Jones, 2012: 191; see also Ingold, 2007). This is precisely what happens to stone in most archaeological narratives dealing with large stone monuments, even when their individual life-histories are considered. Conversely, and in contrast to 'stone', 'wood' is conceptualized as transient but as examples like those mentioned by PP&R (1998: Note 2) reveal, this is not always necessarily the case.

Both these categorizations (i.e. 'wood', 'stone'), which have their own genealogies rooted in western thought and research practices (Conneller, 2011), jointly with a focus on symbolic meanings derived from hand-picked analogies (e.g. selection of Malagasy understandings) have obscured the vitality, dynamic, and performative power of large prehistoric stones. While stones persist, neither are they static or stable (Cohen, 2015) – in fact, they are not eternal (cf. papers by Stabrey and Wasmuth in this volume). As we will see, stones are in constant flux; bearing this in mind is important since it opens a plurality of possible past ontological understandings about the materials considered under the rubric 'stone' and other names referring to different lithologies.

3. Vibrant and dynamic materials

Jane Bennett (2010) and Tim Ingold (2007) amongst others argue that the properties of materials (e.g. stones) are not transcendent but emerge or are co-produced as materials intersect and interrelate with other matters (e.g. air, fire, water, microorganisms, human and non-human animals, etc.). From this perspective, the properties of materials are processual and relational (Ingold, 20017: 14; see also Jones, 2012: 192–95) and, consequently, they 'are not attributes but histories' (Ingold, 2007: 15). For example, the long-term endurance of a rock boulder is not an inherent property of that boulder but a property that emerges through its intersection with a wide array of elements — air may harden its surface (e.g. mica-schist, marble and sarsen afford surfaces that are relatively soft when detached from the bedrock but get harder through the exposure to the elements, see e.g. Bowen & Smith, 1977: 189), weathering may decompose it (e.g. coarse grained granite), ice flake it, a tractor may break it, or its setting within a building protect it; because these properties (like durability) emerge in relation to what there was before and will influence future interrelations, they have historicity.

A focus on materials in process has the potential to reveal the vitality, dynamism and significance of materials, in this case stones, and how the relational properties of stones unfold in time and space, their spatialities and temporalities (Ingold, 2007: 15; Jones, 2012: 186). Over two decades ago, in The *Temporality of the Landscape*, Ingold (1993) drew attention to the temporality of the activities of those who dwell the world. His notion of temporality was akin to that of historicity or Gell's A-series time (Gell, 1992: 149–55), 'in which time is immanent in the passage of events' (Ingold, 1993: 63) and the present encompasses patterns of retentions from the past and protentions for the future. Within this perspective the past, present, and future are always intertwined, the activities of those dwelling in the world, the interrelations in which materials-in-process are caught up, refer to the past as much as they intervene in the future (process is about relationality and change), and while they unfold in time (and in space) they constitute multiple temporalities (Crellin, 2017; see also Holtorf, 2002) (and spatialities).

The vitality and dynamism of stone has only been explored recently by some authors. In her *Archaeology of Materials*, Conneller makes a persuasive argument for the mutability of stone (2011: Ch. 3, see also Ingold, 2007). '[D]ifferent stones have different properties and these change in different spatio-temporal settings' (Conneller, 2011). But her argument relies mostly on broad categories like flint, chert, chalk, or gravel. While she also seeks to highlight the properties of individual stones and the very different ways stone was understood by early prehistoric communities, the cases used to illustrate this, such as fossils (which were selected, collected, or imitated) or exotic versus local flint (where only the exotic was used as strike-a-lights), do not fully grasp the potency and vitality of individual, 'common' stones (see Cohen, 2015 for an inspiring take on the intervention of stone in human affairs during the medieval period). The performative power of stone in the production of rock art through the interaction between rock surface, the elements (weathering) and light was revealed by Jones and his team at Kilmartin (Argyll, Scotland) (Jones et al, 2011; Jones, 2012: 82–84; see also Jones, 2017 for a recent, more detailed discussion of the emergent character of images and rock surfaces). By looking at the movement of megaliths, Gillings and Pollard (2016) and Díaz-Guardamino (2015) highlighted the dynamism of monumental stones and their power to transform the landscapes of Avebury and Iberia respectively. To do this, Gillings and Pollard (2016) focused on the movement of sarsen stones in the Avebury landscape during the Neolithic, while Díaz-Guardamino (2015) examined engagements in which monumental sculptures were caught up, and which involved their movement and physical transformation, from their inception until the present in Iberia. The vitality, dynamism, and power of stone, are revealed by focussing on process, and particularly on those intersections by which large stone monuments came into being and were transformed, as revealed by research on stone circles (Richards, 2013) from Scotland.

