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THE EARLIEST EUROPEAN BURIALS

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Introduction

A pre-occupation with the dead, whether individually or collectively, is one of the most symbolic of human behaviours. Implicit in evidence for these behaviours are cognitive capacities that permit the expression of sentiments transmitting particular values through the actions made on behalf of the dead. These also reflect important social structuring principles of the group. Europe — from the Atlantic coast and the Iberian peninsula to the Ural Mountains, or from North to South from the North European Plain, North of the 50th parallel, to the northern borders of the Black and Caspian Seas — was home to members of the Neandertal lineage who, for the first time in the history of humanity, attributed special attention to certain dead group members. During the last third of the Middle Palaeolithic or Mousterian period, they invented the grave (Leclerc and Tarrète, 1988) for the deposition of individuals as primary earthen burials.

In Europe, the Mousterian (*circa* 350 000 to 45 000 years ago) is characterised by the appearance of a novel lithic blade manufacturing technique called the ‘Levallois technique’ (Jaubert, 1999; Delagnes *et al.*, 2007). The first evidence of the mastery of this technique is found at Ambrona (Spain) about 350 000 years ago (see, for example, Santoja *et al.*, 2010), or

perhaps a little earlier at Cagny-la-Garenne in France (Tuffreau and Antoine, 1995). The Eurasian Mousterian sees the development of different human lineages (Neandertal and Denisovan), both of which had their origins in the Lower Palaeolithic, and at the beginning of the Upper Palaeolithic (*circa* -45 000 years; Higham *et al.*, 2014; Also Banks *et al.*, 2019), their disappearance. At the present time, there are no anatomically modern humans (AMH) associated with the Mousterian period in Western Eurasia, as the taxonomic status of the recent Apidima 1 specimen is inconclusive (*contra* Harvati *et al.*, 2019).

After reviewing the principal sites of primary Neandertal burials in Europe based on an acceptable definition of their contexts (see below) (Figure 1 and Table 1, see also Defleur, 1993; Vandermeersch *et al.*, 2008; Pettitt, 2011), this chapter considers a synthesis of interpretive hypotheses on a regional scale, without considering the whole of the Eurasian landmass occupied by Neandertals. The author is aware that this leads to an intentional ‘overlooking’ of geographic distances and a ‘flattening’ of chronological differences. However, this approach also avoids a case-by-case study in order to propose more general hypotheses about treatments of, for example, buried individuals, variations in funerary gestures/deeds, questions of potential burial goods, and the burial types and their funerary taphonomic signatures. These hypotheses are, therefore, very debatable, but at least they serve to provide reflections for future research. This chapter is based on the distribution and geographic extent of the Mousterian lithic techno-complexes as defined by prehistorians and the established chronology of them, which are not the subject of this chapter.

It must be emphasised that this chapter will not address the question of whether or not secondary funerary treatments were performed in the Lower and Middle Palaeolithic. Even if the author is an adherent of the existence of such treatments (Mussini and Maureille, 2012), such questions are more complex than those addressing the existence of primary burials at this time, and thus outside the scope of this contribution. Additionally, it does not

consider the mortuary behaviours that led to the accumulation of Pre-Neandertals at La Sima de los Huesos in Spain (Bocquet-Appel and Arsuaga, 1999; Carbonnel *et al.*, 2003) or, the various sites for which cannibalism has been suggested as the most likely explanatory hypothesis for the taphonomic signatures identified on the human remains, for example from Gorjanovic-Kramberger (1906) at Krapina to Mussini (2011) at Les Pradelles.

How many sites and fossil specimens are there in Eurasia?

Between 600 000 and 40 000 years ago over the entire study region, activities associated with the Neandertal lineage are known from dozen of thousands of sites that mainly produced lithics. Sites with hominin remains are much rarer, perhaps fewer than 300. These hominin remains are almost always isolated finds, most often found scattered among faunal remains or other archaeological material. The remains are incomplete, with isolated teeth often amongst the most well-preserved of them. Sometimes the presence of human remains is explained by no other hypotheses than those invoking cannibalism (Defleur *et al.*, 1999; Maureille *et al.*, 2010; Mussini, 2011; Defleur and Desclaux, 2019) or carnivore activity (for example, Giacobini and Piperno, 1991; Beauval *et al.*, 2005). There are thus somewhat more than 400 more or less complete hominin fossil skeletons and isolated remains from this period. One of the most important questions posed of these discoveries concerns how to distinguish those resulting from funerary treatments in primary burials from those buried by natural taphonomic processes, and, moreover from those disturbed during their initial discovery and subsequent excavation some time ago.

How does one recognise a Neandertal primary burial?

The recognition of an earthen primary grave must be demonstrated by means of scientific interpretation that best explains the presence and distribution of human remains in their

sedimentological and archaeological context. The working hypothesis employed here is that proposed by Vandermeesch (1995, p. 17), which stipulates that in the Mousterian ‘there are no graves without skeletons and, conversely, it is unusual for there to be a skeleton without a burial’ ... (*‘Il n’y a pas de sépultures sans squelette et inversement, il est exceptionnel qu’il y ait squelette sans sepulture....’*)). Indeed, the intentional deposition of a fresh cadaver into its final place of deposition and its ‘protection’ following interment out of respect for the dead favours good preservation of the bones, their anatomical integrity and, in the best of cases, their anatomical connections. From the hundreds of European hominin remains, there are only about 30 for which one can be certain that cranial and infra-cranial elements derive from the same individual, and roughly another 15 that can be considered to be complete skeletons. Of course, it is clear that a buried skeleton in anatomical connection or in partial connection is not synonymous with earthen primary grave. Remains from more ancient lineages, for example the Australopithecines found at Sterkfontein and Malapa (South Africa) (Clarke, 1998; Val, 2013), were found as partially complete skeletons with skeletal elements in connection, but there is no suspicion that funerary treatments had been performed. The same argument for burial is levelled for the more recent remains of *Homo naledi* on the basis of the nature of the bone assemblage, the presence of preserved anatomical connections, the absence of macrofaunal remains, the presence of few taphonomic signatures (excluding those related to snails and beetles), and due to the deep karstic context of their discovery (Dirk *et al.*, 2015). But there is no consensus on whether this was part of funerary practices or not (Val, 2016; Thackeray, 2016). The question of the existence of potential funerary treatments in our prehistoric predecessors is therefore always going to be difficult to confirm.

