The painting and the tree: Symbolism in the Upper Palaeolithic. A tribute to a great Basque Scholar

La pintura y el árbol: simbolismo en el Paleolítico Superior. Un tributo a un gran investigador vasco

KEY WORDS: Upper Palaeolithic art, faunal analysis, symbolism, Solutrean, Magdalenian. **PALABRAS CLAVE:** Arte del Paleolítico superior, análisis faunístico, simbolismo, Solutrense, Magdaleniense.

Iain DAVIDSON*

ABSTRACT

In this paper I explore the variation in symbolic value of Upper Palaeolithic art in Western Europe. Drawing inspiration from Jesús Altuna's demonstration of the complex relationship between animal frequencies in art and in animal bones, I summarise several of my studies based on analysis of the art and animal bones from Parpalló in Valencia. I show that the relationship between art and bones is more complex and varies regionally across western Europe. At Parpalló the relationship varied through time, and the major change in relationship corresponds with a change in the pattern of importance of plaquettes across the same region, and seems to suggest that the major change corresponds to the change archaeologists recognise between the Solutrean and Magdalenian industries. This suggests that the stone industry changes may really correspond to change in more comprehensive aspects of culture.

RESUMEN

En este artículo exploro las variaciones en el valor simbólico del arte del Paleolítico Superior en Europa Occidental. Tomando mi inspiración de la demostración establecida por Jesús Altuna de la compleja relación que existe entre las frecuencias animales en el arte y los huesos de animales, resumo diversos estudios míos basados en el análisis del arte y de los huesos de animales de Parpalló, en Valencia. Demuestro que la relación entre el arte y los huesos es más compleja y que varía regionalmente en toda la Europa occidental. En Parpalló, la relación varió en el tiempo y el principal cambio en esa relación se corresponde con un cambio en el patrón de importancia de las plaquetas en la misma región que parece sugerir que el principal cambio se debió a la modificación que los arqueólogos reconocen entre las industrias del Solutrense y del Magdaleniense. Esto sugiere que los cambios en la industria de la piedra realmente también pudieran corresponderse con el cambio en aspectos más exhaustivos de la cultura.

LABURPENA

Idazlan honetan Goi Paleolitoko artearen balio sinbolikoak Mendebaldeko Europan izan dituen aldaketak aztertzen ditut. Aldi horretan animaliek artean izan duten agerpenaren eta aurkitutako animali-hezurren artean dagoen erlazioari buruz Jesus Altunak egin dituen lanak izan ditut inspirazio-iturri. Nire lanean laburbildu egin ditut Valentziako Parpallón-en aurkitutako arteari eta hezurrei buruz nik neuk egindako ikerlan batzuk. Laburpen horretan, artearen eta hezurren arteko erlazioa askoz ere konplexuago dela erakusten dut, baita Mendebaldeko Europa osoan erlazio hori aldatu egiten dela eskualde batetik bestera ere. Parpallón erlazio hori denboran zehar aldatu zen, eta erlazio horretan eman den aldaketarik garrantzitsuena bat dator eskualdean bertan plaketen garrantziak izan zuen aldaketarekin; horrek iradoki bide duenez, aldaketa nagusia Solutre eta Madeleine aldietako industrietan eman ziren aldaketen ondorioa da, arkeologo askok onartu dutenez. Badirudi, beraz, harriaren industrian gertatu ziren aldaketek badutela zerikusi kulturak bere alderdirik sakonenetan izan zituen aldaketekin.

INTRODUCTION

Basques are well aware of the power of symbols. At Guernica in the heart of Euskadi, the country of the Basques, is an oak tree around which are told the stories of the historic rights of Basque people. There has been a tree there for hundreds of years, but recently the old tree was replaced with a new one so that the symbolism could be continued. The same town was brutally

bombed in the cause of Fascism—the first aerial bombardment and a precursor to the German Blitz on British cities and the British destruction of Dresden (FRASER 1981, 398-401). PICASSO's great painting "Guernica" sought to express the horror of Fascist bombing of the heart of Basque nationalism and has since become a sign of the horror of war more generally. These great

^{*} IAIN DAVIDSON, School of Human and Environmental Studies. University of New England.Armidale, NSW, Australia. E-mail: iain.davidson@une.edu.au

symbols—the painting and the tree—both associated with the same name, are an indication of the difficulty we archaeologists may have in seeking to interpret symbols. In this tribute to a great Basque scholar, Jesus Altuna, I explore some of those difficulties of interpretation.

