Díaz-Guardamino, M. (in press) Rock art as process: Iberian Late Bronze Age 'warrior' stelae in-the-making. In Back Danielsson, I.-M. and A.M. Jones (eds.) *Images in-the-making: : Art, Process, Archaeology* (Social Archaeology and Material Worlds). Manchester: Manchester University Press.

# Rock art as process: Iberian Late Bronze Age 'warrior' stelae in-the-making

Marta Díaz-Guardamino, Durham University, UK

## Abstract:

Traditionally, formal approaches to rock art, and particularly petroglyphs, were focused on meaning and representation. Rock art images and panels were held as finished projects, as static representations of symbolic frameworks while their material dimension or temporality were overlooked. This paper aims to illustrate how rock art is co-constituted through the dynamic interplay of different entities, including people, tools and the ever-changing surface of rocks. Rock 'panels' are not passive repositories of human carving activities but do actually play a significant role in shaping rock art production, as well as the skill and knowledge of the engraver(s). Furthermore, petroglyphs were not meant for mere contemplation but also—and perhaps mainly—to be engaged with, as the complex biographies of some panels reveal. Ultimately, the paper will argue that activities and materials involved in rock art making may have held as much significance as the images produced, and that rock art may be considered as an open-ended process. These ideas will be illustrated through the results of recent research on the so-called 'warrior' stelae, part of what researchers identify as a fairly standardized tradition found in Iberia that has been dated to the Late Bronze Age.

## 1. Introduction

Research on engraved rock art has been traditionally focused on aspects of meaning and representation. Perhaps one of the best examples of this in Iberia is the influential work of Emmanuel Anati (1968), who viewed all engraved rock art in western Iberia as part of a tradition that evolved from the Mesolithic to the Iron Age, and whose religious-ideological meaning was considered self-evident and seminal to its making. A more sophisticated approach rooted in structuralism was developed for Atlantic rock art in Galicia by Santos Estévez (2010). For this author, Galician rock art is a system for space representation, part of 'a technology of organization and articulation of all levels and dimensions of space' (Santos Estévez, 2010: 155). In this context, rock art motifs, their combination and location on the panel, and the setting of the latter in the landscape, are held as representations of space and, ultimately, codifications of underlying cultural rules.

The formal methods deployed to study petroglyphs have been mainly concerned with aspects such as style (understood as 'form') and spatial patterning. Stylistic and spatial patterns have been interpreted as physical representations of extant symbolic frameworks. As mentioned above, the spatial setting of Galician rock art at the panel and landscape levels is thought to represent a culturally-bound organization of space (Criado Boado, 2010; Santos Estévez, 2010). Another relevant example is Kristiansen's work (2010), in which it is argued that the southern tradition of Scandinavian rock art narrates episodes of Indo-European myths, notably, the sunjourney (Kristiansen, 2010). These approaches tend to render rock art motifs and panels as static repositories of meaning and, while the role of the panel in the making of rock art has been

considered to some extent (e.g. Criado Boado, 2010), key aspects related to the ontology of rock art have rarely been discussed.

Rock art is in constant flux (Jones and Cochrane, 2018: Ch. 2). What we encounter today is not the 'finished outcome' of some pre-defined plan but a momentary state of being involving many different participants, past and present, including not only people, vibrant rocks and places, but also the elements, other substances and organisms, etc.

Whilst considered inert, rocks have the capacity to change, to do things without human intervention (Ingold, 2007). The interplay between the micro-topography of the rock and the sun has been often highlighted as key to understanding Scandinavian rock art: the sun brings petroglyphs, images, alive, and this changes on a daily and seasonal basis (Bradley, 2009: 168-75). Water also forges interesting relationships with rock outcrops and petroglyphs. Further than representing the broader landscape, the rock art panel becomes alive and changes with water running through its surface (Jones and Díaz-Guardamino, 2017). Whilst often viewed as intrusive and damaging by archaeologists and conservations, lichens also are an integral part of what the rock art becomes, and by stripping its layers away, as it is usually done, we are reconfiguring the panel to the canonical idea of what we think rock art should be—needless to say, this may not correspond to past perceptions.