Recent critiques

This difficulty may partly explain why in the 2010s there was a revival of criticism for the existence of some Neanderthal primary burials. Researchers challenged the discoveries from Roc-de-Marsal 1 (Sandgathe *et al.*, 2011) and La Chapelle-aux-Saints 1 (Figure 2) (Dibble *et al.*, 2015). In the latter article the authors developed observations necessary to define the ‘operational sequence’ (*chaîne opératoire*) that would characterise primary intentional Neanderthal burials. For example, it is necessary for the burial pit to be of anthropogenic origin, and there must be funerary goods. Without these features, it is not possible to be certain of the existence of funerary treatment.

It is true that for the consideration of the existence of a primary burial, other than the study of the human remains, their taphonomic stigmata and their anatomical connections, it is necessary to consider the sedimentological, archaeological and depositional contexts, such as the presence of an artificial anthropogenic feature, for example a pit (Rendu *et al.*, 2014, 2016). In addition to the rediscovery of the burial pit during recent excavations at La Chapelle-aux-Saints (at the Bouffia Bonneval) (Figure 3) and the demonstration of its anthropogenic origin, these researchers produced the first comparative taphonomic study of the human remains of a Neanderthal and the faunal remains coming from the same archaeological context. Thus, the taphonomic history of this Neanderthal confirmed the primary nature of its burial due to its protection from taphonomic effects. On the contrary, in re-visiting another discovery, Maureille *et al.*, (2015a) showed that Regourdou 1 (Montignac, France), first discovered in 1957 (Bonifay and Vandermeersch, 1962, Bonifay *et al.*, 2007), lacked clear evidence of a funerary deposit. The study of the taphonomic damage on human remains and on brown bear bones from this site does not make it possible to distinguish separate taphonomic histories for the hominin and the ursid remains. If this had been a human burial, then one would expect to find evidence of a more protected burial history for the human when compared to ursid remains. But, according to the faunal and hominin evidence at

Regourdou, Regourdou 1 skeleton is the only medium-sized mammal for which the entire skeleton (except the cranium) has been found in a position respecting the anatomical logic of the body. Despite the destructive circumstances of this discovery and a rescue excavation occupying less than two days and performed by prehistorians with little experience of human anatomy, the original position of the remains of the deceased has been recently identified (Maureille *et al.*, 2015b). Moreover, subsequent taphonomic processes that had disturbed the human deposit, and which explain the dispersion of the human remains, have also been demonstrated (Pelletier *et al.*, 2017). Thus and until new investigations are carried out, the simplest hypothesis to explain the presence of Regourdou 1 Neandertal skeleton in this deposit is that of an intentional burial in a karstic context.

Unfortunately, such pioneering research such as that at La Chapelle-aux-Saints and Regourdou has not yet been undertaken on other discoveries, or are not yet published. For example, the taphonomic study of the Saint-Césaire 1 adult Neanderthal (Figure 4), discovered in 1979 (Lévèque *et al.*, 1993), is anticipated in the near future. If considered as a potential primary burial (Table 1), it could also be the result of secondary funerary treatments (Vandermeersch, 1993). Moreover, it should be noted that, after skeletonisation, at least some parts of the skeleton were disturbed – and/or partially destroyed - by underground water - as demonstrated by the dissolution of almost entire left half of the cranium (excepted thirteen left teeth) and the position of some hand remains (phalanges) in another part of the excavation, in square F4, other than the one where a concentration of hominin remains were found in a 70 cm diameter circular area at the intersection of squares F3 and F4.

Outline of potential primary European Neandertal burials

In 2019, counting generously - that is to say, considering the presence of cranial and infra-cranial remains from a single individual uncovered in a limited area of a site that had been

inhabited by groups of Neanderthals and that had also been protected from carnivore scavenging- there are 27 cases that argue for the existence of funerary treatments related to primary Neanderthal burials. This figure does not take into account remains from Altamura (Italy) that appear to be the result of what may have been an accidental death (Pesce Delfino and Vacca, 1993).

These burials were discovered in only six countries: Germany, Belgium, France, Russia and Ukraine, of which 61% (N=16) come from France. In total, they represent 17 sites, of which 50% (N=8) are in France, including Le Moustier, La Chapelle-aux-Saints, La Ferrassie, La Quina, Arcy-sur-Cure/Grotte du Renne, Regourdou, Hauteroche (also known as Châteauneuf-sur-Charente), and Roc-de-Marsal. Only a single site comprises more than two burials: La Ferrassie in the Dordogne (France).

Some 55% (N=15) of the 26 discoveries were made in the 19th or first half of the 20th centuries. This number explains the unsatisfactory detail of the data associated with all of these discoveries with regard to the application of the principles and methods of archaeoethanatology (cf. Dúday, 2009). This situation has hardly improved with most recent discoveries. Indeed, apart from the remains of three separate individuals from brecciated blocks of the Las Palomas site from Spain, which corresponds probably to the first Neanderthal burials found in the Iberian Peninsula (Walker *et al.*, 2011), there have been no further discoveries of Neanderthal suspected primary burials in Europe since 1993.

Four of the most recently excavated sites produced the remains of neonates or very young children, but very little published information is available for them. One is a perinate from Mezmaiskaya 1 (Russian Caucasus Mountains) (Golovanova *et al.*, 1999). It is only documented by single published picture of the human bones, but the image of the burial is at least in part a reconstruction of the position of the lower limb bones and probably those of the cranial vault as well. Indeed, the three lower limb bones recorded, two femora and a tibia, are

supposed to reflect the position of the lower limbs in flexion, but these are, instead, a femur, a tibia, and a humerus. Moreover, the proximal end of the tibia is placed near the proximal end of the femur. The second discovery is that of another newborn, Le Moustier 2. Several disarticulated elements were collected from the site in 1914 by Denis Peyrony, and were identified in 1996 in the collections of the Musée National de Préhistoire (National Museum of Prehistory) in Les Eyzies-de-Tayac, Dordogne, and studied between 1997 and 2001 (Maureille, 2002a, b) (Figure 5). Their very precisely documented taphonomic study will be published soon. The third case corresponds to the partial skeleton of a newborn found among the faunal remains from Sesselfelsgrötte (Germany) excavated between 1968 and 1970 and published much more recently (Rathgeber, 2006). The fourth discovery included in this treatment is that of the remains- some of them in anatomical connection- of a child from El Sidrón J1 (Spain) found in square G6 of the site (Rosas *et al.*, 2017). This is the only well-preserved partially complete skeleton from the site, which has also produced the thousands of scattered bone remains of at least 12 other individuals for which cannibalism has been levelled to explain their anthropogenic stigmata (Rosas *et al.*, 2006). Although this individual is included among the 26 cases here, the interpretation of the mechanism that contributed to the creation of this assemblage remains intriguing.