4. Large stones and people in late prehistoric Iberia

Iberia holds one of the richest collections of prehistoric sculpture known in Europe. The earliest examples, dated to the Neolithic, are associated with the megalithic phenomenon,

although there are also some examples attributed to the Copper Age which do not seem to be linked to megalithic contexts (Calado, 2004; Bueno et al., 2007; 2016; Díaz-Guardamino, 2010). This paper deals mainly with sculptures manufactured or transformed during the Bronze Age and beginning of the Early Iron Age (c. 2200–750 cal BC), since new research on them offers fresh insights into the questions discussed here (e.g. Díaz-Guardamino, 2010; in press; Díaz-Guardamino et al. 2015; 2019; 2020). These sculptures, some of them 'stelae', others 'statue-menhirs' are found mainly in western Iberia in rocky landscapes where the megalithic phenomenon had been prevalent. Neolithic and Chalcolithic standing stones, enclosures and funerary architectures were still present — and variously used — in the landscapes where Bronze Age and Early Iron Age sculptural traditions emerged and evolved, and need to be taken into account when considering the emergence of the latter (see below). Bronze Age stelae and statue-menhirs usually depict, with various degrees of naturalism, a human body. This may be a schematic or three-dimensional body; sometimes the slab or boulder acts as its surrogate. The human body of stone is usually attired with carved motifs representing elements of dress and/or personal care and/or weaponry. These motifs mostly represent artefacts — or knowledge of them — that were in circulation across Iberia, Atlantic Europe and the Mediterranean during various periods of the Bronze Age and beginning of the Iron Age.

In the following sections I will, firstly, summarize some of the main results from recent research conducted on the inception, manufacture, and transformation of Late Bronze Age (LBA) 'warrior' stelae. These results highlight how a focus on process reveals the vitality and dynamism of individual boulders and how these unfold different temporalities. Secondly, I will adopt a broader perspective to assess Bronze Age sculptural traditions distinguished by researchers by focusing on the relational properties of individual sculptures. This will lead me to suggest that rather than considering different sculptures or sculptural traditions as self-contained entities or categories, we should understand late prehistoric sculptures as relational entities that are part of ongoing, fluid processes of engagement and that, as such, they are constantly in-the-making and can embody multiple entities.

4.1 Matter: making (and re-making) 'warrior' stelae in LBA Iberia

LBA 'warrior' stelae are found across the landscapes of western Iberia, usually as non-stratified finds. They depict warriors with associated paraphernalia (i.e. weapons and other 'prestige' elements, including objects for personal care). Three main 'types' have been identified based on the presence/absence of specific motifs (for the most recent overview see Díaz-Guardamino, 2010, but also see Celestino, 2001a; Harrison, 2004): type B, which includes the basic panoply formed by spear, shield and sword; type B+O, which includes the basic panoply with additional objects; type A, which, added to the previous elements, includes one or more human figures. A recent review of stelae iconography (Díaz-Guardamino, 2012) drawing on analogies between carved motifs and material correlates, radiocarbon dates associated with the latter, and the concept of stelae biographies concluded that, instead of developing in a linear fashion, the different types had been largely contemporary and overlapped geographically, underscoring the complexity of the phenomenon. One of the main conclusions derived from this study was

that radiocarbon dates associated with material correlates refer only to the earliest recorded appearance, circulation or use of the artefact and can only be used as 'termini post quos' to date their representation on stelae. Stelae were visible features in the landscape and motifs carved on their surface could have been replicated much later when manufacturing new stelae or re-carving older stelae. Secondly, the study highlighted the fact that some of the stelae had been re-carved and that cases of subsequent transformation (a question never recorded systematically) may be more widespread than previously thought, highlighting the limitations of current typologies and categorizations based on the idea of the stela as a 'closed' (i.e. stable) find.

These concerns brought me, in collaboration with others, to pursue a new approach to the study of late prehistoric stelae and statue-menhirs in Iberia, a bottom-up, multidisciplinary study that includes the processes of procurement, initial manufacture, and subsequent transformation of these stones. The preliminary results of some of these studies, focused on 'warrior' stelae from southern Iberian (i.e. Almadén de la Plata 2, Setefilla and Mirasiviene in Seville, and Almargen in Málaga), offer interesting results (García-Sanjuán et al., 2006; Díaz-Guardamino et al., 2015; 2019; 2020; Díaz-Guardamino, in press). The lithological characterization by means of thin section petrography of samples from the stelae of Almadén de la Plata 2 and Mirasiviene in Seville, and Almargen in Málaga, determined that all had been locally sourced. These stelae were found in areas where there are outcrops or naturally formed boulders of the same lithologies (tuff, mica-schist, and dolomite respectively). In the case of Almargen, petrographic analysis determined that the dolomite used to make the stela had been quarried from the outcrops located where the stela was found. This is relevant since until the mid- 2000s, the only lithological characterization of a 'warrior stela', that of Talavera — a 're-used' statue-menhir (an Early-Middle Bronze Age 'type' of sculpture) — determined that the rock was sourced from afar (c. 20 km) (Portela & Jiménez, 1996). Various lines of evidence suggest that this statue-menhir was intentionally procured and transported from its source and across a complex topography, which included crossing the Tagus river and reaching the top of the river cliff, during the LBA, and that it was at its destination, its findspot, that the warrior iconography was most probably carved.

The surface texture analysis of the stelae of Almadén de la Plata 2, Setefilla, and Mirasiviene in Seville, and Almargen in Málaga by means of a range of digital imaging techniques (i.e. Reflectance Transformation Imaging (RTI), laser scanning, and close-range photogrammetry) disclosed relevant details. These four stelae display comparable iconographies although each of them shows a series of unique stylistic traits and were manufactured with different sets of techniques. The four slabs/boulders were roughly shaped before any carving took place. The levelling and preparation of the surface to be carved seems to have been focus of great attention in all cases. But the surface of each stela was prepared using different techniques (i.e. chiselling, abrasion, rough-hew and abrasion) not always achieving the same result: the surface of the stela of Almadén de la Plata 2, made of tuff, is full of small chiselling marks (no more work was invested to achieve a finer result) whereas the stela of Mirasiviene, made of mica-schist, which is a much harder lithology, shows a smooth, carefully levelled surface.

