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# article

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## 'Man the symboller'. A contemporary origins myth

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### Abstract

Symbolism, symbolically mediated culture and the production of symbolically charged artefacts are today almost unanimously accepted in palaeoanthropology as the defining hallmarks of cognitively and behaviourally modern human beings. This orthodoxy, however, suffers from a number of serious problems, including pervasive dualisms, an internally contradictory methodology and an unwillingness to grapple critically with the symbolism concept. It is suggested that the symbolism paradigm originated in the ideas of Leslie White in the 1940s and 1950s, but did not become a serious presence in palaeoanthropology until the 1980s. This is explained in terms of the adoption of cladistic phylogenetics in that period, and by reference to new evidence that removed Neanderthals from the ancestry of living peoples. The implications of the growing body of evidence for Neanderthal symbolism are discussed. It is concluded that the symbolism paradigm is essentialist and ahistorical, and has acquired the character of an origins myth.

### Key words

symbolism; Palaeolithic; human evolution; modern humans; Neanderthal; anthropology

### Introduction

Archaeologists of the less remote periods in human history often seem unable to suppress a bemused smile when they hear palaeoanthropologists refer to 'modern human beings'. The notion that the European Aurignacian and the people who made it between 45 and 30 thousand years ago (kya), or even early *Homo sapiens* of the African Middle Stone Age (MSA) 280 kya, were 'modern' seems hard to swallow. Of course, the term 'modern human' in palaeoanthropology has a meaning specific to that discipline, in which it refers to people essentially like ourselves, both anatomically and in terms of actual or potential cognition and behaviour.

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Here, I am concerned with the notion of cognitive and behavioural modernity and the problems that arise from conceiving of it in terms of ‘people like us’ (Ingold 2000). At its heart lies a series of dualisms – modern versus archaic, culture versus nature, history versus evolution, and human versus hominin. The chasm between the ways of life of *Homo sapiens* today and 40,000 years ago is understood as an inessential consequence of history; they were, like ourselves, modern humans in that they shared our heritable neurophysiology and cognitive potentials. Archaic hominins such as the Neanderthals, on the other hand, behaved differently from modern humans because they lacked the innate cognitive wherewithal for modernity. The gap between ‘them’ and ‘us’ is held to be essential, a fact of nature rather than of historical process (e.g. Stringer and Gamble 1993; Klein 1995; 2000; 2008; McBrearty and Brooks 2000; Coolidge and Wynn 2001; 2005; 2007; 2009; Mellars 2004a).

The makers of the Aurignacian are accorded the status of modern human beings not primarily because of their anatomical modernity (Bailey, Weaver and Hublin 2009) but because current orthodoxy dictates that *symbolism* is the definitive expression of ‘minds like ours’ (Pfeiffer 1982; Klein 1995; 2000; 2008; Deacon 1997; McBrearty and Brooks 2000; Henshilwood and Marean 2003; Mellars 2004a; 2005; Wynn and Coolidge 2007; Henshilwood, d’Errico and Watts 2009; Henshilwood and Dubreuil 2011). The Aurignacian furnishes symbolic objects, so its makers were modern humans. This operating principle has become deeply embedded in palaeoanthropological thought.

In this paper I will contend that symbolism’s time is up. I will attempt to show that:

1. The notion of symbolism as the essential property of the modern human being has become an entrenched orthodoxy in palaeoanthropology.
2. This orthodoxy’s theoretical principles derive from 20th-century American cultural anthropology, and especially the ideas of Leslie White.
3. The orthodoxy suffers from disabling flaws in both theory and methodology and is threatened by emerging bodies of evidence.
4. Palaeoanthropology only embraced ‘symbolism as modernity’ from around 1980, in the context of the discipline’s changing international profile, new evidence and a paradigm shift in the principles of taxonomy.

It is my hope that, in considering these issues, I can also cast critical light on the very notion of ‘the modern human being’ as it has hitherto been deployed in palaeoanthropology.