A non-random chronological and geographical distribution

Thus these 27 European cases derive from 15 sites that are not equally distributed geographically (Table 1 and Figure 1), which indicates that if a single Neanderthal burial is found at a site, there is, in theory, a good chance of finding a second one. This also means that the many archaeological assemblages in the entire region occupied by the Neanderthals – some of them having produced isolated human remains - have not (yet) produced primary burials, including from sites in Italy, Croatia, Greece, Portugal, and the Czech Republic. This

could be the result of different funerary treatments being practiced in these regions based on culturally-specific traditions, or due to chronological differences. This distributional pattern could also be the result of the historical development of the discipline, and the speed (and the quality) of the excavation process, and unequal opportunities for discoveries from certain sites. These two possibilities are not mutually exclusive.

On a smaller geographical scale - for example, that of Southwest France - there are two geographical areas that are very close to one another, a 450 km² part of the Vézère Valley in Périgord Noir and a 3000 km² area close to the Tardoire Valley in Angoumois, where the history of excavation is quite similar. These two areas border one another without an apparent geographical or palaeoenvironmental barrier and are characterised by the same limestone formations containing caves and rock shelters. For the first area, however, there are nine sites where human remains have been discovered, including 11 potential burials, and no site with evidence of carnivore-related activity. In the second area, there are 15 sites with human remains, of which only two have a potential burial and four (Rochelot, Castaigne cave, Les Pradelles, cave of the tower (La Chaise)) have human remains with evidence of large carnivore activity. It is important to note that in the Charente region, relative to the Périgord Noir, there may be a higher proportion of older sites, those dating prior to oxygen isotope stage 4 (so earlier than 60 000 to 70 000 years ago). This suggests that in Southwest France, the presence of these primary burials could be linked to their similar date, unique cultural practices and/or to specific geomorphological conditions (again without being mutually exclusive).

It is instructive to recall that on a Eurasian scale, however, two sites (Figure 1) contribute almost half of the known discoveries. These are La Ferrassie in the Dordogne (France) with seven cases (Figure 6) and Shanidar in Iraqi Kurdistan (nine to ten cases). Without these sites, the extent of the diversity of Neandertal funerary treatments would be

very different. How can one explain this particular site 'density' of these primary burials? For the moment, there does not appear to be a scientific answer. These two sites are considered to be long-occupied habitations of Neanderthal groups. There could therefore be a number of reasons, such as topography that facilitates the relative ease of finding the sites, for example, at Shanidar cave, in a mountainous environment. Or based on geography, such as the site of La Ferrassie being located halfway along the Vézère Valley - a particularly active area during the Middle Palaeolithic, perhaps due to its beneficial palaeoenvironmental conditions, rich in food resources - and the Bergerac region, where there are sources of exceptional quality flint lithic materials. Common to both cases are water sources that were present during the Mousterian (at Shanidar it flows into the cave). These localities were probably attractive meeting places for exchange and burials. The site of Shanidar is the subject of renewed scientific interest through a project led by G. Barker, C. Hunt and E. Pommeroy, which will provide new and very important results for elucidating Neanderthal funerary behaviour (see Pommeroy *et al.*, 2017).

Present-day research progresses much more slowly and much more precisely than that of preceding generations. It is estimated that with the techniques available today, it would take almost 200 years (excavating all year round) to extract the volume of sediment removed from the site of La Ferrassie by D. Peyrony and J.-L. Capitan in 20 years. Perhaps, this could explain why the resumption of excavations at the sites of Roc-de-Marsal (2003-2010), La Ferrassie (2010-2015) and, more recently, Le Moustier (2014-present) has not yet resulted in the discovery of new evidence for burial.

The chronology of European burials

The oldest attested burial relates to the activity of members of the Neanderthal lineage, but it is not European. It was discovered in the Middle East in 1931/32 in the Mugharet-Tabun site

(Garrod and Bate, 1937, Bar-Yosef and Callander, 1998) (Figure 7) and is represented by the remains of Tabun C1, a skeleton with slender bones, supposedly of a female Neanderthal, which is nearly 120 000 years old if it was found, as reported, in level B at the site, or from 130 000 to 170 000 years old, if instead, it was contemporary with layer C.

All European burials are more recent than that of Tabun C1 and are related to Marine Isotopic Stage 3 (60 000 to 35 000 years ago). They have been dated in a variety of ways. The most recent, Spy 1 and 2 and Feldhofer 1, dating to about 40 000 years ago, were discovered in northwestern Europe, the first two of which are associated with transitional Middle to Upper Palaeolithic techno-complexes. Others are older, such as Roc-de-Marsal 1 and Regourdou 1. They are essentially associated with Levallois debitage. The oldest could be that of Regourdou 1 (Bonifay, 1964) and related to MIS 5b (95 000 to 84 000 years ago). Neanderthal burials in Europe are not contemporary and are associated with different lithic techno-complexes that perhaps relate to different cultural traditions. Contrary to what has often been written, the Mousterian of La Quina-type is very poor in documented primary burials, which is interesting from the perspective that this techno-complex is associated with highly mobile groups and often evidence of cannibalism (for example at Combe-Grenal, Les Pradelles).

The nature of the European sites and their function

Most of European Neanderthal primary burials are located inside caves or what were caves during Middle Palaeolithic times (Table 1). The others are found in rock shelters (N=2 sites) or at the foot of cliff (N=1 site). At the present time, no Neandertal burials have been found in open-air sites.

In addition, with the exception of the Regourdou site, which was a karstic cave that served as a hibernation cave for brown bears (*Ursus arctos*), Neandertals buried their dead in

long-term residential sites (Delagnes and Rendu, 2011). This could indicate a symbolic association, a way of appropriating space. Or, it could also have had practical reasons, simply due to ease of access and the physical conditions, the health status and/or age at death of the Neanderthals who were living and dying in the area. The third of these hypotheses seems most likely since there is a specific distribution of Neandertals buried according to their age class or health status. Of course, these three possibilities are not mutually exclusive. Moreover, none of the sites were exclusively used for burial.

Who was inhumed?