In addition, different techniques were used to carve distinct motifs on the same stela as well as to carve similar motif-categories on different stelae (Fig. 1). The technological — and to a certain extent stylistic — variability documented on the stelae examined seem to be linked not only to the hardness of the stone, but also to the structure of the surface of the specific boulder and the skill of the carver. Importantly, those stelae share a series of iconographic conventions (the motif-categories present, their combination and position on the stone canvas) whose dissemination was intimately linked to connectivity. However, they were manufactured with different sets of techniques and variable degrees of skill, suggesting that stelae-making was an activity carried out by non-specialists, local, and possibly occasional, carvers belonging to restricted communities of practice.

Figure 1. RTI snapshots of the human figures of three different 'warrior' stelae (from left to right: Mirasiviene, mica-schist, Setefilla, possibly limestone, and Almargen, dolomite). Clear differences in the carving marks, grooves and morphologies of the bodies can be visualised.

To evaluate these results from a different perspective, a stela carving replication experiment was conducted at the farm of Mirasiviene (Díaz-Guardamino, in press). We conducted the experiment with a group of five students who had no previous experience in rock carving. Its aim was to assess the role of materials, as well as the skill and time needed to produce a 'warrior' stela by making two decorated stelae comparable in shape and decoration to LBA examples. We used two naturally-formed mica-schist boulders and lithic tools made of stones found at the site, as well as flint tools brought to the site by us. The fact that the mica-schist boulders had been exposed to the elements for an undetermined period had produced surfaces that are harder to work than those produced when boulders of this lithology first detach from the bedrock. The experiment revealed that the techniques employed to manufacture stelae and the morphology and quality of the outcome were mediated by the interaction between the skill of the engraver, the lithology of the stones being carved and used as tools and, importantly, the structure of the surface of the specific boulder being worked (Fig. 2). The interaction

between these elements, including the choices made by carvers, who were learning by doing through their interaction with the rocks and with other carvers, produced variable results. Even though the students had no previous experience in rock carving, they were able to produce, in four hours (four carvers, a total of 16 work hours), two partially decorated surfaces that are comparable to those of the simpler 'warrior' stelae from the middle Guadiana region. Importantly, the experiment revealed that stelae manufacture did not necessarily require a huge effort, nor specialised knowledge (other than the iconography to be carved), and that the surface of the individual boulder being worked had an important influence in the outcome.

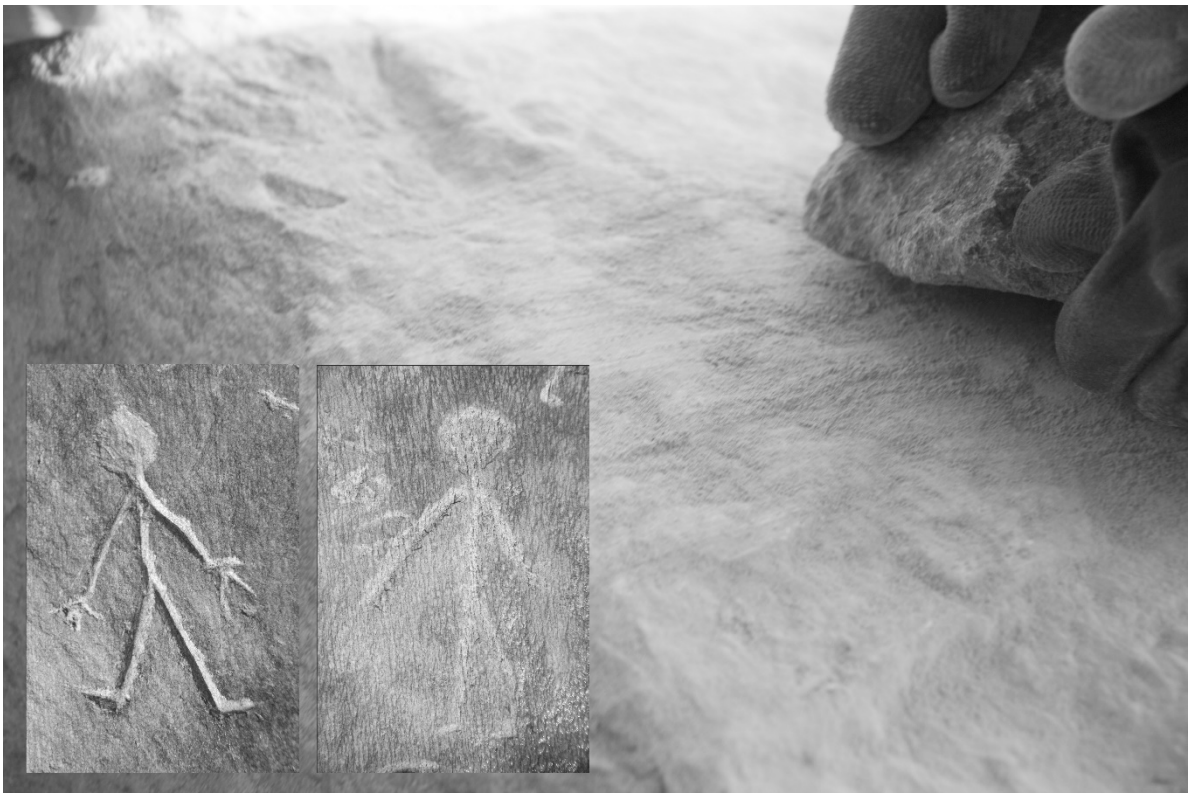

Figure 2. The rock art replication experiment conducted at the farm of Mirasiviene (Seville, Spain). In the background, view of the preparation of the surface of one boulder through abrasion. Below left, human figures carved by students on two different boulders of the same type of stone (micha-schist). The different structure of the boulder surfaces and the different result produced can be seen.