First, the significance of the oak tree of Guernica has nothing to do with any material aspect of an oak, and the associations of the tree which once was in the town are assumed to pass to the new tree. These significations are in the minds of Basques—in their culture—and in the minds of those of us who care about Basque people. They do not depend on a particular tree because the oak has been successively renewed. Archaeologists find it difficult to construct credible arguments about symbolic meanings of unaltered natural objects such as trees, yet we know that for modern humans such meanings exist.

The second example is more complex and relates more closely with the subject matter of this paper. Again the point is that the meaning and significance of Picasso's painting "Guernica" is partly unrelated to the subject matter of the painting. To be sure, the tortured people and animals represented on the painting are in some sense iconic representations of real people, real horses and real bulls that were so brutally tortured in the specific event—the first aerial bombardment of the twentieth century. But they are probably not representations of any particular people or animals who died on that day. They represent instead a vision of suffering and agony in any war, not just in Guernica.

And then there are other ways in which the symbolism can be understood. PICASSO, who passed most of the World War II in German-occupied Paris, would not allow the painting to go to Spain while Franco was still dictator. So its coming to Spain was full of symbolic significance (though we should remember that it did not "return" to Spain because it had never been there). But its display in a special museum in Madrid imbues it with another level of significance because of the historic and continuing struggle between Basques and the central government in Madrid—at least in part because of unkept promises made at the oak tree in Guernica.

I like to think that there is another level of significance that has not been commented on. Between the penultimate version of the painting and the last, PICASSO made a change to the bull on the left end of the painting (Museo del Prado

1981). In the first three phases of the final painting, the bull is intact and faces to the left. In the final three phases, this animal is split in the middle and the hindquarters have been moved to face to the left, while the fore quarters are in their original position. When I first saw this, I was immediately reminded of an engraved and painted plaquette from the Valencian *Upper* Palaeolithic site of Parpalló in which a similar division of a bull was made at the mid portion, but in this case not only did the head face towards the hind quarters, but was also reversed (Figure 1) (PERICOT GARCIA 1942)1. I like to think that Picasso may have been in contact with the Catalan Pericot in Barcelona who was in the middle of writing the great volume about his Parpalló excavations, or that he had in some other way been able to see this great corpus of Palaeolithic art.

My qualification to write this paper is that, in the early 1970s, I completed a detailed study of the animal bones from Parpalló (DAVIDSON 1989), and was very fortunate to have very supportive interactions with ALTUNA. My tribute will develop a theme that Jesus wrote about—the relations between the animals whose bones we, separately, studied and the images of those same species to be found in the art of the Upper Palaeolithic cave sites from which the bones came. In my interpretation, the relationship can only be understood if we realise that just as with the modern examples, the prehistoric symbols are multivalent and polysemic, and as with the painting and the tree, the symbolism has changed through time.

In addition, we should note that the painting is a material object created by a human being, capable of being copied. It has much in common, then, with some of the prehistoric art of western Europe, also created by humans, and arguable copied between paintings on cave walls and engravings on pieces of bones (Breuil and Cartailhac 1906). But the tree is a constant reminder that there does not need to be any modification of the material object for symbolic value to be attached to things. It is the everyday business of humans to attach meanings to things.

¹⁾ VILLAVERDE'S (1994, Fig 21) version of this plaquette benefits from the reconstruction of the piece of stone, showing that the drawings were once more complete, but if PICASSO saw either the plaquette or PERICOT'S (1942, Fig 587) version of it, he would have seen only the broken plaquette and the truncated animals.



Figure 1. Top: left end of early sketch for the comlete painting of "Guernica"; Bottom Right: left end of the final version of Picasso's painting "Guernica" (from Museo del Prado 1981); Bottom left: plaquette from Parpalló (PERICOT 1942, Fig 587).