Neandertal burials comprise adults as well as children and infants (Table 1). A considerable number of adult and immature individuals present pathological bone disorders (Table 1). In more than 50% (N=6) of adults there is evidence for a congenital or a traumatic pathological condition, such as in La Chapelle-aux-Saints 1 (Boule, 1911-13; Trinkaus 1985) and La Quina H5 (Martin, 1923; Straus and Cave, 1957), which would have limited or impaired their mobility as active hunter-gatherers. Moreover, there are also a high number of newborns (N=5). These young individuals are the most often documented among Neandertals for the whole of the Palaeolithic. As a reminder, only two burials of newborns are known for the whole of the Upper Palaeolithic Gravettian period, though there are nearly 120 primary burials of individuals stretching from the Atlantic coast to the Urals (Henry-Gambier, pers. com.; Pettitt, 2011). In addition, in Neandertal sites, there is a lack of ‘older teenagers’, ‘young adults’ or individuals in the prime of life and in good physical condition while some of them, seem to have died during hunting activities or due to conflict (Churchill *et al.*, 2009 and see also Sala *et al.*, 2015). Our suggestion is that these buried Neandertals are found near where these they had lived, or near those find locations where they had performed activities. Then, most studied Neandertal skeletons probably represent a biased sample of the

population with a lack of those individuals that were least dependent on the rest of the community, likely having received other funerary treatments, perhaps in open-air sites which may have completely disappeared due to more recent land-use

With respect to sex - assuming that Neandertal remains from primary burial contexts have been accurately assessed for sex - there are slightly more adult males (58%, N=7) than females (42%, N=5). This proportion is very uncertain in view of the small number of individuals considered and merits further investigation using ancient DNA in the future.

What funerary treatments?

Although only individual inhumations have been considered, it seems that the deceased may have been deposited in anthropogenic pits (i.e. La Chapelle-aux-Saints 1 and Le Moustier 2), or in natural depressions (i.e. Roc-de-Marsal 1), or sometimes slightly modified natural depressions (i.e. La Ferrassie 1). They do not seem to have been the subject of standardised funerary treatments. Thus, the bodies had not been oriented in the same way; there is no specific burial disposition relating to the topographic location of the sites or to cardinal points of orientation. Certainly, there is topographical proximity, as with La Ferrassie 1 and 2, La Ferrassie 3 and 4, and Kiik-Koba 1 and 2 and, moreover, at La Ferrassie, there are no intercutting deposits. For the European Mousterian, however, it is not possible to discern if there were specific burial locations (but this, on the other hand, can be considered a possibility for the Levant and for the Shanidar and Kebara sites). The position of the body is also variable: on the back (supine) with the upper limbs splayed to either side of the mid-line of the body (La Ferrassie 1), in a more flexed position (La Chapelle-aux-Saints 1), or in a supine position with the right upper limb bent and the hand brought back towards the trunk while the left upper limb was probably in extension and perpendicular to the axis of the body and lower limbs extended (Regourdou 1), or ventrally (Roc-de Marsal 1). Relative to the more

standardised discoveries of the Upper Palaeolithic Gravettian period, it seems that the position of certain individuals is peculiar (for example La Ferrassie 1 or Roc-de-Marsal 1). Finally, in the sites that have yielded more than one interment, there is no area where children would have been buried separately from adults, or potential females separately from potential males.

Concerning the material accompanying the deceased

There are no definitive associations between a deceased individual and artefactual or faunal remains. While this had been assumed in some cases (La Chapelle-aux-Saints 1, La Ferrassie 1, 5 or 6 and Regourdou 1), the information is too weak to be admissible according to current criteria. To date, therefore, there is no evidence for funerary offerings in the European Mousterian. If this criterion were a necessary requisite to define a primary Neandertal burial, none would qualify as such. Moreover, recall that in the common use of the term, an offering is a gift to a deity, or one that is deposited with a religious intention. For the Middle Palaeolithic, one tends to consider that the offering is identified by its uniqueness. According to Vandermeersch (1976: 727) they are: ‘... objects which are exceptional in their size, in relation to the archaeological content of the layer, or by their arrangement in the burial.’ (*‘... objets qui présentent un caractère exceptionnel, par leurs dimensions, par rapport au contenu archéologique de la couche, ou par leur arrangement dans la sépulture.’*). For more recent periods, such as Neolithic, Protohistory and History, scholars consider it better to identify offerings only if certain objects of the same type are repeatedly found in burials. Otherwise, it is impossible to distinguish between ‘emotional, unusual, or accidental’ inclusions and funerary inclusions that imply that the (funerary) offering is part of practices that are codified by a rite. We consider that the definition of what constitutes a funerary offering as defined by the community of recent prehistorians, protohistorians, and historians is the one that should be retained for the Palaeolithic period as well.

Can one speak of religious behaviour in the Mousterian?

In Testot and Dortier's (2005) edited book, entitled *La Religion, Unité et Diversité (Religion, Unity and Diversity)*, the question of the origins of religion is quickly addressed by recalling the great antiquity and diversity of burials, the possibility that Upper Palaeolithic decorated caves may have had been religious sanctuaries, and by observations of the religious practices of supposedly primitive historical societies.

Various scholars of prehistoric archaeology have written on prehistoric religion, including Leroi-Gourhan (1964) and Otte (1993). Leroi-Gourhan (1964) states '... to tackle the problem of prehistoric religion without immediately warning the reader that the author is engaging on slippery and uneven terrain would be lacking in charity towards him' ('... *aborder le problème de la religion préhistorique sans avertir d'emblée le lecteur qu'il s'engage sur un terrain glissant et semé de ravins serait manquer de charité à son égard*'). He adds that '... it may be useful to also define what will be understood (...) by the word "religion", and first of all to say that no distinction will be made between religion and magic, for lack of a means to establish a separate definition. The very meaning of the word "religion" will be very restricted in its use; it is simply based on manifestations of concerns that seem to go beyond material remains.' ('*il est peut-être utile de définir également ce qui sera entendu (...) par religion, et tout d'abord de dire qu'aucune distinction ne sera faite entre religion et magie, faute de matériaux réellement fondés pour établir une séparation. Le sens même du mot "religion" sera très restreint dans son usage; il est simplement fondé sur les manifestations de préoccupations paraissant dépasser l'ordre matériel*'). Otte (1993) writes '... since religious behaviour is universal, apparently present at all times and in all places, it is therefore one of the fundamental components of human experience' ('... *le comportement religieux étant universel, présent apparemment en tout temps et en tous lieux, il constitue*

donc une des composantes fondamentales du phénomène humain’). He adds that religion is ... a collective, instituted behaviour, with rules and codifications (...). Religion also implies practices and leads to notions of morality (...). These practices are therefore determined by tradition; they imply prescriptions and dogmas; they are regulated by a socially integrated power’ (*‘un comportement collectif, institué, avec ses règles et ses codifications (...) La religion implique aussi des pratiques et aboutit à la notion de morale (...) Ces pratiques sont par conséquent déterminées par la tradition; elles impliquent des prescriptions et des dogmes; elles sont réglementées par un pouvoir socialement intégré*’). On the question of religious behaviour in the Palaeolithic there are clearly opposed opinions. In the Middle Palaeolithic, discussions of possible religious behaviour should be based on archaeological evidence, but for many, the same data will never produce a single explanation and will always remain too fragmented to provide a complete assessment.