The results underlined the need to focus on each boulder/slab/stela and consider its life-history relationally. The replication experiment highlighted that rock shaping and carving worked in tandem with the emerging properties of the rock boulders/slabs. The analysis of LBA stelae suggested that stelae-making was, to a certain extent, an improvised undertaking. Furthermore, the stelae also revealed that episodes of stelae-making were associated with previous or subsequent activities. The stela of Mirasiviene, for example, showed carvings in the lower part of the slab that are positioned upside-down in relation to the LBA iconography. These motifs seem to have been made very rapidly, without much care (if compared to the motifs composing the stela iconography, which show a careful finish) and could be a testimony to carving activity conducted before, during, or

after the manufacture of the stela proper. Added to that, the stelae-carvings of Almadén de la Plata 2, Setefilla, and Almargen were affected by flaking produced by intentional or unintentional (e.g. natural) processes, either because elements of the carvings were meant to be erased (i.e. the holding hands of both human figures on the stela of Almadén de la Plata 2 or part of the carvings of the stela of Setefilla) or because the grooves revealed the more porous portions of the inner structure of the rock (Almargen, made of dolomite). In short, what emerged at any given moment was linked to what there was before and had an influence in what came afterwards. Furthermore, these stelae and boulders were never static, they have transformed since their inception at differing paces (This could be further stressed if we consider their more recent biographies, e.g. the stela of Setefilla was reused as the cover of an Iron Age grave, while the stela of Mirasiviene was broken by the plough in recent times).

4.2. Messy temporality: multiple relations, histories, and objects

That some 'warrior' stelae were rather improvised creations suggests that their significance also (mainly?) lay in their *making* — rather than (solely) in their display — as part of broader sets of practices. These could have been mortuary ritual practices not leaving much archaeological trace other than the stelae and, perhaps, other artefacts (including food offerings in vessels or metalwork) deposited in various locales, including stelae findspots, rivers and other watery environments (see, for example, Díaz-Guardamino et al., 2019; 2020). Making a stela would be the key commemorative event, and it would consist of inscribing and incorporating (performative) practices (Connerton, 1989: 72-73) (e.g. quarrying, moving, shaping, carving the stone) that reproduced both local and more broadly shared frameworks of experience, enacting ideals of the deceased as a warrior or even heroic ancestor, and possibly reciting stories about their life and death.

One may be tempted to describe warrior stelae as carved stones imbued with 'aura' (i.e. 'semblance of a distance', Benjamin, 1965: 222), appearing detached, unalterable, outside of time. But their potency may have only (re)surfaced when they related to (interacted with) other persons (e.g. as they were carved, see also Scarre, 2009: 15-16). There are numerous ethnographic accounts describing stones as capable of animate behaviour, particularly when involved in close interaction with humans. The Ojibwa in North America treat some large boulders as persons; stones can speak and move (Hallowell, 1964: 56). As Ingold (2000: 95-97) underlines, they are not considered living beings but entities that become alive through their engagement with certain people. Bird-David recounts how among the Nayaka hunter-gatherers in southern India, particular stones were *devaru* (superpersons) as they 'came forward' or 'jumped on' people, that is, actively related to the Nayaka (Bird-David, 1999: 74-75). Similarly, Hoskins (1986, in Richards, 2013: 27-28) explains how stones in Sumba, Indonesia become animated for short periods of time, when they are quarried and transported to be used as capstones in the construction of megaliths. In rural communities in Melanesia, stones frequently embody the ancestors or ancestresses, and Kahn (1990) tells how certain stones embodying the ancestors in Wamira (Papua New Guinea) moved through complex

processes of recollection of events. Bray (2009: 363), explains how Inca *huacas*, sculpturally modified stone formations and outcrops revealing the essence of the stone's sacred nature, were entities brought to life through their involvement with other persons (e.g. via modification, offerings).