### Symbolism and the modern human condition

*The ‘trait list’* Over the last 40 years the so-called ‘trait list’ has become the dominant methodology for the identification of modernity from Palaeolithic archaeological traces (e.g. Mellars 1973; 1989a; 1989b; McBrearty and Brooks 2000; d’Errico 2003; Klein 2008). The trait list is a suite of archaeological features or properties that, when present, are held to record past behaviours or practices possible only if directed by a modern mind. The list has been subject to much revision since Mellars (1973) produced

the prototype. Some traits that figured in early manifestations, such as prismatic blade technology, have fallen decisively out of favour. The utility of others remains the subject of disagreement, as with the question whether a subsistence focus on a single game species (e.g. Mellars 1989a; 2004b) or broad-spectrum subsistence strategies (e.g. Hockett and Haws 2003) denote modernity.

There is, however, widespread agreement in palaeoanthropology that symbolically mediated thought and behaviour are the hallmarks of the modern human mind. Recent reviews by Nowell (2010, 447) and Marean (2007, 367) agree that symbolism lies at the core of modernity. As Texier *et al.* (2010, 6180) put it, 'symbolically mediated behavior has emerged as one of the few universally accepted markers of behavioral modernity'. Chase and Dibble (1987; 1990); Mellars (1989a; 1989b; 1996; 2004a); Gargett (1989; 1999); Klein (1995; 1999; 2000; 2008); Knight, Powers and Watts (1995); Mithen (1996); Ambrose (1998); Gamble (1998); McBrearty and Brooks (2000); Wadley (2001); Henshilwood (2007); Henshilwood, d'Errico and Watts (2009); and Henshilwood and Dubreuil (2011), for example, all cite one or more putative expressions of symbolism – mortuary ritual, art, personal ornamentation, geometric decoration, standardized and regionally specific artefact style or the extension of social relations in time and space – as distinctive expressions of the modern human condition. Henshilwood and Marean go further and recognize only a single trait list element – symbolism, visible archaeologically through the presence of 'art work, personal ornamentation and the social use of space' (Henshilwood and Marean 2003, 635). Archaeologists who champion the cognitive and behavioural modernity of Neanderthals do so on the basis that their archaeology also features symbolic objects (d'Errico 2003; Zilhão 2007; Zilhão *et al.* 2010; Caron *et al.* 2011). Even the growing number of archaeologists working towards an understanding of modernity as an emergent property of social, demographic and ecological dynamics feel impelled to explain the emergence of symbolism in those terms (e.g. Hopkinson 2007, 125–26; Powell, Shennan and Thomas 2009).

***Symbols and culture*** Despite this consensus, symbolism in modern human origins is seriously undertheorized. Nevertheless, its basic conceptual architecture is clear: symbolism, modern culture and language are indivisible aspects of a unitary cognitive phenomenon, arisen in the course of human evolution, that entails systems of meaning mediated through symbols. One cannot exist, at least as potential, without the others. Consequently, evidence for the presence or absence of symbolism is taken also to be evidence for the presence or absence of modern culture and language. The necessary association of these elements is repeatedly affirmed in the literature (e.g. Dibble 1989; Mellars 1989a; 2004a; Whallon 1989; Marshack 1996; Conard 2003; 2009; d'Errico 2003; Carbonell and Mosquera 2006; Bouzouggar *et al.* 2007; d'Errico and Henshilwood 2007; Marean *et al.* 2007; d'Errico *et al.* 2005; d'Errico, Vanhaeren and Wadley 2008; Henshilwood, d'Errico and Watts 2009; Texier *et al.* 2010; Henshilwood and Dubreuil 2011). It is stated with admirable clarity by Chase and Dibble (1987, 264):

All modern cultures share an underlying similarity of nature, in that cultural behavior is largely symbolic, and that individual cultures are identified and transmitted through the learning of those symbols. These symbols are an integral part of language and enable people to organize and categorize their world according to belief, value, and sentiment systems and to provide them with options of behavior that are seen as acceptable for each culture group . . . Few prehistorians would question that Upper Paleolithic peoples share this same essential nature . . . the role of symbolism was essentially the same as it is today.

The authors go on to argue that there is no evidence for symbolism in the Middle Palaeolithic, so Neanderthals cannot have had modern minds, language or culture. Similarly, Byers (1994) draws an all-or-nothing distinction between *end-goal-directed material behaviour* – the purely functional application of tools to the achievement of a material goal – and *end-product-directed material action*, in which both the artefact and the end to which it is directed are also governed by symbolically constituted cultural rules. The Middle–Upper Palaeolithic transition records the evolutionary leap from non-symbolic behaviour to symbolically constituted action (Byers 1994, 370).