But, of course, rock art also changes through its encounters with humans. There are countless cases, in Scandinavian and Galician rock art in which rock art panels have experienced transformations by the human hand time after their initial creation. These are recorded, its implications in terms of chronology and meaning explored (Santos Estévez, 2013; Horn and Potter, 2017), but little is suggested about rock art's capacity to affect or its changing essence (but see Fahlander, 2012). Here it is relevant to consider that rock art meanings emerge through practice, they are embodied, relational and fluid. Consequently, it can be argued that rock art embodies the ontological commitments of people, and this has relevant implications for how we think about and engage with rock art. As it has been proposed recently (Jones & Díaz-Guardamino, 2017), by placing formal methods, particularly bottom-up approaches, at the heart of rock art studies alongside analogy, we can start focusing on ontological questions. A focus on rock art (re)making, for example, can help us think about material engagements, the crafting of relations and embodied knowledge, that is, about how people create(d) their worlds (see also Jones and Cochrane, 2018: Ch. 12).

If rock art has been in a constant process of becoming since the earliest petroglyphs were carved—and even then motifs were caved out of already vibrant rocks—it is necessary to consider rock art as things that emerged from something else and that have been constantly in-the-making. Therefore, to study 'rock art making' requires an inclusive open-ended long-term perspective that can consider encounters, transformations, relations, and so on through time (either as 'multiple objects' (Jones et al., 2016), 'relational biographies' (Joy, 2009), 'itineraries' (Joyce, 2012, Díaz-Guardamino, 2015) or four-dimensionally (Jones and Cochrane, 2018: 183-6)).

In the following sections I will illustrate how rock art is co-constituted through the dynamic interplay of different entities, through a case study, the so-called 'warrior' stelae, which are part of what researchers identify as a standardized tradition found in Iberia, that has been dated to the Late Bronze Age (c. 1250-850 cal BC). After providing an introductory view of 'warrior' stelae and some of the latest results of research on them, I will focus on two key issues. First, I will discuss the significance of individual boulders in shaping rock art production, as well as the skill and knowledge of the engraver(s). Second, I will argue that stela-making was as significant—if not more—as the images. Finally, I will make a case for stela-(re)making as an open-ended process.

#### 2. Iberian Late Bronze Age 'warrior' stelae: from iconography to making

Iberian 'warrior' stelae were identified as a 'tradition' in the mid-twentieth century, when around twenty of such slabs were known (Ramón y Fernández de Oxea, 1950; 1955; Almagro Basch, 1966); in 2017 a total of around 140 'warrior' stelae from across south and western Iberia were known. The iconography of these slabs, which are decorated on one side, revolves around a basic panoply of weapons composed of spear, shield and sword. These elements can be accompanied by representations of other objects associated with social status, dress and personal care (i.e. comb, brooch, dogs, chariot, lyre, weights). A key element in more than half of the slabs recorded to date is the human figure: this is usually an individual schematic body, although in few instances there are two or more figures. The size and arrangement of these elements on the stela surface seem to represent the body of a deceased accompanied by a series of elements, including grave goods, following specific conventions that are broadly shared.

There are various intriguing issues about these decorated slabs. Little is known about their findspots; they were frequently found during agricultural work and, believing that these were 'de-contextualized' remains, archaeologists paid little attention to study their findspots. Recent research on some of these sites, however, is revealing that these were persistent, liminal locations, where ritual practices were carried out at different points in time, also in connection to stelae (Díaz-Guardamino et al., Forthcoming a and b). Another fascinating fact is that, whilst motifs represent objects that were known and/or circulated in Iberia and beyond (i.e. the Mediterranean and the Atlantic) during the Late Bronze Age (c. 1250-850 cal BC), the ones found in Iberia are mostly found in regions where stelae are not present and are rarely found in funerary contexts (usually in hoards and domestic contexts). Lastly, the distribution of stelae—and their iconographic conventions—is very extensive, spanning up to hundreds of kilometres, suggesting that the communities related to these monuments were tightly interconnected.