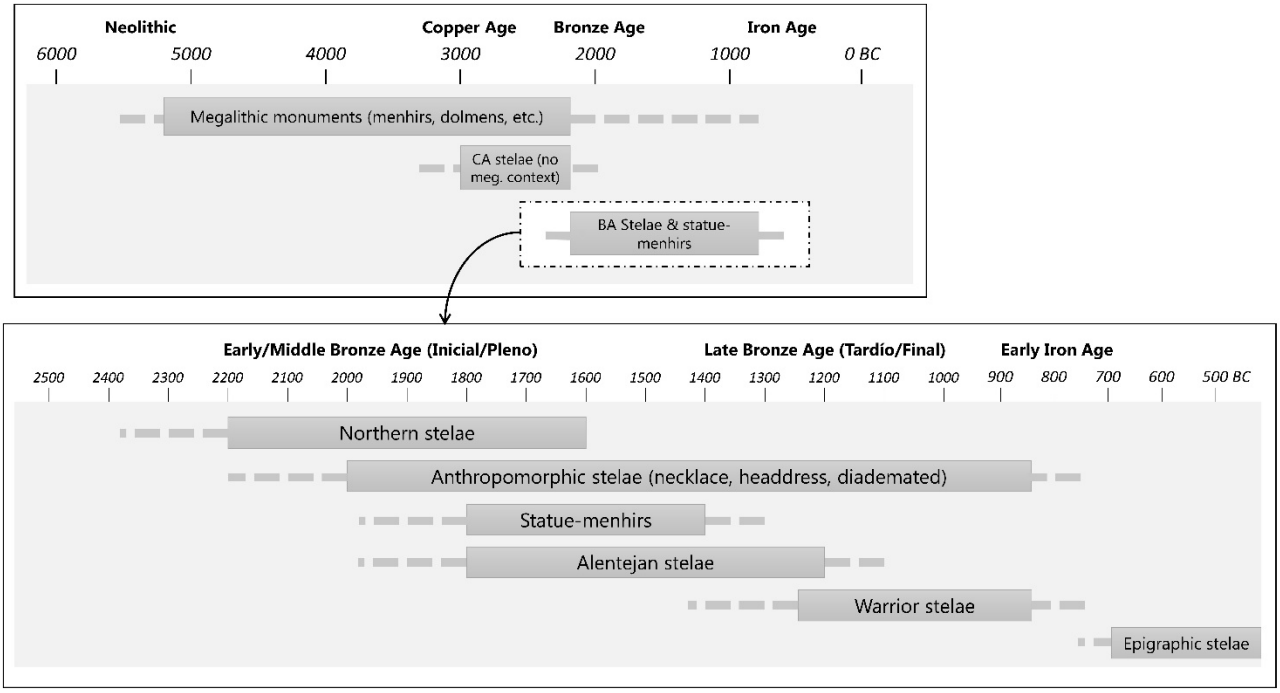

Figure 3. General chronological attribution of the different 'types' of late prehistoric sculptures recorded in Iberia (after Díaz-Guardamino, 2010) (CA: Copper Age; BA: Bronze Age).

Focus on these engagements (or intersections) can greatly enlighten our understanding of monumental stones in prehistory and their interventions in human affairs. Prehistoric sculptures in Iberia are usually considered monuments involved in the recollection of the past and the ancestors of very diverse communities (Neolithic, Copper Age, Bronze Age and beyond). Despite the many engagements in which these monuments have been involved, some leaving quite conspicuous marks, others dramatically transformative, these stone monuments are considered by mainstream research as 'finished' and stable. Because of this, research has focused on formal traits rather than on emergent properties, and a main concern was to categorize them after stylistic patterns. In the case of Iberia, various groups were defined (Fig. 3): 1. Northern stelae and statue-menhirs (dated currently to the Early-Middle Bronze Age); 2. Alentejan stelae (Early-Middle Bronze Age); 3. Anthropomorphic stelae (with or without 'headdress' and the 'diademated' version, dated possibly from the Middle Bronze Age until the LBA); 4) 'Warrior' stelae (LBA). Traditionally, these groups were considered unconnected to rocky landscapes, earlier rock art and sculptural traditions (i.e. Neolithic menhirs and stelae, schematic art) and seen as independent from each other, thus, they were studied in isolation. For example, statue-menhirs, Alentejan stelae and 'warrior' stelae were seen as distinct phenomena (Gomes & Monteiro, 1977; Barceló, 1989: 120; Celestino, 2001a: 280; Harrison, 2004: 40)

and, consequently, their appearance was attributed to incoming groups (e.g. Celestino, 2001a) or ideologies (e.g. Harrison, 2004).

The reappraisal of prehistoric sculptures in Iberia, including their spatial setting and the reassessment of the chronology of their manufacture and 're-use', reveals that all groups overlap (Fig. 3). They do in such a fashion that their inter-relatedness becomes the most plausible hypothesis (Díaz-Guardamino, 2010), even if they seemingly differ from each other, although not necessarily as the reflection of a single ongoing ideology (as proposed by Almagro-Gorbea, 1993; Bueno et al., 1990). These large stones are unstable remnants (Holtorf, 2008), and the examination of their interaction with other entities and their ongoing transformations sheds light on the historical emergence of the abovementioned groups as interrelated processes (i.e. interlinked traditions). Particularly, a focus on 'relations' reveals the fluidity and historicity of prehistoric sculptures. Sculptures became entangled in countless relations (with diverse temporalities) through different engagements (Fig. 4). There are relations that we can study archaeologically, because they had an enduring effect on the crafting of sculptural traditions as we know them today. I will focus on those relations that underline the fluidity of sculptures and contribute to understand the temporality of stone more clearly.