Conclusions

For the Middle Palaeolithic, it should no longer be possible to propose the existence of a Mousterian burial without scientific demonstration that stretches beyond that of ordered arrangements of inhumed remains. Unfortunately, even in the case of very recent discoveries, primary data are still too often absent or unpublished. Even if a complete critical and impartial review of primary European Neandertal burials based on a synthesis of archaeological and palaeoanthropological evidence has yet to be produced, it is possible to argue for the existence of these burials not being simply incidental deposits. European Mousterian people intentionally buried some of their dead.

In Europe, burials are individual and inhumed in full earthen graves. These burials were not standardised, the bodies having been deposited in different positions, sometimes taking advantage of natural sedimentary features. The sites that produced these burials were,

in the main, residential places, most of them also being caves. They are characterised by the presence of very young individuals (infants and small children) and physically impaired adults. There are almost no older teenagers or young adults. Supposed males seem to be more numerous than females.

The factors that favoured the expression of these behaviours towards the Mousterian dead remain unknown. A prophylactic concern does not seem to be able to be retained as an explanation since it probably would have been easier to get rid of a corpse by abandoning it to scavengers or throwing it in a river, rather than burying it. Moreover, certain regions have more burials than others, which is the same for the levels in which lithic technical traditions have been found. The existence of Neanderthal primary burials could therefore have a stronger cultural component than what has been supposed to date. Moreover, in the case of the Eurasian Mousterian, the observation that these burials are found at the extremes of their geographical range and their existence for nearly 80 000 years (from 120 000 years ago with Tabun C1 to 40 000 years ago for the burials at Spy) supports the notion of a behaviour rooted in cultural traditions. If intentional burial is considered to be the oldest and longest-lasting symbolic practice, it is - for the moment - impossible to go beyond the documenting the diversity of practices and funerary gestures, and especially whether or not they were supported by beliefs. Fortunately, in France and the Levant new discoveries are in the process of being excavated and described. The discovery of the Ein Qashish human remains (Been *et al.*, 2017) ensures that new and newly focussed attention is being paid to the context of the discovery of Neanderthal human remains. The Shanidar site will certainly be the place for important new discoveries (Pomeroy *et al.*, submitted). It seems assured that the 2020s will see the sample discussed in this contribution clearly increase in size, which should likewise improve the appreciation of the diversity of Neanderthal funerary treatments in Eurasia,

perhaps by incorporating results of other disciplinary fields in order to begin to break down barriers hindering the development of new ideas.

List of figures and table captions

Figure 1: Map of the generally accepted Neandertal primary burials in Eurasia. The colours are related to landscape altimetry (dark green blue: sea level, teal/white: low altitudes, beige to ochre to dark brown: high altitudes). CAD image: F. Lacrampe-Cuyaubère (Archéosphère, Quirbajou); archaeological data: B. Maureille ; cartographic data: Jarvis *et al.* (2008).

Figure 2: One of the famous plans showing the pit and position of the La Chapelle-aux-Saints Neandertal published by the Bouyssonie brothers (modified from Bouyssonie *et al.*, 1908). Note that the cave opens to the left, while in the original drawing it opens to the right. This error on the plan had escaped the notice of archaeologists for 100 years.

Figure 3: The burial pit of La Chapelle-aux-Saints 1 as it appeared in 2012 (see also Rendu *et al.*, 2014). This is the oldest preserved funerary structure in the world at present. (Photograph: B. Maureille).

Figure 4: The excavation area and the ‘en bloc’ lifting of the human remains from Saint-Césaire, France. (Photograph: F. Lévêque).

Figure 5: The block of sediment in which the skull remains of the Le Moustier 2 newborn infant were found (Photograph: P. Jugie, from the collections of the Musée National de

Préhistoire; CAD image: B. Leprêtre). 1: right maxilla, 2: left maxilla, 3: right nasal bone, 4: right hemi-mandible, 5: right sphenoid greater wing, 6: left occipital *pars basilaris*.

Figure 6: One of the rare photographs of the excavation of the grave of the adult La Ferrassie 1 (Peyrony, 1934). Note the footprints around the border of the excavated area.

Figure 7: Exposed layers of the excavation and preparation for the ‘en bloc’ lifting of the grave of the Neandertal Tabun C1 (Israel) (Courtesy of O. Bar-Yosef).

Table 1: List of the European Neandertal primary burials discussed in this contribution (Sk = skull (cranium and mandible); M = male; F = female; I = Indetermined; ? = unknown).

References

- Banks, W. E., Bertran, P., Ducasse, S., Klaric, L., Lanos, P., Renard, C. and Mesa, M. (2019). An Application of Hierarchical Bayesian Modelling to Better Constrain the Chronologies of Upper Paleolithic Archaeological Cultures in France between ca. 32,000-21,000 Calibrated Years Before Present. *Quaternary Science Reviews*, 200, pp. 188-214.
- Bar-Yosef, O. and Callander, J. (1999). The Woman from Tabun: Garrod’s Doubts in Historical Perspective. *Journal of Human Evolution*, 37(6), pp. 879-885.
- Beauval, C., Maureille, B., Lacrampe-Cuyaubère, Fr., Serre, D., Peressinotto, D., Bordes, J.-G., Cochard, D., Couchoud, I., Dubrasquet, D., Laroulandie, V., Meignen, L., Lenoble, A., Mallye, J.-B., Pasty, S., Primault, J., Rohland, N., Hofreiter, M., Pääbo, S. and Trinkaus, E. (2005). A Neandertal femur from a hyena den at Les Rochers-de-Villeneuve (Lussac-les-Châteaux, Vienne, France). *Proceedings of the National Academy of Sciences of the USA*, 102(20), pp. 7085-7090.

