Metaphor and Materiality in earliest Prehistory

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We actually made a map of the country, on the scale of a mile to the mile! … It has never been spread out, yet …the farmers objected: they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well.

Lewis Carroll 1893, *Sylvie and Bruno Concluded*. London: MacMillan

Introduction: a relational perspective

In this paper we argue for a relational perspective based on metaphorical rather than semiotic understandings of human and hominin[1] material culture. The corporeality of material culture and thus its role as solid metaphors for a shared experience of embodiment precedes language in the archaeological record. While arguments continue as to both the cognitive abilities that underpin symbolism and the necessary and sufficient evidence for the identification of symbolic material culture in the archaeological record, a symbolic approach will inevitably restrict the available data to sapiens or even to literate societies. However, a focus on material culture as material metaphor allows the consideration of the ways in which even the very earliest archaeological record reflects hominins' embodied, distributed relationships with heterogeneous forms of agent, as will be demonstrated by two case studies.

Background

The role played by material culture in human lives has recently been brought to the foreground of debates surrounding the evolution of human cognition and sociality by a growing emphasis on the *relations* between people and their material environments.

Appropriately such a relational perspective is not so much a distinct, unified theory as a convergence of varied approaches from a wide variety of disciplines in both the social and natural sciences. Among the former are anthropological approaches considering identity and personhood as constituted by relationships (Hallowell 1960; Marriott 1976; Mauss 1985; Strathern 1988; LiPuma 1998) and viewing material culture as active and

biographical (papers in Appadurai 1986; Kopytoff 1986; Hoskins 1998; Gosden & Marshall 1999). Geography has also contributed such theories as direct perception (Gibson 1979), practice theory (Bourdieu 1977), phenomenology (Heidegger 1962 [1927]; Merleau-Ponty, 1962) and time geography (the Hagerstrandian 'society-cum-habitat'; Carlstein 1982).

Among the natural sciences, theoretical developments such as Dawkins' extended phenotype (1982), ecosystemic and developmental theories (Tansley 1935; van Valen 1973; Goodwin 1982; Lewontin 1982, 1983; Foley 1984; see e.g. discussion in Ingold 1995) and niche-construction theory (Odling-Smee *et al.* 2003) also inform on a relational perspective. The concept of distributed cognition extends this, viewing cognition as embodied, situated and emergent (Varela *et al.* 1991; Hutchins 1995a, 1995b; Brooks 1999; Lakoff and Johnson 1999; Anderson 2003), both physically and socially 'distributed' beyond the limits of the individual body (Clark 1997; Segal 2000; Clark & Chalmers 1998, see also Rowlands 2003). A relational perspective thus highlights the extent to which cognition relies on interaction with other agents, including conspecifics as well as other animate and inanimate elements of the environment. The archaeological record thus becomes *part of* the ongoing social life of hominins, a perspective which affords archaeology considerable potential for addressing the socio-cognitive relationships structuring prehistoric societies.

Relational Archaeology: a missed opportunity?

However, archaeological case studies working within a relational paradigm have been concentrated in Holocene contexts (e.g. Whittle *et al.* 1999; Chapman 2000; Jones & Richards 2003; Knappett 2005). Recent works have identified the Neolithic as a period during which a positive feedback process of 'deep' enculturation within an increasingly rich material culture environment ratcheted human cognitive capacities to the point of a qualitative break in cognition with earlier populations (Donald 1991; Watkins 1992; Renfrew 2001; Watkins 2004, 105).

Such a perspective restricts the time depth of 'human' cognition to little more than the past 10,000 years. However, archaeology is unique among the human sciences not only in its focus on material culture but in the time depth of its available data – the earliest stone tools are currently 2.6 million years old (Semaw *et al*. 1997), giving the discipline an unparalleled opportunity to address temporal trends in the changing networks of relationship between mind and world and the evolution of human cognition that cannot be realized if such divisive schemes are accepted uncritically. A rigorous approach to the mutual constitution of material culture and 'mind' demands a unifying, not a divisive, view of prehistory that provides a baseline for the comparison of species, populations and individuals' strategies of interaction with material culture in widely-varying ecological and cultural contexts.