Only recently have some researchers begun to grapple with these issues. Chase now embraces the possibility of symbolic thought in apes and archaic humans (Chase 2006, 64). But beyond these revisions Chase's dualism is undiminished: only human beings *create* cultural meanings (ibid., 2), while only human codes and conventions are arbitrary (ibid., 12, 30). In a similar vein, Shea (2011) has critiqued the equation of modernity with symbolism on the grounds that much past symbolic behaviour might not have left material traces, and rejects the very notion of 'modern behaviour' as essentialist. Yet his objections are primarily methodological, and he perpetuates the problem through accepting symbolism as a universal feature of living humans, by presenting symbolism as those aspects of behaviour that contradict cost–benefit (i.e. functional) considerations, and by seeking to replace one essentialist dualism with another, between behavioural flexibility and inflexibility (Porr 2011). To all practical intents and purposes, the theoretical understanding of symbolism, culture and modernity developed over 25 years ago is still in place today.

***Symbols and things*** The crux of the matter is how archaeologists can recognize symbolism when they see it. As we have seen, Henshilwood and Marean (2003) identify art objects and personal ornaments as unequivocal symbols, while McBrearty and Brooks (2000) point also to artefact style, pigment use and ritual burial. In his original trait list Mellars recognized that the transition from the Upper to the Middle Palaeolithic in Europe entailed 'a range of striking cultural innovations – including . . . the adaptation of animal teeth, marine shells etc. as personal ornaments, and the emergence of a sophisticated naturalistic tradition of art' (Mellars 1973, 255). Claims and counterclaims for ritual (e.g. Solecki 1975; Gargett 1989; 1999; Hovers *et al.* 2003; Hovers, Kimbel and Rak 2000); body decoration (e.g. d'Errico

*et al.* 2005; Bouzouggar *et al.* 2007; Zilhão 2007; Texier *et al.* 2010; Zilhão *et al.* 2010; Morin and Laroulandie 2012); art (e.g. Conard 2003; 2009; Marquet and Lorblanchet 2003; Pike *et al.* 2012); and, more recently, musical instruments (Kunej and Turk 2000; Conard, Malina and Münzel 2009) in the Palaeolithic have dominated debate over when, where, and in which hominin species modernity emerged.

But what makes these objects and practices symbolic? It is the *absence of physical function, in the narrowly utilitarian sense, in resource extraction and maintenance*. This is Byers's distinction between symbolic end-product action, which incorporates rule-bound arbitrary style, and end-goal behaviour, the artefactual instruments of which display form wholly determined by objective functional factors. Symbolism is the residue when all functional dimensions of an archaeological artefact or pattern have been accounted for. By this reckoning artefacts and practices, or aspects thereof, that have no direct utilitarian function must be symbolic. Equally, tools such as scrapers and awls possess a symbolic dimension if they can be shown to display arbitrary, non-functional form or style (Chase and Dibble 1987, 266). If not, their makers cannot have been modern. Formal types express cultural norms or values and, by extension, linguistically structured symbolic categories.

This amounts to an argument for modernity as typology. Neanderthals cannot have thought symbolically, according to Dibble (1984; 1987; 1989; Rolland and Dibble 1990) because archaeological typologies of Middle Palaeolithic artefacts are illusory and do not reflect arbitrary cultural norms in the past. Instead they simply represent points on continua of form through which stone tools passed as they were repeatedly resharpened and reduced before eventual discard. The same argument for modernity as artefact style can be seen in Pfeiffer (1982), Sackett (1982), Mellars (1989a, 365), Klein (2000, 26; 2008, Table 1), and McBrearty and Brooks (2000, Table 3), among others. Those who insist that arbitrary form can indeed be seen in Middle Palaeolithic artefacts, and that Neanderthals were therefore cognitively modern (e.g. d'Errico 2003; Hopkinson 2004), are relying on identical logic; they are simply quibbling over the details.