EKAIN AND TITO BUSTILLO

It has been an observation with a long history that the paintings of Upper Palaeolithic cave art do not simply reflect the species found among the animal bones in the archaeological deposits of contemporary sites. It is a commonplace of French archaeology, dating back at least to the studies by Breuil, that the animal bones from the French Upper Palaeolithic are dominated by reindeer, a species that was relatively rare in the paintings on the walls of caves. In semiotic terms, the images are iconic images of the species, but they are not indexical of the animals as they appear among the bones at the sites of the same period. Nevertheless, Leroi-Gourhan (n.d., 193), following Breuil, pointed out that the images found in the mobile art showed a closer correspondence to the animals represented in the bones.

The images of animals in rock art, including the cave art of the Upper Palaeolithic, might be compared with estimates of the numbers of animals among the bones at the site, and both of these may be compared with the animals available in the environment of the site. It appears that the relationship is not straightforward in the rock art of southern Africa (VINNICOMBE 1972) and probably was not for any art system. Instead, both VINNICOMBE and LEWIS-WILLIAMS (1980) have demonstrated in different ways the importance of understanding that images in rock art have complex, symbolic relationships with the world of their makers. In this, rock art has much in common with other forms of art.

In 1983, Jesus Altuna showed that similar observations could be made about the archaeology of Cantabria and Euskadi from the most recently discovered and carefully analysed sites of Tito Bustillo and Ekain. He demonstrated the lack of fit between the numbers of pictures of animals at each of these sites, and the relative frequencies of animals he identified from excavations at the

same sites (ALTUNA 1983, 1984). He showed that the species depicted were an uncertain guide to the ecology of the region of the site. As a result. the species inventory could not easily be used as a guide to chronology even in the climatically sensitive ecology of northern Spain and southwestern France during and after the last Glacial Maximum. More recently (ALTUNA 1994) JESUS has shown that the point is true more widely in northern Spain, and that there is little correspondence between the choices made in hunting animals and those made in depicting them. ALTUNA's work is now the classic exemplification of the old truth and he has shown that the result holds both at the level of the individual site, and at the regional level.

REGIONAL VARIATION IN SYMBOLIC VALUES

Shortly after ALTUNA's original study, RICE & PATTERSON (1985; 1986) synthesised the data for ten regions of France and four regions of Cantabrian Spain to explore the general pattern of fit between species representations in the cave art and the prevalence of the same species in excavated archaeological layers. For each region they summarised frequencies of depictions, using counts of species depicted, and an index of prevalence of species in the excavated faunal remains. For the index of prevalence, they combined counts of bones and ordinal estimates of species abundance in both sites with art and those without. From this analysis, they concluded that there was a good correlation between the relative proportions region by region. In general, they claimed that the deer species were represented appropriately, while the larger bovids, horses and mammoths were slightly overrepresented in the depictions relative to the faunal remains in the relevant region, and ibex were anomalous in France, but not in Spain. Further analysis strengthened the conclusion that the pattern of variation in frequency of depiction is strongly related to species size and their index of abundance (RICE & PATTERSON 1986, 665) and that "the empirical results suggest that the motivation of the art has a strong pragmatic base that is closer to an economic tally than a wish list". This conclusion appears contradictory to the widely held view expressed by others.

In a previous paper, I analysed the data used by RICE & PATTERSON to show that there is some regional patterning to the relative frequencies when four main species are all considered (DAVIDSON 1999b). Reindeer were indeed underrepresented in the paintings and engravings in all regions of France, but less so in Lot than elsewhere (Figure 2). On the other hand, in Spain Reindeer ranked last both in art and in faunal remains—which may confirm the extent to which, leaving aside ALTUNA's work on Ekain and Tito Bustillo, generalised understanding has been dominated by the situation in France.

Ibex were overrepresented in the paintings and engravings in three regions of France, and underrepresented in two regions of Spain. Bovids were underrepresented in two regions of France and two regions of Spain. Horses were underrepresented in the Dordogne region of France and overrepresented in two regions of Spain. Red deer were underrepresented in two regions of Spain. The summary of this analysis is that from 70 comparisons, species were underrepresented in art in 18 species/regions, and overrepresented in 5 species/regions.