Been E., Hovers, E., Ekshtain, R., Malinski-Buller, A., Agha, N., Barash A., Bar-Yosef Mayer, D.E, Benazzi, S., Hublin, J.-J., Levin, L., Greenbaum, N., Mitki, N., Oxilia, G., Porat, N., Roskin, J., Soudack, M., Yeshurun, R., Shahack-Gross, R., Nir, N., Stahlschmidt, M.C., Rak, Y., and Barzilai O. (2017). The First Neanderthal Remains from an Open-Air Middle Palaeolithic Site in the Levant. *Scientific Reports*, 7: 2958 | DOI:10.1038/s41598-017-03025-z 1.

Bocquet-Appel, J.-P. and Arsuaga, J. L. (1999). Age Distributions of Hominid Samples at Atapuerca (SH) and Krapina Could Indicate Accumulation by Catastrophe. *Journal of Archaeological Science*, 26(3), pp. 327-338.

Bonifay, E. (1964) - La Grotte de Régourdou (Montignac, Dordogne). Stratigraphie et Industrie Lithique Moustérienne. *L'Anthropologie*, 68(1-2), pp. 49-64.

Bonifay, E. and Vandermeersch, B. (1962). Dépôts Rituels d'Ossements d'Ours dans le Gisement Moustérien du Régourdou (Montignac, Dordogne). *Compte Rendus des Séances de l'Académie des Sciences*, 255(1^{er} octobre 1962), pp. 635-636.

Bonifay, E., Vandermeersch, B., Couture C. and Panattoni, R. (2007). *La sépulture néandertalienne du Regourdou (Montignac-sur-Vézère, Dordogne)*. Documents du Centre d'Études et de Recherche sur les Lacs, Anciens Lacs et Tourbières (C.E.R.L.A.T.), Mémoire Number 4.

Boule, M. (1911-13). *L'Homme fossile de La Chapelle-aux-Saints*. Paris: Masson & Cie.

Bouyssonie, A., Bouyssonie, J. and Bardon, L. (1908). Découverte d'un Squelette Humain Moustérien à La Chapelle-aux-Saints (Corrèze). *Comptes Rendus de l'Académie des Sciences*, 21 décembre, pp. 1414–1415.

Carbonell, E., Mosquera, M., Ollé, A., Rodríguez, J.P., Sala, R., Vergès, J.M., Arsuaga, J.L. and Bermúdez de Castro, J.M. (2003). Did the Earliest Mortuary Practices Take Place More than 350 000 Years Ago at Atapuerca? *L'Anthropologie (Paris)*, 107(1), pp. 1-14.

- Churchill, S.E., Franciscus, R.G., McKean-Peraza, H.A., Daniel, J.A. and Warren, B.A. (2009). Shanidar 3 Neandertal Rib Puncture Wound and Paleolithic Weaponry, *Journal of Human Evolution*, 57(2), pp. 163-178.
- Clarke, R.J. (1998). First Ever Discovery of a Skull and Well Preserved Skeleton of *Australopithecus*. *South African Journal of Sciences*, 94(10), pp. 460–463.
- Delagnes, A. and Rendu, W. (2011). Shifts in Neandertal mobility, technology and subsistence strategies in western France. *Journal of Archaeological Science*, 38(8), pp. 1771-1783.
- Delagnes, A., Jaubert, J. and Meignen, L. (2007). Les technocomplexes du Paléolithique Moyen en Europe occidentale dans leur cadre diachronique et géographique. In: B. Vandermeersch and B. Maureille, eds, *Les Néandertaliens, Biologie et Cultures*, documents préhistoriques 23. Paris: Comité des Travaux Historiques et Scientifiques (C.T.H.S.), pp. 213-230.
- Defleur, A. (1993). *Les sépultures néandertaliennes*. Paris, Centre de la Recherche Scientifique (CNRS) Éditions.
- Defleur, A., White, T.D., Valensi, P., Slimak, L. and Cregut-Bonnoure, E. (1999). Neandertal Cannibalism at Moula-Guercy, Ardèche, France. *Science*, 286(5437), pp. 128-131.
- Defleur, A. and Desclaux, E. (2019). Impact of the Last Interglacial Climate Change on Ecosystems and Neanderthals Behavior at Baume Moula-Guercy, Ardèche, France. *Journal of Archaeological Science*, 104, pp. 114-124.
- Dibble, H.L., Aldeias, V., Goldberg, P., McPherron, S.P., Sandgathe, D. and Steele, T.E. (2015). A critical look at evidence from La Chapelle-aux-Saints supporting an intentional Neandertal burial. *Journal of Archaeological Science*, 53, pp. 629-657.
- Dirks, P.H.G.M., Berger, L.R., Roberts, E.M., Kramers, J.D., Hawks, J., Randolph-Quinney, P.S., Elliott, M., Musiba, C.M., Churchill, S.E., de Ruiter, D.J., Schmid, P., Backwell, L.R.,

- Belyanin, G.A., Boshoff, P. Hunter, K.L., Feuerriege, E.M., Gurtov, A., Harrison J. du G, Hunter, R., Kruger, A., Morris, A, Makhubela, T.V., Peixotto, B. and Tucker, S. (2015). Geological and Taphonomic Context for the New Hominin Species *Homo naledi* from the Dinaledi Chamber, South Africa. *eLife* 2015;4:e09561. DOI: 10.7554/eLife.09561, pp. 1-37.
- Duday, H. (2009). *The archaeology of the dead. Lectures in archaeoethanatology*. Oxford: Oxford University Press.
- Garrod, D.A.E. and Bate, D.M. (1937). *The Stone Age of Mount Carmel*. Oxford: Clarendon Press.
- Giacobini, G. and Piperno, M. (1991). Taphonomic considerations on the Circeo 1 Neandertal cranium. Comparison of surface characteristics of the human cranium with faunal remains from the paleosurface. In: M. Piperno and G. Scichilone, eds, *The Circeo 1 Neandertal Skull, Studies and Documentation*. Roma: Libreria dello stato, pp. 457-486.
- Golovanova, L.V., Hoffecker, J.F., Kharitonov, V.M. and Romanova, G.P. (1999). Mezmaiskaya Cave: A Neanderthal Occupation in the Northern Caucasus. *Current Anthropology*, 40(1), pp. 77-86.
- Gorjanovic-Kramberger, D. (1906). *Der Diluviale Mensch von Krapina in Kroatien*. Wiesbaden: C.W. Kreidel's Verlag.
- Harvati, K., Röding, C., Bosman, A.M., Karakostis, F.A., Grün, R., Stringer, C., Karkanas, P., Thompson, N.C., Koutoulidis, V., Moulopoulos, L.A., Gorgoulis, V.G. and Kouloukoussa, M. (2019). Apidima cave fossils provide earliest evidence of *Homo sapiens* in Eurasia. *Nature*, 571, pp. 500–504.
- Jarvis, A., Reuter, H.I., Nelson, A. and Guevara, E. (2008). *Hole-filled seamless SRTM data V4*. International Centre for Tropical Agriculture (CIAT); @ <http://srtm.csi.cgiar.org/>
- Jaubert, J. (1999). *Chasseurs et artisans du Moustérien*. Paris: La Maison des Roches.