There have, of course, been dissenting voices. For Leroi-Gourhan (1964) and Holloway (1966; 1981), all artefact fabrication necessarily indicates linguistic capacities and the imposition of arbitrary form on the environment. On the other hand, Wynn (1985; 1991; 1993) and Chazan (1995) have expressed scepticism that artefact form records any information about past linguistic and symbolic capacities. But these objections have not succeeded in challenging the dominant view that symbolism, culture and language are the hallmarks of 'people like us'. Between these extremes, Botha (2008; 2009; 2010) has championed a narrower concept of symbolism by challenging the symbolic status of the pierced shell beads of the African MSA since we cannot be confident that they were repositories of arbitrarily attributed meaning, and are therefore better understood as *indexes*. But Botha does not abandon symbolism. Instead he argues that symbolism, and thus cultural and linguistic modernity, appear only in the Upper Palaeolithic after 45 kya. The origins of symbolism and the origins of the modern human condition are still seen as one and the same.

### The trouble with symbols

What I will from this point refer to as the ‘symbolism = modernity’ orthodoxy is seriously problematic and susceptible to criticism from external theoretical perspectives and in terms of its own internal logic. Accumulating evidence for Neanderthal symbolism presents the paradigm with an existential challenge. One must question why this flawed ‘symbolism = modern human’ equation has been so enthusiastically embraced. The main thrust of this paper will be the exploration of those flaws and an attempt at an answer to that question. Although an extended critique from external theoretical standpoints would distract from that goal, a brief consideration of those issues will help throw the problem into sharper relief.

*Theoretical issues with symbolism* Palaeoanthropology has been remarkably uninterested in the theorization of the symbol in even closely related disciplines. Neither the structural and symbolic movement in theoretical archaeology (e.g. papers in Hodder 1982) nor structuralist and symbolic anthropologies (e.g. Leach 1968; 1976; Lévi-Strauss 1978; Needham, 1979) have exerted any significant influence. Even C.S. Peirce’s seminal 19th-century work, distinguishing between icons (signs whose meaning is directly related to their form or properties), indexes (signs that possess some sensible feature that implies or points to something else) and symbols (signs whose relationship to their referent is entirely arbitrary) has had little impact until very recently (Botha 2008; 2009). Yet this trichotomy of signs, which remains a foundation of semiotics, has the potential to challenge even the categorization of the Aurignacian’s most impressive art objects as symbols.

The remarkable figurines from the Aurignacian site cluster of Vogelherd, Hohle Fels, Hohlensteinstadel and Geissenklosterle in southern Germany (Conard 2003; 2009) are a case in point. The figurines, which include animals, a Venus and two therianthrope ‘lion men’, are all more or less naturalistic, and some, such as the Hohle Fels waterfowl, and the horse and mammoth from Vogelherd, are exquisitely so. But, in the trichotomy of signs, naturalistic representations are *iconic* rather than arbitrary and symbolic; one can know simply by seeing it that the horse figurine represents a horse. Even if these figurines instead referred to values *implied* by their form (e.g. speed, the hunt or kinship relations) they would still constitute indexes, not symbols. The presumption that these objects are obviously symbolic reveals that the symbol concept is used without real exploration of its theoretical ramifications.

More seriously, perhaps, the application of symbolism in palaeolithic archaeology has, with few exceptions (e.g. Gamble 1998; 1999; 2012; Hopkinson and White 2005) been immune to theoretical developments in archaeology since the early 1980s. There is little or no recognition of the ambiguous and contested character of material-culture meaning, or of Palaeolithic hominins as agents (but see papers in Gamble and Porr 2005). Archaeological theory today is deeply distrustful of the sort of dualism that has been discussed. If meaning is arbitrarily attributed to symbolic artefacts then the artefact and its meaning have no organic connection and occupy separate ontological realms; the artefact is a passive receptacle and symbolic

meaning becomes an extension of Descartes's 'ghost in the machine', a spirit that animates matter but is not of it. Contemporary theoretical perspectives concerned with praxis (that in making and transforming things in social practice, people also make and transform themselves as social beings, so that people, things, performances and meanings are mutually constitutive) offer an escape from this dualist impasse. Although relational archaeologies of praxis and being have begun to make some headway in Palaeolithic and, more especially, in Mesolithic archaeology (e.g. Conneller 2010), they have had little impact on the symbolism orthodoxy.