Material Metaphors, Body and Language

We argue that the key to such a unifying perspective is a focus on the metaphorical nature of material culture. In the archaeological record, objects precede words. The idea that only with language did previously mute objects and well-trodden landscapes acquire symbolic meaning and cultural significance is therefore misplaced. Primates are tool-users (e.g. McGrew 1992), and this material hominid inheritance clearly means that the social lives of our earliest ancestors need to be considered as entangled from the first in social practices involving material culture.

Research addressing the question of how symbols are 'grounded' with real-world meaning is increasingly prioritising embodied, situated approaches that model perception and cognition as fundamental to action (e.g. Harnad 1990; Brooks 1999 e.g. 113; Anderson 2003). Cognitive representation, though still significant, becomes of secondary analytical importance: as in the case of the map described by Lewis Carroll, '*The world is its own best model.*' (Brooks 1999, 167 italics in original).

The *sine qua non* of cognition, then, is materiality. As Merleau-Ponty has argued, 'perception and representation always occur in the context of, and are therefore structured by, the embodied agent in the course of its ongoing purposeful engagement with the world' (cited Anderson 2003, 104). Damasio has located the deep roots for the self 'in the ensemble of brain devices which continuously and *nonconsciously* represent the state of the living body' (2000, 189 italics in original), and argues that this proto-self – not restricted to humans – provides the raw material for a narrative construction of the secondary 'core' and 'autobiographical' selves. Crucially, this process is seen as a *precondition* for language rather than dependent upon it; thus 'it seems that symbols are in the world first, and only later in the head.' (Hutchins 1995a, 370).

Cognitive representation of the material world is underpinned and communicated by reference to bodily experience: 'Our concepts of space – up, down, forward, back, on, in – are deeply tied to our bodily orientation to, and our physical movement in the world.' (Anderson 2003, 107; see also Lakoff & Johnson 1999, 1980; figs. 1 and 2). Specific cognitive representations of course vary between particular contexts (e.g. Strauss & Quinn 1997, 143-4). Nevertheless, they remain inherently *metaphorical* in nature, linking the experiential basis of materiality (the *source* domain) to the more abstract representation of that experience (the *target* domain, see e.g. Tilley 1999).

Figures 1 & 2. *The body as source domain for metaphor. The particular interpretations indicated here are of course highly culturally-specific and are given only as examples of the kinds of values and interpretations overlain onto bodily sensation (see e.g. Nuñez & Sweetser 2006 for the very different example of the Aymara).*

Linguistic metaphor is pervasive in everyday life (see e.g. Lakoff and Johnson [1980] and Tilley [1999] for copious examples). However, as the conceptualisation of one thing in

terms of another, metaphor is better considered as underpinning communication more generally, as 'In the most general sense metaphor involves comprehending some entity from the point of view, or perspective, of another.' (Tilley 1999, 4). Such theory of mind and appreciation of a shared experience of materiality is a precondition for communication, which uses metaphor to link subjective and objective experience, and the capacity for theory of mind (Dunbar 2003), may well be another aspect of hominins' primate inheritance (Hare *et al*. 2000; O'Connell & Dunbar 2005; though see also Call & Tomasello 1999; see Dunbar 2003 for review).

A view of metaphor – and representation more generally – as grounded in the body thus emphasizes continuity in prehistory while still allowing for the variability of outcomes that is so apparent in the archaeological record. The body is not an invariant universal (papers in Hamilakis *et al.* 2002; Ingold 1996; Fowler 2002a), and the contexts for and subjective interpretation of bodily experience will always vary. Nevertheless the process of perception, the experience of experience, remains shared, and a relational perspective focuses less on meaning *per se* than the way that the 'intersubjective sharedness' (Strauss & Quinn 1997, 277) of embodied experience provides a reference point for understandings of the world and the forging of relationships and systems of communication as part of the process of *creation* of meaning (Conkey 1995).