During the Early Bronze Age, 'natural' rocky outcrops, Neolithic rock art sites and standing stones were conspicuous landmarks located in places that were still significant (i.e. show persistent use). Importantly, some of the earliest decorated stelae with EBA weapons were found in the environs of megalithic necropolises and were also, most probably, made from earlier Neolithic standing stones. The cases of Collado de Sejos (Cantabria) (Fig. 4:1)(Bueno et al., 1985; Teira & Ontañón, 2000; Díaz-Guardamino, 2010) and Soalar (western Pyrenees) (Bueno et al., 2005; Díaz-Guardamino, 2010) show this clearly: the two 'stelae' of Sejos and the 'stela' of Soalar are found on high ground, surrounded by tumuli, most of which are thought to be Neolithic (although this needs to be confirmed through further research). Furthermore, the stelae of Sejos are part of a small stone setting akin to others found in northern Iberia and that are usually dated to the Neolithic. Another remarkable case is the 'stela' of Peñatú (Asturias) (Fig. 4:3) (Blas Cortina, 2003; Díaz-Guardamino, 2010), carved and painted on the vertical wall of a prominent rock outcrop which already held Neolithic rock art paintings and presides over an extensive Neolithic necropolis.

But the influence of Neolithic standing stones (and rock art sites) persisted into later phases of the Bronze Age. The 'statue-menhirs' of Bouça (Bragança) (Sanches & Jorge, 1987) and Chaves (Vila Real) (Jorge & Almeida, 1980) are clearly two earlier menhirs that were re-carved during the Middle Bronze Age with a characteristic emblem usually associated with depictions of swords on other statue-menhirs. Both sculptures show various phases of carving, some of which (i.e. cupmarks) could belong to the Neolithic, others to later phases of the Bronze Age.

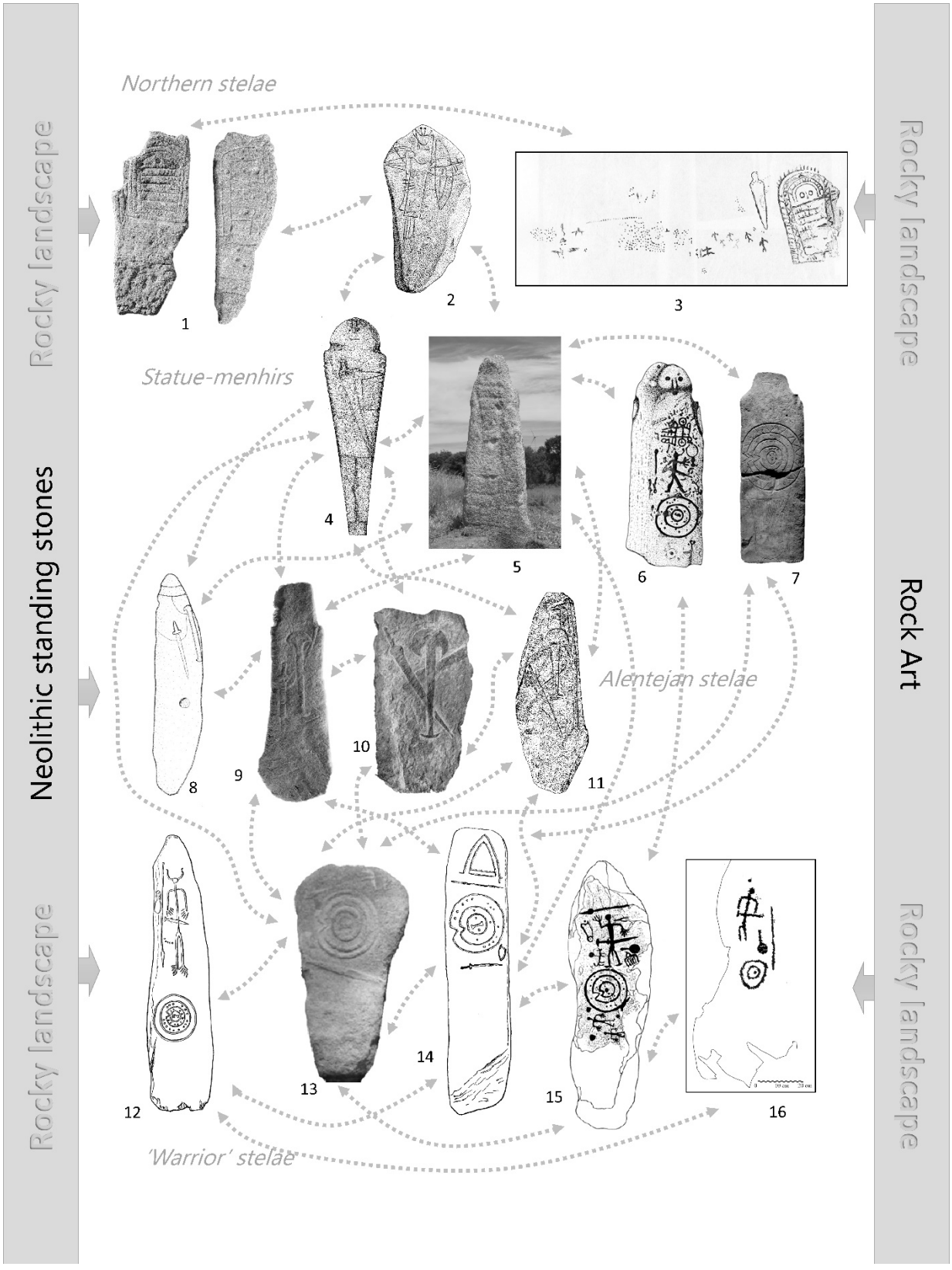

Figure 4. Relations between different individual sculptures, and their links with Neolithic standing stones and rock art (not to scale). 1. Collado de Sejos 1 & 2 (Teira & Ontañón, 2000), 2. Longroiva (Almagro Basch, 1966), 3. Peñatú (Hernández Pacheco et al., 1914), 4. Valdefuentes de Sangusí (Santonja & Santonja, 1978), 5. Cruz de Cepos (M. Díaz-