Figure 1. Geographical distribution of the Iberian 'warrior' stelae mentioned in the text.

Because of the alleged lack of context, mainstream archaeology has consistently focused on the typological/stylistic analysis of stela iconography. Stelae decorations were held as finished compositions, and little if any attention was paid to the stones they were made of or the techniques used to shape/carve them. The presence/absence of specific motifs and their arrangement on the stone canvas were the key variables considered to explore the evidence; based on the results, stelae were categorised into groups, types, and subtypes, which, while lending themselves to be interpreted chronologically, in relation to changing patterns of connectivity (Díaz-Guardamino, 2012), have been held as expressions of extant identities or incoming ideologies (Galán, 1993; Celestino, 2001; Harrison, 2004). But, as highlighted by a recent review of the evidence (Díaz-Guardamino, 2012: 402–6), reuse of these slabs involving episodes of re-carving, erasure and fragmentation was most probably more extensive than currently thought but, because this has not been researched systematically, we just lack the evidence to assess its extent.

Recent research on 'warrior' stelae has focused on the biographies of these boulders, from their quarrying until nowadays, with special emphasis on the emerging properties of the stones used to create stelae (see below), the *chaîne opératoire* of their manufacture, and the later engagements in which they may have been involved (see below) (Díaz-Guardamino, 2015; Díaz-Guardamino et al. 2015, Forthcoming a and b).

How were stelae made? Were the stones carefully selected? Was specialist knowledge and experience required to manufacture them? Were they made by itinerant craftspeople? How long did it take to manufacture them? These are some of the questions we have explored recently through the detailed analysis of a sample of 'warrior' stelae by means of petrographic analysis, digital imaging techniques and experimental work (Díaz-Guardamino, 2015; Díaz-Guardamino et al. 2015, Forthcoming a and b). The results shed light on some of these questions (Figures 1 and 2). For example, the analysis of the chaîne opératoire of manufacture by means of RTI of four stelae located in the same region, the Guadalquivir valley (two of them found barely 3 km apart), and bearing similar iconographies, revealed that they were made using different sets of techniques. The four stelae are made of different (local) stones: Almadén de la Plata 2 is made of tuff, Setefilla of limestone (probably, since this one has not been analysed by means of petrography), Mirasiviene of mica-schist, and Almargen of dolomite. In all four cases a lot of effort was invested in the preparation of the surface to be decorated, although while the surface of Almadén was just levelled through fine chiselling, the surface of the others was thoroughly smoothed through abrasion. The techniques used to carve the motifs are even more varied (Figure 2): in Almadén incision and abrasion were used to delineate the fine outline of motifs, in Mirasiviene significant effort was invested in carving most of the motifs through pecking; some of the grooves were later abraded, achieving a very smooth surface. Setefilla and Almargen were made with less care. The outlines, made with more or less shallower pecking, are quite schematic, simpler than the ones featured in the other two stelae.

These results have significant impact in the way we understand rock art style and iconography. First because it reveals that whilst creating images with broadly shared stylistic traits, the carvers had variable degrees of skill and were using local 'know-how' to engrave them, making particular choices. Surely, the outcome of these encounters with stone also depended on the rocks and their emergent properties (see below). The fact that these boulders were locally sourced is also key, but they seem to have been sourced differently: the rounded tuff of Almadén de la Plata 2 appears in the area as naturally formed boulders as it happens with mica-schist in the surroundings of Mirasiviene, although in this case the stela's slab seems to have undergone considerable shaping work. Finally, we know that Almargen's dolomite was quarried from a large outcrop situated on the spot where the stela was found.



Figure 2. Different carving techniques used to make 'warrior' stelae as revealed by RTI analysis (stelae not to scale): A – stela of Almaden de la Plata 2 (height: 76 cm), B – stela of Setefilla (h: 170 cm), C – stela of Mirasiviene (h: 182 cm), D – stela of Almargen (h: 100 cm). RTI snapshots with various filters (Diffuse Gain, Specular Enhancement, Luminance Unsharp Masking filters): I – details of surface preparation, II – details of the grooves depicting the shields, III – details of the grooves depicting the human figures.