Analysis becomes a consideration of *effect* (see Gosden 2001, 164 for discussion of Gell's work), and the effect of material culture is a function primarily of its materiality. Particular 'things' have properties that structure their perception; textures, surfaces, edges, reflective properties, chemical compositions, etc. (Gibson 1979; Rodaway 1994, 2), and this materiality of the tangible, visible, audible and olfactory world is fundamental to the creation of metaphorical associations by resisting some interpretations and metaphors and inviting others (Parker-Pearson & Ramilisonina 1998).

> 'the *material* metaphors at work in culture are not entirely arbitrary. In the process of making metaphorical connections there is always likely to be an inherent connection between form and meaning … The meanings of pigs as symbols are linked to what pigs do, and how they behave' (Tilley 1999, 28, italics in original).

The direction of symbolic force is thus primarily *from* materiality *towards* representation (Gamble 2004), and the analogic code of metaphorical relations which arise from actions of the body are understood primarily through praxis (e.g. Tilley 1999, 103; 265).

Whether cognitive revolutions are identified at either or both the 'Human' or 'Neolithic' junctures, when *Homo sapiens* evolved or a primarily mobile hunter-gatherer social system gave way to more sedentary agriculturalists respectively, the reference of material culture to the body has remained constant. Although of course specific, contextual meanings vary by virtue of the shifting associations between agents in space and time, material metaphors have always been a consequence of hominin bodies inhabiting space and time, and clearly pre-date their linguistic utterance.

Material Metaphors and the Archaeological Record

In the course of hominin social practice, heterogeneous networks of agents become enrolled in material 'projects' of variable scale, commitment and duration – from cooking a meal to the construction of identity – that bring elements into association and redistribute them again. The complementary practices of accumulation (bringing objects into association at particular locales and in particular contexts) and enchainment (distributing objects, for example through exchange, trade or gift, and thus linking these local chains of associations into wider networks) are variably stressed in different cultures and contexts, resulting in differing patterns of 'sets' and 'nets' of material culture in time and space (Chapman 2000; see also Jones & Richards 2003). In this way such archaeological entities as assemblages, caches and structured deposits, for example, link in to wider distribution networks, interaction spheres, cultures and so on via the mundane rhythms of daily life (Table 1).

Locales	*Rhythms of material and corporal life*	Regions
Encounters and gatherings Social occasions and place	*Chaînes opératoire* *Taskscapes* *Paths & tracks*	Landscapes of habit Social landscapes
Individuals	← Sets & Nets →	Networks

Table 1: The multiscalar activities structuring hominin society (after Gamble 1999: Table 3.1)

Although Palaeolithic peoples may not have lived amidst quite such a richness of material culture as later populations, the two case studies that follow demonstrate the value of a relational, metaphorical approach to the archaeological record. It is not simply 'artificial' or 'man-made' objects that are incorporated within networks of interaction (Hutchins 1995a, e.g. 172). Mobile hunter-gatherers engage in a thoroughly relational epistemology of relations with animals and even inanimate entities in their environments that are simply practical in a world where people are always engaged in relationships with their environment in the course of their day-to-day activities (Binford n.d.; Hallowell 1960; Binford 1978; Tanner 1979; Brody 1981; Binford 1983; Wagner 1986; Bird-David 1999, 69; see also e.g. Ingold 2000; Coward 2005a, b). Such understandings and relations, no less than free-standing architecture (e.g. Watkins 2004), act as a cultural 'scaffold' within which the enculturation – or 'enskillment' – of childhood occurs (Ingold 2000 36-7; see also Vygotsky, 1978).