The frequency of discrepancy is much greater in Cantabrian Spain (8/20 comparisons) than in southwestern France (8/50 comparisons). This is part of a more detailed difference between the two regions. The patterning by species is quite different, as exemplified by the two contrasts:

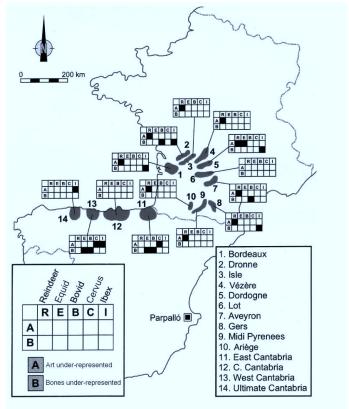


Figure 2. Regional variation of represtnation of animals in art and in bones during the Upper Palaeolithic (from DAVIDSON 1999b).

first, between the underrepresentation of reindeer in France, and their equal last ranking in Spain; second between the overrepresentation of ibex in France and underrepresentation in Spain.

The reasons for these differences are undoubtedly complex. The statistics mask chronological differences and do not take into account the complexities of interpretation of the faunal remains. It is not clear that the bones at an archaeological site (or even at regional groups of them) reflect in any simple way the availability of animals to the prehistoric people who made the paintings and engravings. We have few independent estimates of species abundance to enable us to assess the relationship between species abundance in the environment and prey selections by the hunters (DAVIDSON 1981). It is correspondingly difficult to estimate what proportion of the catch was transported back to the archaeological site or what role any particular site had in the annual or longer cycle of faunal exploitation in the region. In-field butchery may differentially affect the representation of larger species in the faunal record. Taphonomic processes affect the survival of bones of different species differently (Solomon, et al. 1990). Most importantly, the symbolic relationships between the society of painters and engravers and the accumulators of bones are not straightforward. In spite of all these cautions, these data tend to suggest that symbolic values varied across the region of production of Upper Palaeolithic art.

VARIATION THROUGH TIME IN SYMBOLIC VALUES

In the same paper (DAVIDSON 1999b) that explored the regional variation in symbolic values, I also explored variation through time using the data from Parpalló.

Parpalló is a cave site in the hills south of Valencia about 10 km inland from the present shore. It has provided radiocarbon dates from the site (DAVIDSON 1974), with a Solutrean date 20 490 +900/-800, and a coherent series of dates for the period between 21 kyr and 14 kyr...

Large numbers of plaquettes were stratified in the deposits at Parpalló of which more than 6000 surfaces were engraved or painted or painted and engraved. Some of these had animal figures which allowed acceptable identification of species. These plaquettes have been restudied by VALENTIN VILLAVERDE who has defined the pattern of change in absolute and relative frequency of depicted species through the

sequence (VILLAVERDE BONILLA 1994), 163) and discussed the many factors that need to be considered in comparing the frequency of depictions with the frequency of bones found in the excavated site.

In my analysis of Parpalló, I related the finds to the radiocarbon chronology and a calculation of ages for different depths at the site from a model of uniform sedimentation rate (Bofinger and DAVIDSON 1977). My analysis of the animal bones suggested there were complex taphonomic factors affecting the survival of bones for study (DAVIDSON 1989). In particular, it was clear that the excavators treated bones from animals of different sizes in different ways, whatever other taphonomic factors may have affected them. It is, therefore, impossible to give a satisfactory account of the relative frequency of larger and smaller animals (although some Aura Tortosa, et al. 2002; VILLAVERDE BONILLA 1994 have attempted to do this). Horse and cattle are relatively more frequent in the representations than in the bones, but we cannot be sure that there are no taphonomic factors determining this. In my study, therefore, I only compared the frequencies of red deer and Spanish ibex—the most abundant animals in both bones and depictions. There is no particular bias affecting the relative representation of these species because they are animals of fairly similar size, and no reason why, if there is a bias, it affects one part of the stratigraphy rather than another.

For the relative abundance of ibex and deer, ibex are underrepresented in the paintings and engravings in the early layers by comparison with their frequency in the bones, though there is some correspondence between pictures and bones after the Last Glacial maximum (Figure 3). The result tends to confirm our expectation: a lack of straightforward correspondence between faunal remains and depictions. Nevertheless, we can go further.