In general, these data suggest that, far from being carefully planned and executed projects, stelae were made on the spot in a rather improvised manner. This would fit well with the data that is emerging about their findspots in the cases of Setefilla and Mirasiviene, where a range of ritual activities (mortuary in the case of Setefilla) were conducted (Díaz Guardamino et al., Forthcoming b). In Setefilla, urns with cremations (but no, or very few, grave goods apart from plates and bowls with possible food offerings) were deposited in circular pits at the time the stela was made and erected (Díaz Guardamino et al., Forthcoming b; Aubet, 1975; 1978; Brandherm and Krueger, 2017). At Mirasiviene, were archaeological deposits were destroyed by agricultural work, numerous fragments of similar urns, bowls and plates were recorded, indicating the deposition of possible offerings, if not funerary deposits (Díaz Guardamino et al., Forthcoming b). In both findspots, tools possibly related to stela manufacture (e.g. hammers, pecking stones) were found, indicating that stela shaping and carving was a significant activity by itself, and that it could have been closely linked to (or be part of) ritual activities. In this context, stelae making can be envisioned as a way of presencing the deceased and her/his paraphernalia, perhaps as part of a complex ritual process that would include the cremation of the body and the distribution of his/her paraphernalia (e.g. through exchange, fragmentation, deposition in places of special significance).

Given the significance of stela making, it is important to ascertain the role of stone in those processes. This is an issue that we explored through a replication experiment.

# 3. Boulders with attitude

While doing fieldwork in the farmstead of the Mirasiviene stela, we decided to conduct a replication experiment with students to gather a more personal experience of how stela making might have unfolded. The experiment would consist of making a 'warrior' stela, including the levelling of its surface and the carving of motifs similar to those found on Late Bronze Age stelae, with tools comparable to those thought to have been employed for their manufacture.

Petrographic analysis of a sample from the Mirasiviene stela already concluded that it was micaschist found in the area, also as naturally formed boulders. An interesting fact is that, once detached from the bedrock, the surface of mica-schist hardens through contact with air. We surveyed the farmstead to look for two suitable boulders of mica-schist, as well as stones of various lithologies that could be employed as tools. Importantly, the surfaces of the boulders to be worked were quite different, for their internal layering surfaced in different angles, one perpendicular (boulder 1), the other horizontally to the surface (boulder 2).

Students were organized in two teams of two students each. Since none of them had previous experience in stone working, I gave them a brief introduction on how they could use the tools to shape/carve the rock and showed them two prototypical images of 'warrior' stelae. The activities of levelling and carving proved quite entertaining to students, they shared among them the knowledge they were acquiring in real time, through their practical encounter with the boulder and their stone tools, and they even tried out creative methods to outline some of the motifs (i.e. using a string to delineate the shield). However, while they advanced, two distinct experiences were emerging: during the 4 hours the experiment lasted those working with boulder 2 found it rather easy to produce something resembling a stela, whereas those working with boulder 1 felt somehow frustrated because found a strong resistance of the boulder's surface to be shaped as they wished. Anyhow, in four hours students were able to create something very similar to 'warrior' stelae that are known in some of the areas with the highest concentrations of these finds (Figure 3).

This experience illustrates key aspects of stelae making. First that we need to go beyond categories (i.e. type of rock, in this case mica-schist) and consider the emerging properties of individual boulders, which had a significant impact in the student's learning process and, overall, throughout rock art production. Secondly, the sociality of rock art making and its promptness, reiterate once more the centrality of stelae making, which during the Late Bronze Age was perhaps more significant than the contemplation of the carved motifs. This is relevant because we do not really know if stelae were actually ever conceived as 'finished' productions. In fact, even though this has not been systematically assessed, there are already clear cases of re-working taking place soon after their initial manufacture.