Higham, T., Douka, K., Wood, R., Bronk Ramsey, C., Brock, F., Basell, L., Camps, M., Arrizabalaga, A., Baena, J., Barroso-Ruíz, C., Bergman, C., Boitard, C., Boscato, P., Miguel Caparrós, M., Conard, N.J., Draily, C., Alain Froment, A., Galván, B., Gambassini, P., Garcia-Moreno, A., Grimaldi, S., Haesaerts, P., Holt, B., Iriarte-Chiapusso, M.-J., Jelinek, A., Jordá Pardo, J.-F., Maílo-Fernández, J.M., Marom, A., Maroto, J., Menéndez, M., Metz, L., Morin, E., Moroni, A., Negrino, F., Panagopoulou, E., Peresani, M., Pirson, S., de la Rasilla, M., Riel-Salvatore, J., Ronchitelli, A., Santamaria, D., Semal, P., Slimak, L., Soler, J., Soler, N., Villaluenga, A., Pinhasi, R. and Jacobi, R. (2014). The Timing and Spatiotemporal Patterning of Neanderthal Disappearance. *Nature* 512: 306-309.

Leclerc, J. and Tarrète, J. (1988). Sépulture. In: A. Leroi-Gourhan., ed., *Dictionnaire de la Préhistoire*. Paris: Presses Universitaires de France (PUF), pp. 963-964.

Leroi-Gourhan, A. (1964). *Les religions de la Préhistoire*. Paris: Presses Universitaires Françaises (PUF).

Lévêque, F., Backer, A.M. and Guilbaud, M. (1993). *Context of a late Neandertal*. Madison, WI., Prehistory Press.

Martin, L. (1923). *Recherches sur l'Évolution du Moustérien dans le Gisement de La Quina. Tome 3. L'Homme fossile de La Quina*. Archives de Morphologie générale et expérimentale, vol. 15. Paris: Doin.

Maureille, B. (2002a). A Lost Neanderthal Neonate Found. *Nature*, 419(6902), pp. 33-34.

Maureille, B. (2002b). La Redécouverte du Nouveau-Né Néandertalien Le Moustier 2. *Paleo*, 14, pp. 221-238.

Maureille, B., Mann, A., Beauval, C., Bordes, J.-G., Bourguignon, L., Costamagno, S., Couchoud, I., Fauquignon, J., Garralda, M.D., Geigl, E.-M., Grün, R., Guibert, P., Lacrampe-Cuyaubère, Fr., Laroulandie, V., Marquet, J.-Cl., Meignen, L., Mussini, C., Rendu, W., Royer, A., Seguin, G. and Texier, J.-P. (2010). Les Pradelles à Marillac-le-Franc (Charente).

Fouilles 2001-2007: nouveaux résultats et synthèse. In: J. Buisson-Catil and J. Primault, eds, *Préhistoire entre Vienne et Charente. Hommes et Sociétés du Paléolithique*, Association des publications chauvinoises, mémoire XXXVIII. Chauvigny: L'Association des Publications Chauvinoises (APC), pp. 145-162.

Maureille, B., Gomez-Olivencia, A., Madelaine, S. and Holliday, T. (2015a). Nouveaux Restes Humains Provenant du Gisement de Regourdou (Montignac-sur-Vézère, Dordogne, France). *Paleo*, 26, pp. 117-138.

Maureille, B., Holliday, T., Royer, A., Pelletier, M., Madelaine, S., Lacrampe-Cuyaubère, F., Muth, X., Le Gueut, E., Couture-Veschambre, C., Gomez-Olivencia, A., Discamps, E., Texier, J.-P., Turq, A. and Lahaye, C. (2015b). Importance des Données de Terrain pour la Compréhension d'un Potentiel Dépôt Funéraire Moustérien: Le Cas du Squelette de Regourdou 1 (Montignac-sur-Vézère, Dordogne, France). *Paleo*, 26, pp. 139-159.

Mussini, C. (2011). *Les restes humains moustériens des Pradelles (Marillac-le-Franc, Charente, France): étude morphométrique et réflexions sur un aspect comportemental des Néandertaliens*. Unpublished Ph.D. thesis, Université de Bordeaux 1.

Mussini, C. and Maureille, B. (2012). Têtes coupées: données archéo-anthropologiques et lignée néandertalienne. In: B. Boulestin and D. Henry-Gambier, eds, *Crânes Trophées, Crânes d'Ancêtres et Autres Pratiques Autour de la Tête: Problèmes d'Interprétation en Archéologie*. Actes de la table ronde pluridisciplinaire, Musée national de Préhistoire, Les Eyzies-de-Tayac (Dordogne, France), 14-16 Oct. 2010, Oxford: British Archaeological Reports (International Series) 2145, pp. 47-52.

Otte, M. (1993). *Préhistoire des religions*. Paris: Masson.

Pelletier, M., Royer, A., Holliday, T.W., Discamps, E., Madelaine, S. and Maureille, B. (2017). Rabbits in the Grave! Consequences of Bioturbation on the Neandertal 'Burial' at Regourdou (Montignac-sur-Vézère, Dordogne). *Journal of Human Evolution*, 110, pp. 1-17.

Pesce Delfino, V. and Vacca, E. (1993). An Archaic Human Skeleton Discovered at Altamura (Bari, Italy). *Rivista di Antropologia*, 71, pp. 249-257.

Pettitt, P. (2011). *The Palaeolithic origins of human burial*. New York: Routledge.

Peyrony, D. (1934). *La Ferrassie, Moustérien, Périgordien, Aurignacien*. Préhistoire, tome III, Paris: Librairie E. Leroux.

Pomeroy, E., Lahr, M.M., Crivellaro, F., Farr, L., Reynolds, T., Hunt, C. and Barker, G. (2017). Newly Discovered Neanderthal Remains from Shanidar Cave, Iraqi Kurdistan, and Their Attribution to Shanidar 5. *Journal of Human Evolution*, 111, pp. 102-118.