It appears that, as a discourse, palaeoanthropology is concerned with symbolism *only insofar as it is an observable diagnostic trait of a particular class of organism, the modern human being*. As we shall see, this is crucial to understanding symbolism's rise to prominence in this field of enquiry.

*Internal problems with the 'Symbolism = modernity' orthodoxy* These objections are of little significance to most palaeoanthropologists since they derive from theoretical paradigms to which they do not subscribe. But even on its own terms, the 'symbolism = modernity' paradigm has serious weaknesses. One of the more obvious is the possibility that archaic hominins might have made symbolic objects on perishable materials that have not survived, or that their ritual practices left no traces on durable materials (Speth 2004; Shea 2011). Another is that landscape features such as rivers, hills and forests can be imbued with meaning (Bradley 2000), though Palaeolithic archaeologists prefer to render them as resources or problems for hominins to exploit or solve through adaptive behaviour. A possibly more serious problem is that the arbitrariness of the relation between the symbol and its referent is simply impossible to reconcile with the criteria used to distinguish symbolic from non-symbolic artefacts. If the relation is truly arbitrary, then any meaning can surely be assigned to anything. This directly contradicts the denial of meaning in artefacts that appear to lack arbitrary style.

If Middle Palaeolithic stone artefacts were the products of exclusively functional considerations, lack standardized arbitrary form and therefore cannot have been produced by symbolically thinking hominins (Dibble 1984; 1987; 1989; Rolland and Dibble 1990; Davidson and Noble 1993), then some classes of things-in-the-world, and not others, are capable of carrying meaning, and the relationship between symbol and referent cannot be entirely arbitrary. This is an unsustainable position. Not only is it a theoretical oxymoron, it also contradicts experience. If the informality of Middle Palaeolithic stone artefacts precluded them from bearing meaning, then they could not be meaningful for archaeologists in the present. That is obviously not the case. Through practical engagement with them, these artefacts can come to embody for us our professional identity and form links in chains of association with places, people and events that contribute to situating us in the world. Since these artefacts *can* carry meaning, the inference of a cause (a non-symbolic Neanderthal mind) from the alleged effect (non-stylistic artefacts) cannot be sustained.



The symbolism orthodoxy also struggles to make sense of the paucity of symbolism in the archaeological record of Pleistocene *Homo sapiens* in some regions of the world. The Niah Cave ‘Deep Skull’ demonstrates that anatomically modern *Homo sapiens* was present in Borneo between 35 and 44 kya, at the same time as *Homo sapiens* was entering Europe equipped with Aurignacian material culture. But the archaeology associated with the Deep Skull contains nothing that can be described as non-functional or stylistic (Barker *et al.* 2007). Are we to conclude that *Homo sapiens* at that time was cognitively modern in Europe but not in Borneo? Of course, nobody draws any such conclusion. Because it is *Homo sapiens* the cognitive modernity of the brain that was once inside the Deep Skull is presumed, despite associated archaeology that does not fulfil the stipulated criteria for symbolism. This is simply a double standard (Roebroeks and Corbey 2001).

**Neanderthal symbolism** Claiming modernity in Neanderthals on the ground that their archaeology also features symbolic objects does not in itself challenge the ‘symbolism = modernity’ paradigm; it is just quibbling over the details of whose archaeology passes the symbolism test. However, it seems unlikely that the symbolism paradigm could long survive a convincing demonstration of Neanderthal symbolic capacities.