Figure 3. Rock art replication experiment in the farmstead of Mirasiviene (Seville, Spain). Above: Students engaged in rock art making. Below: boulder 1 (left) and boulder 2 (right)

#### 3. These stones are alive! Entangling boulders and petroglyphs

Until very recently, studies of 'warrior' stelae did not pay much attention to the shaping of the block, the techniques used to carve motifs, the carving sequence, or the eventual re-working of stelae. In his work, Harrison (2004) discussed some of the most obvious cases of reuse, and the further assessment of the published evidence, jointly with the new analysis of some stelae, revealed additional cases (Díaz-Guardamino, 2012). In 2010, Enríquez Navascués and Fernández Algaba presented one of the first attempts to characterise the carving techniques of these stelae, in this case the 'warrior' stelae held at the Museum of Badajoz (see also Domínguez de la Concha et al., 2005). Despite the limitations of the methods used — direct tracings and photography with oblique light —, they were able to correct long-held misconceptions (e.g. that incision was the main technique employed to decorated stelae, as stated by Celestino in 2001: 86) and to demonstrate that the most common technique used to decorate the Badajoz stelae was pecking and abrading; incision was used only for some details (i.e. fingers) (Enríquez Navascués and Fernández Algaba, 2010: 159–60). The authors were also able to confirm some cases of re-working but did not discuss possible sequences of manufacture or how these may have been linked with instances of re-working within a processual perspective.

Indeed, the recent reassessment of some stelae held at the Museum of Badajoz reveals a complex panorama: some stelae show marks of erasure and re-working which could have been made some time after their initial manufacture, but still using carving techniques common at the time and within the framework of existing styles, changing them slightly. This would reinforce the idea of stelae as open-ended, collective projects. Also, these cases reveal very clearly how the boulders were actively involved in the process of stela making.

I will comment here on three cases that were recently re-examined by means of RTI and closerange photogrammetry, whose results revealed interesting insights.

The stela found in La Solanilla, known as El Viso 4 (El Viso, Badajoz, Acc. N. 10815), illustrates well the role of boulders in the process of rock art co-production (Figure 4). This seems to be a 'natural' quartzite block<sup>1</sup>. Possibly, the slab was extracted from the bedrock using a natural plane of fracture (there is only a mark of fracture in the upper right area that could have been produced through extraction) but it was not modified further; only the edges were softened as some small flaking marks reveal. The fracture produced various naturally smooth, flat and compartmentalized surfaces. Some of the carved motifs use the 'natural' topography: the spearhead is partially carved over a slope; the chariot's wheel is partially carved over an area affording a more irregular structure. The surface of the grooves outlining the human figures, the shield, chariot and the weapons were carefully abraded, although as noted by Enríquez Navascués and Fernández Algaba (2010: 156), the left human figure was carved with less care and was perhaps a later addition. The shield and the sword were carved after the main human figure's hands and arms, since they cut them. These motifs, positioned on the flat spaces afforded by the boulder, include the key elements (and their disposition) of a canonical stela. But one more human figure was carved in a peripheral position, in the upper part of the boulder surrounded by randomly distributed shallow peckings. This human figure has a rather poor execution (is barely visible to the naked eye), being seemingly 'unfinished'. But is it so or was the main purpose its carving to bring it into being?

<sup>&</sup>lt;sup>1</sup> No petrographic or mineralogical characterizations of the stelae from the Museum of Badajoz have been conducted yet. The attributions here used stem from those included in the catalogue of the Museum of Badajoz (Domínguez de la Concha et al., 2005) and the paper by Enríquez Navascués and Fernández Algaba (2010).



Figure 4. Stela of La Solanilla/El Viso 4 (El Viso, Badajoz, Spain, Acc. N. 10815). General view and details as revealed by conventional photography. Left: spearhead wrapping the stone; Right: faint human figure.