From a relational perspective, even Palaeolithic sites become material projects in their own right, comprised of distinctive, contiguous sets of material culture that are brought into further metaphorical associations as a result of particular habits of practice. The

elements in such deposits are brought together into material palimpsests that juxtapose multiple, overlapping 'sets' of material metaphors and pull together a wealth of metaphorical, metonymic and mnemonic associations, often over large distances and lengthy time periods (Lévi-Strauss 1966, 17; Pollard 1999; see e.g. Whittle & Pollard 1999; 2000 for some archaeological examples). As the following case studies demonstrate, such a perspective allows a new insight into hominin cognitive engagement with material culture.

Case study 1: lithics, blades and fragmentation

From the very earliest Palaeolithic, worked stone tools were used to break open bone to access marrow, split nuts and fruits and cut branches and grasses. On occasion such worked stones were piled up into small caches to which animal carcasses were brought for butchery (Potts 1988, 1993), or accumulated into large 'sets' that, even in the earliest sites, demonstrate the movement of material in and out via 'nets' of relationships stretching out into the world. The distances may be small and the resultant sets and nets unimpressive by later standards; nevertheless it is apparent that – unlike language – the material basis for the construction of social relations using material metaphors was always present as a condition of social life.

In stark contrast to the functionalist approach to lithic analysis common in archaeology, many cultures display a relational attitude towards raw materials (Parker-Pearson & Ramilisonina 1998; Stout 2002; Boivin 2004). Among the indigenous Australian Yolngu, quartzite is considered to grow in the ground where it is 'pregnant' with 'baby stones' or 'eggs' (see also Jones 1985; Jones & White 1988; Brumm 2004). Adze makers among the Irian Jaya also consider their raw material as intentional, living subjects; boulders are believed to grow and age as people do. 'Social relations with stone are an important part of production, and care must be taken to avoid angering pieces through improper practices' (Stout 2002, 704).

Furthermore, the skill required to work stone is not simply a property of the isolated individual, but resides in a complex of social relations with the living and the dead: skills are handed down by ancestors, and developed during formal apprenticeships that might last five years or more (Stout 2002, 704-5). The exchange of manufactured pieces enchains people further, materially and mnemonically (see e.g. Kim MacKenzie's classic film *The Spear in the Stone*; also McBryde, 1978, 1988, 1997). These are not just stone tools but mineral veins, lithic networks of people.

The skills and techniques of working stone are themselves explicable through material metaphors of the body. The outer covering of a nodule is called the *cortex*, from the Latin for bark, and is related to skin; the nucleus, or core, of the nodule is described in terms of the *ventral* (front, or belly) and *dorsal* (back) faces. The anatomical terms proximal and distal are applied to the *head* and *foot* of the core, and the act of fragmenting spoken of as leaving *scars* on the core's surface. Knapping skills include 're-juvenation' of the core to

extract more material, while a spent core is often referred to as ‘exhausted’. Knapping products include waisted and strangled blades, shouldered points and pieces with curved backs.

The practice of knapping itself is not simply a mechanical process of production but has been described as ‘thinking through the hand’ (Schlanger 1996, 248). It is the enactment of a sequence of bodily techniques that interact with the material in a *chaîne opératoire* (Boëda *et al.* 1990; Julien 1992; Gamble 1999, 214-223). ‘Prepared core technologies’ (PCTs) such as Levallois and prismatic blade techniques, describe a process whereby stone cores are pre-prepared to produce particular forms of fragments for the manufacture of specific types of tools, and have been used to argue for forward thinking and the ability to realize mental blueprints. However, Schlanger argues that the ‘product’ or particular tool type emerges through a suite of gestures that have been learned and assimilated as bodily techniques, rather than as a prior concept or mental image. Lithics are thus material rather than cognitive metaphors, referring to the bodies that created them rather than simply the realization of an abstract cognitive symbol.