The trait list of which symbolism is the core element was originally devised with the explicit intention of systematizing the behavioural differences between *Homo sapiens* (understood in terms of the European Upper Palaeolithic) and the Neanderthals, as represented by the Middle Palaeolithic. Neanderthals *by definition* could not have been modern humans. Any convincing demonstration that the Neanderthals produced and used symbolically charged artefacts therefore presents an existential challenge to the ‘symbolism = modernity’ consensus. That this is so is illustrated by amendments to the modernity trait list, driven primarily by Middle Palaeolithic archaeology’s awkward habit of meeting its conditions. Bluntly, the rules of the game have been repeatedly changed to keep the Neanderthals out. Prismatic blade technology, game species specialization, the systematic exploitation of marine resources, fowling and the occupation of marginal environments is just a sample of the traits that have faded from the modernity list since it became clear that, at least sometimes, Neanderthals practised them (Conard 1990; Ameloot-van der Heijden 1993; Grayson and Delpech 2002; 2008; Stringer *et al.* 2008; Blasco and Fernández Peris 2009; Krause *et al.* 2007). This ‘ticking off’ of allegedly modern traits by the archaeology of the Neanderthals has contributed to the increased reliance on symbolism as the sole robust indicator of modernity. Yet recent work has now begun to erode even that last bastion of our species’ specialness, and thrown into doubt the claim that the western Eurasian Middle Palaeolithic was symbolically impoverished.

Marshack (1976; 1988; 1990; 1996; 1997) and Bednarik (1992; 1995) have sought, largely in vain, to draw a sceptical discipline’s attention to a significant and long-known corpus of apparently non-utilitarian Middle and even Lower Palaeolithic finds, including ochre pigment blocks and



modified animal parts such as the Tata carved mammoth molar, bone and tooth pendants from La Quina, and incised bone from La Ferrassie and Bilzingsleben. Until recently, the most intensely discussed possible evidence for Neanderthal symbolism was the early Upper Palaeolithic Châtelperronian industry of central and south-west France and northern Spain, notable for non-utilitarian artefacts including pierced and grooved animal teeth and well-made bone tools often bearing decorative incisions. Neanderthal remains recovered from Châtelperronian contexts at Saint Césaire (Lévêque and Vandermeersch 1980) and the Grotte du Renne, Arcy-sur-Cure (Hublin *et al.* 1996) imply that the symbolic artefacts were made by late Neanderthals. The issue has unfortunately become bogged down in disputes over whether the Châtelperronian was regionally contemporaneous with the Aurignacian and so might represent Neanderthal 'acculturation' (e.g. Harrold 1989; Mellars 1989a, 353; 2005; d'Errico *et al.* 1998; Klein 1999; Zilhão and d'Errico 1999; d'Errico 2003; Zilhão 2006), and the stratigraphic integrity of the deposits at Grotte du Renne (Higham *et al.* 2010; Caron *et al.* 2011). The comparable Uluzzian of Italy is similarly disputed (Riel-Salvatore 2010; Benazzi *et al.* 2011).

Recently, however, plausible symbolic objects have been reported from several unequivocally Middle Palaeolithic contexts. Three perforated marine shells have been found alongside pigments in the Middle Palaeolithic levels at Cueva de los Aviones, southern Spain, along with a *Spondylus* shell bearing residues of a red colourant produced by mixing three pigments. A broken perforated *Pecten* shell, partly pigmented with a mixture of goethite and haematite, is reported from the Cueva Antón, also in southern Spain (Zilhão *et al.* 2010). All these finds are dated to some 50 kya. Most remarkably, it now seems that Neanderthals across a wide swathe of Europe were systematically removing wing feathers and/or claws from raptors and corvids for display purposes (Peresani *et al.* 2011; Finlayson *et al.* 2012; Morin and Laroulandie 2012).

If this emerging picture of a symbolically competent Neanderthal mind is confirmed by further finds and analyses, there will be no remaining characteristic that can be called upon to distinguish Neanderthals cognitively from Pleistocene *Homo sapiens*. Neanderthals might then be admitted into membership of modern humanity, but the ultimate consequence is likely to be the collapse of the 'symbolism = modernity' edifice. A theoretical perspective and derived methodology which were designed to identify and describe distinctively modern humans and their behaviour, but which can no longer pinpoint any qualitative behavioural transformations in the 300,000-year spans of the Eurasian Middle–Upper Palaeolithic and the African Middle–Late Stone Age, must suffer a disabling loss of credibility.

**Summary** It is becoming increasingly difficult to sustain the 'symbolism = modernity' paradigm as it struggles to deliver on its historical mission – the delineation of the singular difference between *Homo sapiens* and all other hominin species. Since at least some of its problems are inherent in its theoretical and methodological structure, it is pertinent to ask why

palaeoanthropology came to put all its eggs in the symbolism basket. A consideration of *when* and *from where* palaeoanthropology came to embrace symbolism as modernity's essential characteristic suggests a route to a possible answer to that question.