The fascinating stela of Cabeza de Buey 2/La Yuntilla Alta (Cabeza de Buey, Badajoz, Acc. N. 10814) expands on these questions (Figure 5). On the one hand, the diabase boulder has some natural edges, while others have been shaped by the human hand. Interestingly, in the upper part, while the right side is largely natural, the left side was shaped to make the block symmetric. In the lower part the surface seems to be a natural plane but the mid- and upper parts show several marks of abrasion produced through the levelling of the surface. In many ways the motifs carved on this stela make up a canonical composition (e.g. the larger shield centred, the human figure over it, the brooch and comb on the side, the sword in the belt, the spear vertically positioned). However, there are two striking details that reiterate the interplay between the carver and the boulder, as well as the possible addition of motifs at a later stage. On the one hand there is part of a chariot on the left side of the shield; Enríquez Navascués and Fernández Algaba (2010: 159) interpret this motif as a later addition but there is evidence to suggest that this was carved *before* the shield was created. There are traces of the erased draft pole and horses beneath the shield, suggesting that once this chariot was carved the space left was deemed too small for the shield, and therefore was partially erased when the shield was engraved. Then, a new chariot was carved on a rather odd position, the upper right side. Additionally, there are various elements that were incised, rather than pecked and abraded as the rest of the motifs: very fine incisions delineate the fingers of the human figure, the detailed comb, and the reins of the second chariot, while deeper incisions mark the brooch and the V notch of the shield.



Figure 5. Stela of La Yuntilla Alta/Cabeza de Buey 2 (Cabeza de Buey, Badajoz, Acc. N. 10814). General view and details revealed by means of RTI (Filters: Luminance unsharp masking and Specular enhancement). Above: comb made with fine incision; Below: remains of partially erased chariot and marks of erasure of horses where the V notch was later engraved.

The stela of Valdetorres 1 (Cerro de El Santo, Badajoz, Acc. N. 13735), also made of quartzite, shows a coarser manufacture (Figure 6). The boulder seems to have been partially shaped. The decorated surface has been minimally levelled and largely shows a natural plane. There is what seems to be an amalgam of carved motifs (i.e. a shield, human figures, two spears, two swords, part of a mirror). The human figures, the smaller spear and sword are superimposed to the shield and, therefore, seem to have been carved at a later stage (Figure 6: centre right). This would conform to the classic, widely accepted evolution of the iconography of 'warrior' stelae: first we have the basic panoply, while the human figure(s) emerge at a later stage in the 'evolution' of this tradition. But how much later did these elements appear? In this case all motifs were made with similarly broad, shallow grooves made by pecking and then some minimal abrasion (Figure 6: RTI snapshots). All figures seem to have been manufactured similarly, opening up the possibility that the 'additions' were made close in time to the carving of the earliest motifs. This suggests, once more, that stelae were monuments meant to be active and engaged with after their initial manufacture, rather than contemplated.



Figure 6. Stela of Valdetorres 1 (Cerro de El Santo, Badajoz, Acc. N. 13735). Left: general view revealed by RTI (Filter: Luminance unsharp masking). Right: schematic tracing of the carvings showing instances of superimposition and possible phasing (centre), and RTI snapshots of different details: upper half of the left human figure (left), mid-portion of the right human figure (right), both with Specular enhancement filter, and sword with Luminance unsharp masking filter (bottom).

# 4. Stelae in-the-making in Late Bronze Age Iberia

This paper has sought to contribute to thinking rock art beyond representation by focusing on the dynamic interplay between people, tools and boulders. As a case study I have used the so-called 'warrior' stelae from Iberia, identified by researchers as part of a rather standardized tradition that was practised for around five centuries, during the Late Bronze Age.

Focus has been placed on making and materials. The research here presented illustrates how, despite reproducing styles that were broadly shared, stelae were made on the spot in a rather improvised manner. Carvers used local 'know-how' to work the boulders, making particular choices to meet the challenges posed by the emergent properties of individual boulders. Stela making emerges as a very significant activity, perhaps more than the images themselves, and it could have been undertaken in tandem or in relation to ritual activities. Stelae do not seem to have been conceived as 'finished' productions but as open-ended, collective undertakings, as cases of re-working taking place soon after their initial manufacture suggest.

From an ontological point of view, these insights have relevant implications for our understanding of stelae and, more broadly, Iberian Late Bronze Age communities. Encounters forged through stelae making crafted relations with different temporalities and spatialities among people, materials, places. Some relations (i.e. stylistic similarities) seem to have been more persistent (Fowler and Harris, 2015) and extensive, emerging nowadays as 'categories' (i.e. traditions' or 'types') through the work of archaeologists focused on stylistic traits. But

focus on specific encounters (i.e. stelae making) reveals that stelae were in constant flux, relationships between persons, things and places were unstable and changing; they were (and are) in a constant state of becoming (Marshall and Alberti, 2014).