The physical geography of the environment of Parpalló makes it highly unlikely that fluctuations in relative abundance of species reflect any simple aspect of environmental change due to climatic change. VILLAVERDE (1994) has recently reached the same conclusion, adding to my argument a synthesis of the results of analysis from more recent excavations in the region. These analyses confirm that there was not a simple environmental determination of species abundance in the bones, but an identifiable degree of cultural selection. The simplest, least committed, way to describe the change is to state that the relationship

between depictions and bone frequencies was different in the early part of the sequence from the relationship between these two variables in the later part. Despite the arguments to the contrary, it would be possible to argue that the change in frequencies among the bones was due to change in the relative abundance of the animals in the perceived environment but it is difficult to identify how the environment was perceived at the time (DAVIDSON 1981). To extend that argument to the changes of frequency of animals depicted is to imply that there were changed perceptions from the earlier period to the later period.

How does this argument work? In a simple argument, if the ratio of deer to ibex bones in the early period reflected the relative abundance of these species in the perceived environment, then the depictions did not reflect the environmental perception. When there was a change in the relative abundance of deer and ibex bones, in the simple argument this might have reflected a change in the environment (though I have argued otherwise), but the change in the frequency of depictions is not a change in the same direction, and therefore must reflect different perceptions of the environment. A more complex argument is that the change in relative frequency in the bones does not simply reflect environmental change but some other cultural choice. If that was the case, then the change in the relative frequencies of depictions may or may not reflect changes in the perceived environment, but necessarily indicates a change in the relationship between depiction and that cultural choice. This results, therefore, from a change in the relationship between depiction and other aspects of behaviour. Whichever initial interpretation we use, the conclusion is that there was a change in cultural values—symbolic values—represented in the change some time before about 17 thousand Radiocarbon years ago in the sequence at Parpalló.

This conclusion is reached painstakingly, but is nevertheless a strong conclusion. In light of the other statements about the relationships between depictions and bones, about chronology and about context of productions of depictions it is quite robust in suggesting both that the mobile depictions cannot simply be considered as more indexical of the external reality than the parietal ones (see MORO ABADÍA & GONZÁLEZ MORALES 2004 for a history of the opposition between these categories), and that the nature of symbolic representation changed within the lifetime of what would generally be regarded as a continuing tradition.

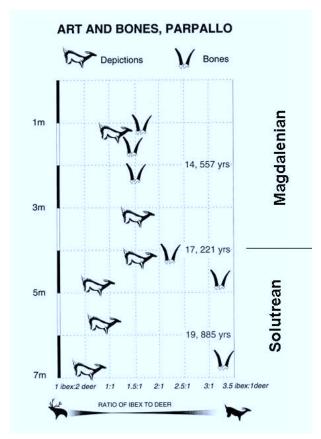


Figure 3. Variation through time in representations of animals in art and bones—shown as ratios of ibex to deer—at Parpalló, showing associated stone tool industries (after DAVIDSON 1999b).

VARIATION IN TIME AND SPACE IN SYMBOLIC VALUES

In my first attempt to understand aspects of the art systems in which these prehistoric people lived, I concentrated on the unique abundance of plaquette art at Parpalló by putting it into the context of other sites across western Europe which have abundant plaquette art (Davidson 1989a). This argument involved the establishment of association between people and some form of centre of their world through the dissemination of information associated with the art on plaquettes. I suggested that through the control of access to the information that was conveyed using the plaquette art, this may be the earliest example of the use of socially constructed power.

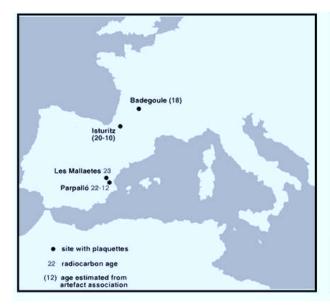
What I have not previously emphasised is that there are changes in the patterning of the distribution of the plaquette sites, and that there seems to have been a change after the date when the change in symbolic values occurred at Parpalló. Before the change, we can identify three sites which had abundant art plaquettes—

Parpalló (with the adjacent site of Les Mallaetes in the earliest period), Badegoule in the Dordogne region and Isturitz în what JESUS once told me were "those Basque provinces which, for the moment, are in France." After the symbolic change, Parpalló and Isturitz were still important, but in addition there were sites at Tito Bustillo, Enlène and LaBastide in the Pyrenees, Limeuil rather than Badegoule in the Dordogne and La Marche further north in France (Figure 4).