Blades in particular are significant in discussions about the evolution of ‘modern’ human cognition because, while rare in pre-modern human contexts, they dominate the Upper Palaeolithic lithic technologies of Europe and the Later Stone Age of Africa that are made by modern humans. However, there are many examples of blades which pre-date the European Upper Palaeolithic (e.g. Jelinek 1990; Conard 1992; Tuffreau 1993; Révillion & Tuffreau 1994; Bar-Yosef & Kuhn 1999), and in Africa they are found in large numbers at early dates (Parkington 1990; Deacon 1995; McBrearty & Brooks 2000; Mitchell 2002). Furthermore, non-blade technologies continue to be significant long after blades are widespread (Hemingway 1980; Lourandos 1997; Bar-Yosef & Kuhn 1999).

As a result, there seems little justification for linking the appearance of blades to changes either in hominin anatomy or behavioural capacity that would mean pre-*Homo sapiens* hominids were unable to master blade technology, the question becomes why such a shift should occur throughout the Old World after 250,000 years ago (Bar-Yosef & Kuhn 1999, 331).

The most common answer cites a supposed increase in efficiency of blade production over other PCTs, supposedly indicative of increased planning and tactical depth (e.g. Binford 1973, 1979, 1989). However, tests of such claims have found little difference in the efficiency of blade and non-blade technology until the later Upper Palaeolithic (Henry 1995) or even Mesolithic (Tactikos 2003), long after the appearance of anatomically modern humans.

Viewed from a relational perspective, however, technologies such as the production of blades can be seen instead as local models that make sense of things (Gudeman 1986, 37) through their embodied enactment. The varying stress laid on blades and other forms of lithic manufacture reflects the varying ways in which knappers constructed metaphorical links through space and time by accumulating and enchaining raw material and worked

stone at locales and across landscapes, rather than a blind obeisance to rational economic schemata.

The significance of blade technologies lies in the output of many more standardized blanks from a parent core: while non-blade prepared core technologies can produce anything between a single and perhaps eight standardized flake blanks per nodule, blade technologies can produce as many as 125-150 (Bradley 1977; Quintero & Wilke 1995; McNabb pers comm.). Blade techniques thus out-reproduce in a material sense, allowing the movement and exchange of stone tools and thus the creation of metaphorical links in space and time on a much larger scale. This potential for the extension of practices of accumulation and enchainment was only surpassed with the advent of pottery, which could be almost infinitely produced, reproduced and passed around the landscape (Chapman 2000, 41).

Blade technologies were not enacted because they guaranteed more successful eland or deer hunts than other forms of stone tool manufacture, but because they produced many more of those material elements for enchainment and accumulation and thus increased its potential for the creation of metaphorical – and fundamentally social – links and networks. These were social technologies rather than functional strategies, enacted through relationships with, rather than competition against the external environment.

Case study 2: bones, hunting and accumulation

While many kinds of entity can be considered 'agents', of course these are not interchangeable: because of their differing materialities they lend themselves to different projects and practices. Animate entities, for example, have mutual or interactive affordances, and can literally *interact* with their perceivers (Gibson 1979; Reed 1986; Ingold 2000, 167). In the relational view of hunter-gatherers, hunting is seen as an ongoing practice of establishing and enacting a network of intimate relations and interactions between hunter-gatherers and other entities in the world (Hallowell 1960; Brody 1981; Ellen 1996; Bird-David 1999; Evans 1999, 14; Ingold 2000).

Once a kill has been made, the materiality of the carcass further lends itself as a source domain for the articulation of particular relationships between people (e.g. Jones & Richards 2003). The very literal act of consumption and incorporation of animals also provides a significant arena for the negotiation of relationships whereby the division and sharing of meat produces and reproduces relations between people; at the Upper Palaeolithic site of Pincevent, refitting of faunal remains traces joints of meat moving between hearths and enacting relationships (Enloe & David 1992). The disposal of animal remains is thus another aspect of the 'project' of subsistence, overlapping with that of the creation of 'place'. In hunting and gathering societies there are often detailed rules regarding where and how remains may or may not be disposed of (e.g. Binford n.d. ; Bulmer 1968; Tambiah 1969; Hyndeman 1990; Wilson 1999; Murray 2000), and thus deposition is more or less consciously 'structured by notions of appropriate and

traditionally sanctioned ways of doing things' (Pollard 2000, 130). For the Wopkaimin of New Guinea, collections and displays of bones function as 'mental maps' referring to their environment – not in the sense of graphical representations of topography, but by means of the metaphorical relations immemorated within the bones, the references they make to the people, locales and times that were linked together during the episodes of their procurement. Wopkaimin hunters thus