Guardamino), 6. Talavera de la Reina (Portela & Jiménez, 1996), 7. Valpalmas (M. Díaz-Guardamino), 8. Corgas (Banha et al., 2009), 9. Tapada da Moita (Oliveira, 1986), 10. Defesa (Almagro Basch, 1966), 11. Abela (Almagro Basch, 1966), 12. Magacela (Almagro Basch, 1966), 13. Baraçal (M. Díaz-Guardamino), 14. Santa Ana de Trujillo (Almagro Basch, 1966), 15. Ervidel (Gomes & Monteiro, 1977), 15. Arroyo Tamujoso (rock 8) (Domínguez & Aldecoa, 2007).

There are at least five clear examples of Alentejan and 'warrior' 'stelae' made from Neolithic standing stones. The Alentejan 'statue-menhir' of Corgas (Castelo Branco, Portugal) (Fig. 4:8) (Banha et al., 2009) and the 'stela' of Alfarrobeira (Faro) (Gomes, 1994) offer the typical iconography of the Alentejan tradition (Early-Middle Bronze Age), the motifs are also made with the characteristic technique of low-relief, but their shapes clearly reveal that they were earlier 'phallic' menhirs. In these cases their findspots do not seem to offer evidence of Neolithic activity, although this is something that has not been researched. The 'stela' of Magacela (Badajoz) (Fig. 4:12), São Martinho 2 (Castelo Branco) and Cancho Roano (Badajoz) (Díaz-Guardamino, 2010) feature clear 'warrior' iconographies and in these cases their findspots offer interesting clues. Magacela was found by a natural spring at the foot of a hill where there was a LBA settlement, and nearby an extraordinary Copper Age funerary monument (*tholos*). Sao Martinho 2 was unearthed jointly with another decorated 'stela' (a third 'stela', this with warrior-like iconography, was found on the surface) on the hillside of Monte de Sao Martinho, a conspicuous hill on top of which there was a LBA settlement (Díaz-Guardamino, 2010: 355-56). Finally, Cancho Roano seems to have been associated with a funerary cremation pit dated to the Early Iron Age, although it was reused as the first stepping stone of a Late Iron Age 'Palace-Sanctuary' (constructed on top of the pit) with the decoration upwards (Díaz-Guardamino, 2010: 357-58; Celestino, 2001b).

Many more Neolithic standing stones could have been re-shaped and re-carved in this way but their extensive degree of transformation may have left no identifiable trace of these earlier shapes. What matters for the current discussion is that other Bronze Age stelae and statue-menhirs are found in or around Neolithic necropolises, and those that have been investigated in more depth have revealed long-term persistent use during these later periods. These are the contexts in which Bronze Age statuary emerged, as a phenomenon that was partly inspired by, and that re-created, Neolithic monuments and their link to significant places. In this sense it is relevant that some 'stelae' were directly carved on rock outcrops, very much in the fashion of canonical rock art. Apart from the abovementioned case of Peñatú in northern Iberia, there are at least three pseudo 'warrior stelae' carved on outcrops, two featuring a shield and two swords respectively in the area of Cachão do Algarve (Castelo Branco) (Gomes, 1987)—, part of the Tagus Valley Rock Art Complex—, very rich in petroglyphs from different periods and now covered by the waters of the Fratel dam, and one in Arroyo Tamujoso (Badajoz) (Fig. 4:16) (Domínguez & Aldecoa, 2007), on a flat horizontal rock surface nearby a creek.

This network of links grew and gained in complexity throughout the Bronze Age. Statue-menhirs and Alentejan stelae exchanged and replicated properties (i.e. positioning the

motifs similarly on the slab/body) and there are cases in which they merge (i.e. Tapada da Moita (Portalegre) (Fig. 4:9) (Oliveira, 1986)). Within these two 'traditions' some aspects of their iconographies were replicated more frequently (i.e. comparable categories of objects represented and their position on the slab), and these seem to have inspired the earliest 'warrior' stelae proper (Díaz-Guardamino, 2010: 333-361), which emerged during the late Middle Bronze Age/early Late Bronze Age in an area where the previous two 'traditions' converged.

But the effect of Early and Middle Bronze Age statuary on the 'warrior' stela tradition was varied. Some statue-menhirs seem to have been reused (with erasure of existing motifs), such as the case of Talavera de la Reina (Fig. 4:6) (Portela & Jiménez, 1996), mentioned above in relation to its transport across the Tagus river, or the cases of Sao Martinho 1 (Castelo Branco) and Luna (Zaragoza) (Fig. 4:7) (Díaz-Guardamino, 2010: Catalogue). Other warrior stelae were seemingly made anew but they clearly reproduced the idea of the boulder as a human body, positioning the depicted objects (mostly weapons) in a similar fashion to that they held on statue-menhirs, although the slab was only minimally shaped.