Elsewhere (DAVIDSON 1997a) I have developed an argument that what was happening through these various manipulations of the relationships between people and their environments was the working out of social institutions which we now associate with the distinctive similarity among different groups of fishing, hunting and gathering peoples. In this argument, it is no coincidence that the people of the West Mediterranean did not independently invent agriculture, because the relationships they were working out, as with those of modern fisher-gatherer-hunters, involved a quite different ideological approach to the appropriation of nature (INGOLD 1980, 1987). In the East Mediterranean, by contrast, there was no mediation of environmental relations through the symbolism associated with art, and agriculture emerged in the final stages of the Pleistocene glacial period.

DISCUSSION

The point of all this discussion is that the case seems to be made more strongly than ever that the art of the Upper Pleistocene was a fundamental part of the cultural values of the people of western Europe, just as the tree and the painting of Guernica are part of Basque and world culture. But I think we can go a little further in the case of the European art, in two ways. First, the change in symbolic values between the lower and upper parts of the sequence at Parpalló corresponds with changes in the artefact industries too. It is not a simple equation of Solutrean in the early phase and Magdalenian in the later phase, not least because the artefact types for which Parpalló is distinctive when compared with other European industries, the barbed and tanged arrowheads and the puntas de muesca, occur across the transition. I have previously argued that we should not be too willing to accept that the labels created by archaeologists for stone industries represent cultural realities from the past (DAVIDSON 1991b). Recognition of the reality of the symbolic differences between these two named entities inclines me to think that the issue is worth exploring further. This is not the place for that exploration, but it is arguable that the way in which the art served to relate people to their environments was tied up with the pragmatic and symbolic functions of the artefacts too.



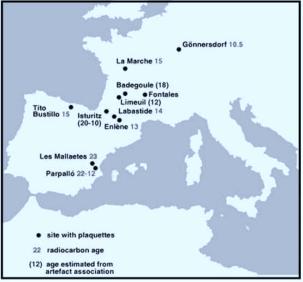


Figure 4. Variation in space and time of sites with abundant art on plaquettes (Left: early sites, mostly with Solutrean stone industries; Right: late period, mostly with Magdalenian industries) (after DAVIDSON 1989a).

Second, as I foreshadowed in the 1997 paper, the way in which people related to each other and to their environments in Western Europe was mediated by their symbolic relationships. These relationships varied across space and through time, but were always different sorts of relationships from those in the eastern Mediterranean. The archaeology of art in the western Mediterranean was the art of people whose ideology made them fisher-gathererhunters, but the argument presented here implies that we can take the story further and consider the different ways in which people could be fisher-gatherer-hunters. That is a much more exciting prospect, because it is only through understanding those different ways that we can begin to understand how human adaptations changed when the only people were fishergatherer-hunters. That must have been the case in Australia, where the only people before the continent was invaded by Europeans were fishergatherer-hunters (DAVIDSON 1999a).

ACKNOWLEDGMENTS

I thank HEATHER BURKE, DOUG HOBBS, MIKE ROACH and MARK MOORE for drawing at different times: any imperfections in the final result are my fault. The ideas in the paper have been discussed at different times with ANDRÉE ROSENFELD, JUNE ROSS, VALENTIN VILLAVERDE and many others. I thank them for inspiration, corrective advice and help, but absolve them of responsibility for things they do not agree with. And I thank JESÚS ALTUNA for encouragement, advice and support of one sort or another over the years. His contribution to the understanding of the prehistory of his country is without equal.

REFERENCES

ALTUNA, J.

1983 On the relationship between archaeofaunas and parietal art in the Cantabrian region. In *Animals and archaeology* 1: hunters and their prey, edited by:

J. CLUTTON-BROCK & C. GRIGSON, *British Archaeological Reports International Series* 163, 227-238. Oxford.

1984 Relación entre la fauna cazada por los pobladores del yacimiento y las figuras representadas en el santuario.
In El yacimiento prehistorico de la Cueva de Ekain (Deba, Guipuzcoa), edited by: J. ALTUNA & J. M. MERINO, Colección Barandiaran 1, 281-286.