Pomeroy, E., Hunt, C.O., Reynolds, T., Asouti, E., Bennett, P., Bosch, M., Burke, A., Farr, L., Foley, R., French, C., Frumkin, A., Goldberg P., Hill, E., Kabukcu, C., Lahr, M.M., Lane, R., Marean, C., Maureille, B., Mutri, G., Miller, C.E., Mustafa, K.A., Nymark, A., Pettitt, P., Sala, N., Sandhathe, D., Stringer, C., Tilby, E. and Barker, G. (submitted). The Evolution of Hominin Mortuary Behaviour: Debating New Data from Shanidar Cave. *Evolutionary Anthropology*.

Rathgeber, T. (2006). Fossile Menschenreste aus der Sesselfelsgrötte im unteren Altmühlthal (Bayern, Bundesrepublik Deutschland). *Quartär*, 53/54, pp. 33-59.

Rendu, W., Beauval, C., Crevecoeur, I., Bayle, P., Balzeau, A., Bismuth, T., Bourguignon, L., Delfour, G., Faivre, J.-P., Lavcrampe-Cuyaubère, F., Tavormica, C., Todisco, D., Turq, A. and Maureille, B. (2014). Evidence Supporting an Intentional Neandertal burial at La Chapelle-aux-Saints. *Proceedings of the National Academy of Sciences of the USA*, 111(1), pp. 81-86.

Rendu, W., Beauval, C., Crèvecoeur, I., Bayle, P., Balzeau, A., Bismuth, T., Bourguignon, L., Delfour, G., Faivre, J.-P., Lacrampe-Cuyaubère, F., Muth, X., Pasty, S., Semal, P., Tavormina, C., Todisco, D., Turq, A. and Maureille, B. (2016). Let the Dead Speak...

Comments on Dibble et al.'s Reply to 'Evidence Supporting an Intentional Neandertal Burial at La Chapelle aux Saints'. *Journal of Archaeological Science*, 69, pp. 12-20.

Rosas, A., Martínez-Maza, C., Bastir M., García-Taberner A., Lalueza-Fox, C., Huguet, R., Ortiz, J.E., Julia, R., Soler, V., de Torres, T., Martínez, E., Cañaveras, J.C., Sánchez-Moral, S., Cuezvak, S., Lariol, J., Santamaría, D., de la Rasilla, M. and Javier Fortea, J. (2006). Paleobiology and Comparative Morphology of a Late Neandertal Sample from El Sidrón, Asturias, Spain. *Proceedings of the National Academy of Sciences of the USA*, 103(51), pp. 19266-19271.

Rosas, A., Ríos, L., Estalrich, A., Liversidge, H., García-Taberner, A., Huguet, R., Cardoso, H., Bastir, M., Lalueza-Fox, C., de la Rasilla, M. and Dean, C. (2017). The Growth Pattern of Neandertals, Reconstructed from a Juvenile Skeleton from El Sidrón (Spain). *Science*, 367(5367), pp. 1282-1287.

Sala, N., Arsuaga, J.L., Pantoja-Pérez, A., Pablos, A., Martínez, I., Quam, R.M., Gómez-Olivencia, A., Bermúdez de Castro, J.M. and Carbonell, E. (2015). Lethal Interpersonal Violence in the Middle Pleistocene. *PLoS ONE* 10(5): e0126589. doi:10.1371/journal.pone.0126589

Sandgathe, D.M., Dibble, H.L., Goldberg, P. and McPherron, S.P. (2011). The Roc de Marsal Neandertal child: A Reassessment of its Status as a Deliberate Burial. *Journal of Human Evolution*, 61(3), pp. 243-253.

Santoja, M and Pérez-González, A. (2010). Mid-Pleistocene Acheulean Industrial Complex in the Iberian Peninsula. *Quaternary International*, 223, pp. 154–161.

Straus, W.L. Jr. and Cave, A.J.E. (1957). III. Pathology and Posture of Neandertal Man. *The Quarterly Review of Biology* 32(4), 348-363.

Testot, L. and Dortier, J.-F. (2005). *La religion, unité et diversité*. Auxerre: Sciences humaines éditions.

- Thackeray, J.F. (2016). The Possibility of Lichen Growth on Bones of *Homo naledi*: Were They Exposed to Light? *South African Journal of Sciences*, 112, 7/8, Art.a0167, 5 pages. <http://dx.doi.org/10.17159/sajs.2016/a0167>
- Trinkaus, E. (1985). Pathology and Posture of the La Chapelle-aux-Saints Neandertal. *American Journal of Physical Anthropology* 67, 19-41.
- Tuffreau, A. and Antoine P. (1995). The earliest occupation of Europe: Continental Northwestern Europe. In: W. Roebroeks and T. van Kolfschoten, eds, *The Earliest Occupation of Europe*. Leiden: University of Leiden, Publications of the Institute of Prehistory, pp. 147-163.
- Val, A. (2013). *A 3D approach to understand the taphonomy of the early hominins from the Plio-Pleistocene cave site of Malapa*. Unpublished Ph.D Thesis, University of the Witwatersrand, Johannesburg.
- Val, A. (2016). Deliberate Body Disposal by Hominins in the Dinaledi Chamber, Cradle of Humankind, South Africa? *Journal of Human Evolution*, 96, pp. 145-148.
- Vandermeersch, B. (1976). Les sépultures néandertaliennes. In: H. de Lumley, ed., *La Préhistoire française*, t. 1. Paris: Éditions du Centre National de al Recherche Scientifique (CNRS), pp. 725-727.
- Vandermeersch, B. (1993). Was the Saint-Césaire discovery a burial? In: F. Lévêque, A.M. Backer and M. Guilbaud, eds, *Context of a Late Neandertal*, Madison, WI.: Prehistory Press (Monographs in World Archaeology), pp. 129-131.
- Vandermeersch, B. (1995). Le problème des premières sépultures. In: J.-P. Cros and J.-M. Large, eds, *La mort, passé, présent, conditionnel*, Groupe Vendéen d'Etudes Préhistoriques (GVEP). La Roche-sur-Yonne, pp. 17-23.

Vandermeersch, B., Cleyet-Merle, J.-J., Jaubert, J., Maureille, B. and Turq, A., eds, (2008). *Première humanité, gestes funéraires des Néandertaliens*. Paris: Réunion des Musées Nationaux.

Walker, M.J., Ortega, J., Parmová, K., López, M. V. and Trinkaus, E. (2011). Morphology, Body Proportions, and Postcranial Hypertrophy of a Female Neandertal from the Sima de las Palomas, Southeastern Spain. *Proceedings of the National Academy of Sciences of the USA*, 108(25), pp. 10087-10091.