# 5. Acknowledgements

I would like to thank the editors for their invitation to contribute to this volume and the two conference sessions that gave rise to this edited volume. Also, many thanks to two anonymous reviewers for their helpful feedback. Funding to conduct new recordings of the stelae at the Museum of Badajoz was provided by the Wales Centre for Advanced Batch Manufacture, University of Wales.

### 6. References

Almagro Basch, M., 1966. *Las estelas decoradas del Suroeste Peninsular*. Madrid: Consejo Superior de Investigaciones Científicas.

Anati, E., 1968. *Arte rupestre nelle Regioni occidentali della Penisola Iberica* (Archivi di Arte Preistorica 2). Capo di Ponte: Edizioni del Centro.

Aubet, M.E., 1975. *La necrópolis de Setefilla en Lora del Río, Sevilla, Barcelona*, Universidad de Barcelona.

Aubet, M.E., 1978. *La necrópolis de Setefilla en Lora del Río, Sevilla: (túmulo B)*, Barcelona, Universidad de Barcelona.

Barad, K., 2007. *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Durham, NC: Duke University Press.

Bradley, R. 2009. *Image and Audience: Rethinking Prehistoric Art*. Oxford: Oxford University Press.

Brandherm, D. and Krueger, M. 2017. First radiocarbon determinations from the Setefilla necropolis (Lora del Río) and the beginning of the Orientalizing period in western Andalusia, *Trabajos de Prehistoria* 74(2), 296–318.

Celestino Pérez, S., 2001. Estelas de guerrero y estelas diademadas. La precolonización y formación del mundo tartésico, Bellaterra, Barcelona.

Criado Boado, F., 2010. Perspectives in European rock art: The archaeology of glance. In Fredell A.C., Kristiansen, K and Criado Boado, F. (eds.) *Representations and communications: Creating an archaeological matrix of Late Prehistoric art*. Oxford: Oxbow, pp. 132–43.

Díaz-Guardamino, M., 2012. Estelas decoradas del Bronce Final en la Península Ibérica: datos para su articulación cronológica, in: Jiménez Ávila, J. (Ed.), *Sidereum Ana II, El río Guadiana en el Bronce Final*, Instituto de Arqueología de Mérida, Mérida, pp. 389–415.

Díaz-Guardamino, M. 2015. Stones-in-movement: Tracing the itineraries of menhirs, stelae and statue-menhirs in Iberian landscapes. In R.A. Joyce and S.D. Gillespie (eds), *Things in Motion: Object Itineraries in Anthropological Practice*, 101-22. Santa Fe: SAR Press.

Díaz-Guardamino, M, García-Sanjuán, L., Wheatley, D., Lozano-Rodríguez, J.A., Rogerio-Candelera, M.A. and Casado-Ariza, M. Forthcoming a. Late prehistoric stelae and persistent places: A multi-disciplinary review of the evidence at Almargen (Lands of Antequera, Spain).

Díaz-Guardamino, M, García-Sanjuán, L., Wheatley, D., Lozano-Rodríguez, J.A., Rogerio-Candelera, M.A., Krueger, M., Krueger, M., Hunt Ortiz, M., Murillo-Barroso, M. and Balsera Nieto, V. Forthcoming b. Rethinking Iberian 'warrior' stelae: A multidisciplinary investigation of Mirasiviene and its connection to Setefilla (Lora del Río, Seville, Spain).

Díaz-Guardamino, M., L. García Sanjuán, D. Wheatley and V. Rodríguez Zamora, 2015. RTI and the study of engraved rock art: A re-examination of the Iberian south-western stelae of Setefilla and Almadén de la Plata 2 (Seville, Spain), *Digital Applications in Archaeology and Cultural Heritage* 2(2–3), 41-54. doi: 10.1016/j.daach.2015.07.002

Domínguez de la Concha, C., González Bornay and J.M., De Hoz Bravo, J., 2005. *Catálogo de estelas decoradas del Museo Arqueológico Provincial de Badajoz (Siglos VIII-V a.C.)*. Badajoz: Consejería de Cultura, Junta de Extremadura.