1994 La relación fauna consumida-fauna representada en el Paleolítico Superior Cantábrico. *Complutum 5*, 303-311.

AURA TORTOSA, J. E., V. VILLAVERDE BONILLA, M. PÉREZ RIPOLL, R. MARTINEZ VALLE & P. GUILLEM CALATAYUD

2002 Big game and small prey: Paleolithic and Epipaleolithic economy from Valencia (Spain). Journal of Archaeological Method and Theory 9(3), 215-268.

BOFINGER, E. & I. DAVIDSON

1977 Radiocarbon age and depth: a statistical treatment of two sequences of dates from Spain. *Journal of Archaeological Science 4*, 231-243.

BREUIL, H. & E. CARTAILHAC

1906 La caverne d'Altamira à Santillane, prés Santander (Espagne), Monaco.

DAVIDSON, I.

1974 Radiocarbon dates for the Spanish Solutrean. *Antiquity* 48, 63-65.

1981 Can we study prehistoric economy for fisher-gatherer-hunters? An historical approach to Cambridge 'Palaeoeconomy'. In Economic Archaeology, edited by, A. SHERIDAN & G. N. BAILEY, BAR International Series 96, 17-33. Oxford.

1989 La economía del final del Paleolítico en la España oriental. Diputación Provincial, Valencia.

1989a Freedom of information: aspects of art and society in western Europe during the last ice age, 440-456. In Animals into art, edited by H. MORPHY. Unwin Hyman, London

1991b "A great thick cloud of dust": Naming and dating in the interpretation of behavior in the Late Paleolithic of Spain. In *Perspectives on the past*. Theoretical biases in Mediterranean hunter-gatherer research, 194-203 edited by G. A. Clark. University of Pennsylvania Press, Philadelphia.

1997a The power of pictures. *In Beyond art: Pleistocene image and symbol*, edited by M. Conkey, O. Soffer, D. Stratmann & N. G. Jablonski, vol. 23, 128-158. The California Academy of Sciences, San Francisco.

1999a First people becoming Australian. *Anthropologie (Brno)* 37/1, 125-141.

1999b Symbols by nature: animal frequencies in the Upper Palaeolithic of western Europe and the nature of symbolic representation. *Archaeology in Oceania 34*, 121-131.

FRASER, R.

1981 Blood of Spain. The experience of Civil War 1936-1939. Penguin Books, London, UK.

INGOLD, T.

1980 *Hunters, pastoralists and ranchers.* Cambridge University Press. Cambridge.

1987 The appropriation of nature. University of Iowa Press, Iowa City.

LEROI-GOURHAN, A.

n.d. Treasures of prehistoric art. Translated by N. GUTERMAN. HARRY N. ABRAMS, New York.

LEWIS-WILLIAMS, J. D.

1980 Ethnography and iconography: aspects of southern San thought and art. *Man: Journal of the Royal Anthropological Institute 15*, 467-482.

MORO ABADÍA, O. & M. R. GONZÁLEZ MORALES

2004 Towards a genealogy of the concept of "Paleolithic mobiliary art". *Journal of Anthropological Research 60(3)*, 321-340.

MUSEO DEL PRADO

1981 Guernica-Legado Picasso. Ministerio de Cultura, Dirección General de Bellas Artes, Archivos y Bibliotecas, Madrid.

PERICOT GARCÍA, L.

1942 La cueva del Parpalló. Consejo Superior de Investigaciones Cientificas, Madrid.

RICE, P. C. & A. L. PATERSON

1985 Cave art and bones: exploring the interrelationships. American Anthropologist 87, 94-100.

1986 Validating the cave art - archeofaunal relationship in Cantabrian Spain. American Anthropologist 88, 658-667.

SOLOMON, S., I. DAVIDSON & D. WATSON (EDITORS)

1990 Problem Solving in Taphonomy: archaeological ad palaeontological studies from Europe, Africa and Oceania. Anthropology Museum, University of Queensland, St Lucia, Queensland.

VILLAVERDE BONILLA, V.

1994 Arte Paleolítico de la Cova del Parpalló. 2 vols. Servei d'Investigacio Prehistorica, Diputacio de Valencia, Valencia.

VINNICOMBE, P.

1972 Myth, motive and selection in southern African rock art. Africa 42(3), 192-204.