> 'use their mental maps for relating resources and making sense out of the world. They connect together and condense the stream of experience to solve spatial problems and the resource use of the past is displayed in the present to solve future problems' (Hyndeman 1990, 73).

As well as being disarticulated, animals may also be re-articulated. The breaking down and reassembling of the bodies of animals – not just meat but teeth, wings, beaks, etc. allow them to be re-articulated and incorporated into hominin projects (Connoller & Yarrow 2002; Fowler 2002b) through being accumulated and worn as ornaments and/or traded and passed on to enchain others. At the Upper Palaeolithic sites of Aven des Iboussieres (d'Errico & Vanhaeren 2002) and St-Germain-de-la-Rivière (Vanhaeren & d'Errico 2005), huge 'sets' of deer canines were accumulated, indicating that, as in later prehistory, 'identities are expressed through a fusion between the place-specific significance of animals and the social relations involved in accumulating the components of the necklace' (Jones & Richards 2003, 49). In the case of St-Germain-de-la-Rivière, red deer were unlikely to have been living wild in the vicinity of the site but could only have been found at least 300km to the southwest in Cantabrian Spain. Furthermore, while in living animals these teeth occur in pairs, only a minority of the teeth found could be paired with others at the site. Like the handaxes moving in and out of early Palaeolithic sites, we glimpse here the wide cast of nets structuring the constant ebb and flow of fragments of animals being distributed through the landscape, perhaps by trade or exchange, gathering metaphorical associations and thus enchaining agents as they go.

Subsistence and particularly hunting practices have been seen as a central aspect of the 'human' revolution (e.g. Binford 1982; White 1982; Mellars 1996; Enamorado 1997) distinguishing 'modern' populations from other pre-sapiens such as Neanderthals. Traditional views see 'modern' groups as demonstrating increased planning depth, intensification in resource use and increased seasonal scheduling (Mellars 1973, 1989, 1996; McBrearty & Brooks 2000, 492) as evidenced by logistical subsistence practices such as large, systematic and communal hunts of specifically targeted prey animals with a view to longer-term provisionment (Binford 1996 [1980]; Peterkin 2001, 171). As in the lithic case study discussed above, the traditional explanation for this is mainly couched in terms of efficiency, with pre-sapiens populations described as unspecialized and opportunistic 'foragers' characterized by indiscriminate 'encounter' hunting of immediately available prey for more or less immediate consumption.

However, as in the case of the lithic technologies discussed above, many researchers do not recognize evidence for a logistically organized 'modern' strategy until the middle or late Upper Palaeolithic, i.e. considerably after the evolution of anatomically modern

humans (Straus 1992, 1996; Pike-Tay 1993; Stiner 1994; Gamble & Roebroeks 1999; Enloe 2000; Shea 2001; Grayson & Delpech 2002; see e.g. Pike-Tay 2000 for discussion and further references).

As in the case of the lithic technologies described above, a relational perspective changes the terms of the debate, establishing a level playing field for 'bottom-up' comparisons of the ways in which modern and pre-sapiens populations interacted with animal species rather than 'top-down' analyses looking for qualitative differences (Roebroeks & Corbey 2001, 75).