Further engagements, instances of stela-making, illustrate how the tradition of 'warrior' stelae, whilst being quite standardized for its broad distribution, materializes different versions of related iconographies, including hybrids, cross-overs between different 'sub-types' (Díaz-Guardamino, 2010: 327-340). But they were not stable; detailed research is showing that 'warrior' stelae were engaged with quite frequently after their 'initial' manufacture, involving further transformations (Díaz-Guardamino, in press; 2010: 340-346). All these links and relations were produced through the engagement of existing stelae and statue-menhirs, rocks and boulders, people, and new emerging entities. Tracing relations and their histories, rather than categories, can help depict different, more dynamic, narratives about rocks, monuments, and places and their significance to the different human communities who engaged with them.

A final example illustrates how important and necessary it is to work beyond categories and examine relations. The earliest writing documented in Western Europe appears in Iberia between the 8th-7th centuries BC on stelae and pottery fragments (Correia, 1996; 2014). This writing system is ultimately linked to the Phoenician alphabet, but it is thought to communicate a native language. It is not by chance that the epigraphic stelae, which are believed to display funerary formulae and are found in and around Iron Age cemeteries, appear in the same region where Alentejan and 'warrior' stelae had been a widespread phenomenon during the Bronze Age and until the beginning of the Iron Age (c. 9th-8th centuries BC). However, their relationship with Alentejan and 'warrior' stelae is not straightforward. The latter were still significant but what the epigraphic stelae materialized was a modified idea of what some 'warrior' stelae conveyed. This is shown by the 'warrior' stelae of Majada Honda and Capote (Badajoz) (Fig. 5) (García Sanjuán & Díaz-Guardamino, 2015), separated by more than 150 km but engaged with in exactly the same way, to be transformed into a hybrid between 'warrior' stela and epigraphic stela: they were cut to the same length (c. 1 m) turned upside-down, and inscribed with a

written formula in a space that was previously 'empty' (with the possible further addition of a human figure in front of the existing depiction of a chariot).

The previous cases exemplify clearly how these stones are composed by a variety of overlapping relations, and how their properties emerge from these relations. They also underscore their instability and change through time, and the difficulty for us to 'classify' them (i.e. they resist categorizations). Should we refer to Corgas as a 'menhir' or as an 'Alentejan stela'? Should we classify Talavera as a 'statue-menhir' or as a 'stela'? Are Majada Honda and Capote 'epigraphic' or 'warrior' stelae? Here I would like to argue that they can be both, 'menhir' *and* 'Alentejan stela', 'statue-menhir' *and* 'stela', 'epigraphic' *and* 'warrior' stelae, and much more (e.g. digital 3D models of these monuments, which closely match the geometry of their 'originals' but are new material artefacts which exist in the real world); they can be seen as *multiple* objects (Jones et al, 2016) shaped by different practices and composed of multiple relations, things that are connected to each other but with multiple histories (see also Fowler & Harris, 2015). These histories of relations help us understand how the different categories identified by researchers may have emerged through persistent relations crafted via standardisation (perhaps linked to processes of petrification), while they also highlight that 'categories' cannot be studied in isolation and are linked to the consolidation of multiple other relationships. Finally, these cases underline the fluidity of boulders/slabs; despite being stone, they are fluid and can work across differing temporalities.

5. Conclusions: matter and temporality

In this paper I have argued that stone can be vibrant and dynamic, and that petrification processes may not only be about materials but also, and perhaps mainly, about relations. Different temporalities are constructed through relations with stones. Some relations are relatively stable; they can appear as persistent. Stone has the capacity to work across longer-term temporalities than other materials and, therefore, has the capacity to sustain long-term relations, but this is not a given (e.g. stone can decay). Its resilience is linked to the relationships in which it is caught up (including with people, other stones and organisms, the environment, etc.). Added to that, when viewed from the perspective of process, stone can appear fluid. In short, examination of processes of petrification would need to pay attention to materials, their relationships, and connected histories.

Throughout the paper two main issues have been discussed: the vibrancy and dynamism of stone, and relations with stone. To address the first question, I have discussed some recent research on LBA stelae, which underlines the importance of analysing individual boulders/slabs from the perspective of process. Focus on intersections by which large stone monuments came into being and were transformed reveals a whole range of properties which emerge through relationships. These relations have histories, differing temporalities. This question has been discussed via Iberian prehistoric sculptures in general, with attention to a range of examples that illustrate the complexity of the evidence. Iberian prehistoric sculptures are indeed engaged in persistent relations, such

as those linked to standardisation or the making of places of special significance, but these relations may overlap with other relations with varying temporalities.

Returning to the question posed at the beginning of this paper, can early sculptures be linked to possible processes of petrification in late prehistoric Iberia? My answer is somewhat ambiguous. On the one hand, there are persistent bonds that could be related to processes of consolidation, like the resilient relationship with place among some Bronze Age communities, especially in northern Iberia during the Early Bronze Age or during the LBA in southern Iberia, or the standardisation of 'warrior' stelae during the LBA, which is linked to long-distance connectivity (Díaz-Guardamino et al., 2019; 2020). On the other hand, individual sculptures were never finished; they were repeatedly engaged with, revised and, as a result, they embody multiple overlapping relationships. These can be durable and stress the fluid nature of these monuments, which seems contradictory to the idea of 'consolidation'. Consider, for example, the Neolithic menhirs reused during the Bronze Age to create statues or stelae, or the 'warrior' stelae used during the Iron Age to create epigraphic stelae; they referred to the past and intervened in the future (i.e. they were caught up in further relations), that is, they were part and parcel of ongoing processes. These cases epitomise the fact that stone and enduring relations can consolidate change.

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