Enríquez Navascués, J.J. and Fernández Algaba, M., 2010. Notas sobre las técnicas de grabado y de composición formal de las estelas diademadas y de guerreros. *Cuadernos de Arqueología de la Universidad de Navarra*, 18: 149–75.

Fahlander, F. (2012) Articulating stone: The material practice of petroglyphing. In Back-Danielsson, I.-M., Fahlander, F. and Sjostrand, Y. (Eds.) *Encountering imagery: Materialities, perceptions, relations.* Stockholm: Stockholm University, pp. 97–115.

Fowler, C. & Harris, O.T. (2015) Enduring relations: Exploring a paradox of New Materialism. *Journal of Material Culture* 20(2): 127–48.

Galán Domingo, E., 1993. *Estelas, paisaje y territorio en el bronce final del suroeste de la Península Ibérica*, Universidad Complutense de Madrid, Madrid.

Harrison, R.J., 2004. *Symbols and warriors: Images of the European Bronze Age*, Western Academics & Specialist Press Ltd., Bristol.

Horn, C. and Potter, R., 2017. Transforming the rocks: Time and rock art in Bohuslän, Sweden. *European Journal of Archaeology*. Doi: <u>https://doi.org/10.1017/eaa.2017.38</u>

Ingold, T., 2007. Materials against materiality. *Archaeological Dialogues* 14(1): 1–16. Doi: doi:10.1017/S1380203807002127

Jones, A.M. and Cochrane, A. 2018. *The Archaeology of art: materials, practices, affects*. London and New York: Routledge,

Jones, A.M. & Díaz-Guardamino, M., 2017. Enigmatic images from remote prehistory': rock art and ontology from a European perspective. In B. David and I.J. McNiven (eds), *Oxford handbook of the archaeology and anthropology of rock art*. Oxford: Oxford University Press. doi: 10.1093/oxfordhb/9780190607357.013.52

Jones, A.M, Díaz-Guardamino, M. and Crellin, M., 2016. From artefact biographies to 'multiple objects': a new analysis of the decorated plaques of the Irish Sea Region. *Norwegian Archaeological Review*, 49(2). doi: 10.1080/00293652.2016.1227359

Joy, J., 2009. Reinvigorating object biography: reproducing the drama of object lives. *World Archaeology* 41(4): 540-56.

Joyce, R.A., 2012. From place to place: Provenience, provenance, and archaeology. In G. Feigenbaum and Reist, I. (eds), *Provenance: An alternate history of art*. Los Angeles: Getty Research Institute, pp. 48-60.

Kristiansen, K., 2010. Rock art and religion: The sun journey in Indo-European mythology and Bronze Age art. In Fredell A.C., Kristiansen, K and Criado Boado, F. (eds.) *Representations and communications: Creating an archaeological matrix of Late Prehistoric art*. Oxford: Oxbow, pp. 93–115.

Marshall, Y. and Alberti, B., 2014. A matter of difference: Karen Barad, ontology and archaeological bodies. *Cambridge Archaeological Journal* 24(1): 13–36.

Ramón y Fernández de Oxea, J., 1950. Lapidas sepulcrales de la Edad del Bronce, en Extremadura, *Archivo Español de Arqueología* 23, 293–318.

Ramón y Fernández de Oxea, J., 1955. Dos nuevas estelas de escudo redondo, *Archivo Español de Arqueología* 28, 266–73.

Santos Estévez, M., 2010. The spaces of representation and the domestication of landscape in rock art societies. In Fredell A.C., Kristiansen, K and Criado Boado, F. (eds.) *Representations and communications: Creating an archaeological matrix of Late Prehistoric art*. Oxford: Oxbow, pp. 144–57.

Santos Estévez, M., 2013. Unha visión diacrónica da arte atlántica dentro dun novo marco cronolóxico. *Trabalhos de Arqueologia* 54, 219–38.