As Jones and Richards argue, 'All animals are not equal; rather they evoke quite distinct qualities of place and existence. Animals presence the relationship between people and different places in the landscape' (2003, 50). Topographical and vegetational variation in the landscape locates different kinds of animals differently, and their characteristic lifecycles necessarily entail different rhythms and patterns of movement in the landscape (Coward 2005a, b). In a relational perspective, then, hunter-gatherers and animals alike are seen as describing particular pathways of movement in space and time on a daily basis. Each is influenced by those of the others as both human and animal hunters track potential prey which attempt to evade them, and these pathways inevitably interlink and intersect at particular points which provide an arena for interaction of various kinds. Such places will also have histories or biographies acquired by virtue of the interactions that have occurred there before, and do not exist in isolation but are connected by paths and tracks of movement that link places and activities and interactions into an ongoing narrative 'net' of relations across space and time.

At the cave of Amalda in northern Spain, the reconstruction of the immediate environments during which the Middle and Upper Palaeolithic assemblages were deposited has allowed the identification of some of these potential arenas for interaction. Further clues to the nature of these interactions are also recorded in the faunal assemblages themselves – clues to butchery and transport decisions (recorded by cut marks and anatomical representations), to the temporality of interactions (provided by ageing of the bones), and to the skills and practices of hunting (known from ethology and ethnography). Seen from a relational perspective, such data allows us to access something of the nature and quality of the heterogeneous networks of temporality, place and interaction with different animal species that arise out of the habitual, daily interactions between hunter-gatherers and animals in the vicinity of the site (Coward, 2005a, b).

The re-situating of the debate in such relational terms therefore allows a much broader consideration of prehistoric subsistence practices than the traditional 'economic' approach. Prehistoric subsistence practices shift and change, not necessarily as a result of changes in cognitive abilities, but as different relationships and forms of social interaction are emphasized in varying temporal and spatial contexts.

Conclusion: Metaphor and materiality in early prehistory

In modern Athens, vehicles of mass transportation are called *metaphorai*: thus eminently practical, material metaphors link enchain people, places and things in a very literal sense (de Certeau 1984, 115). Material practices have acted in a very similar way to enchain heterogeneous agents into networks throughout prehistory, and while semiotic approaches treating material culture as symbols can access only the small fraction of the archaeological record known to have been deposited by 'modern' humans, a relational perspective viewing material culture as material *metaphor* allows access to the vast time depth of data regarding hominin interaction with material culture in the Palaeolithic archaeological record.

This relational, metaphorical approach, based on the shared material experiences of embodiment, addresses the archaeological record in a unifying rather than divisive fashion. As such, it allows the consideration of the relationship between mind and world and its role in the evolution of human cognition in the necessary evolutionary framework.

Here we have presented two brief case studies identifying how, viewed relationally, the material culture even of the Palaeolithic record, those 'mere fragments of stones and bones' (Wobst 2000, 43), can become rich in their metaphorical associations with other agents. Lithic raw materials and products become metaphorical of bodies, extensions of their knappers, enchaining agents across the landscape in nets and accumulating them at locales in sets. Faunal assemblages become the immemorations of particular kinds of interaction with other forms of agent, accumulating the material correlates of those interactions and providing the raw material for enchaining still more agents, whether between hearths in a site as at Pincevent (Enloe & David 1992), or between locales in a landscape, as at Aven-des-Iboussieres and St-Germain-de-la-Rivière (d'Errico & Vanhaeren 2002; Vanhaeren & d'Errico 2005).

Such material practices are part of our primate heritage, and remain part of the ongoing projects that constitute social life even today. The particular strategies by which specific relations have been negotiated have of course varied in space and time. Nevertheless, the use of material culture – solid material metaphors based on a shared experience of embodiment – has remained fundamental to the construction of the networks of relations that constitute society.

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[1] Hominoids are members of the family Hominoidea or primates, split into the two subcategories of the Pongidae (orang-utans) and the Homininae (human ancestors, chimpanzees and gorillas). Within this grouping, the sub-family of hominins include those genuses and species currently thought to be human ancestors, including *Homo sapiens*, *H. ergaster* and *H. rudolfensis* as well as all of the australopithecines (*Australopithicus africanus*, *A. boisei*, etc.) and other ancient forms like Paranthropus and Ardipithecus.