### Culture, symbol and the ideas of Leslie White

*Symbolism in early 20th-century American social science* Discussions of symbolism and modernity in palaeoanthropology rarely cite any sources from which the symbolism concept has been derived. I would argue that the ultimate source lies in early 20th-century American cultural anthropology, which from its inception in the work of Franz Boas accorded symbols a central role in human culture. Two of Boas's early ethnographic studies explored the role of material-culture symbolism in indigenous cultures of the American North-west, looking first at the symbolic role of masks in the social organization in the Kwakiutl (Boas 1897) and then at the significance of formal variation in Alaskan needlecases (Boas 1908). He went on, particularly in *The mind of primitive man* (Boas 1911) to argue that all human beings share the same intellectual capacities, and that all cultures are equally founded on biology, language and material and symbolic culture. Boas trained most of the leading figures in American cultural anthropology in the first part of the 20th century, including Alfred Kroeber, Margaret Mead and Leslie White. Indeed, Kroeber's doctoral dissertation dealt with decorative symbolism in the Arapaho, and he subsequently defined culture as 'patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiments in artefacts' (Kroeber and Kluckhohn 1952). A conviction that culture and symbolism are inseparable can therefore be seen as a foundational concept in American cultural anthropology. As the discipline diversified theoretically, symbolism retained its centrality in such disparate movements as interpretive symbolic anthropology (e.g. Sahlin 1976; Geertz 1973) and cultural materialism (Harris 1979). This stands in contrast to much of British and French social anthropology. The former certainly produced important works of symbolic anthropology (e.g. Douglas 1966; Turner 1967) but, unlike the structural-functionalist mainstream, they exerted negligible influence on British palaeolithic archaeology. French anthropology's focus on the significance of exchange and technique, and on structures of cultural meaning, had little impact on palaeolithic studies beyond the work of Leroi-Gourhan (1964; 1965). In the early and mid-20th century it was in America that archaeologists, trained in 'four-field' departments of anthropology, were systematically exposed to the idea that symbolism is the key to culture.

*Leslie White* The cultural anthropologist whose ideas most closely prefigured the current palaeoanthropological conception of symbolism was, however, Leslie White. Though a student of Boas, White soon rejected his teacher's culture-historical particularism in favour of a neo-evolutionary orientation. His first major book, *The science of culture* (1949), assembled a number of

essays published over the preceding 11 years. White's central concerns at that time were twofold: first, the ontological status of culture, and second, the symbol. His position on the former is set out in the book's preface: culture is not inseparable from its human carriers, but is a discrete real-world phenomenon in its own right, moving according to its own laws and processes, 'a self-contained, self-determined process; one that can be explained only in terms of itself' (White 1949, xviii). White developed this further in *The concept of culture* (1959a). He argued that cultural phenomena – ideas, acts, artefacts – can be investigated either in 'somatic' context, their relations with embodied 'human organisms', as components of behaviour; or in their 'extrasomatic' context, i.e. their relations *between themselves*, independently of embodied human organisms, as components of culture (ibid., 230–31). Since cultural phenomena and the relations between them are observable, so culture itself has phenomenal reality (ibid., 239).

But how to distinguish cultural phenomena from other classes of observable phenomena? On this, White is clear: '*Culture . . . is a class of things and events, dependent upon symboling, considered in an extrasomatic context*' (1959a, 234; emphasis in original). Symbolism makes culture. In the somatic realm symbolically dependent things and events ('symbolates') influence behaviour, but relations between them in the extrasomatic realm constitute culture (ibid., 233). All things and acts have both objective (functional) and subjective (symbolic) components (ibid., 236). White draws direct equivalences between behaviour and speech, and between culture and language; the latter both entail relations between symbolates (e.g. syntax and grammar) that are independent of embodied behaving individuals, and govern behaviour, including speech utterances (ibid., 234).

In 'The symbol', the second essay in *The science of culture*, White declares that Darwin was wrong; the difference between people and animals is qualitative, not quantitative. It is the symbol that sets humanity apart. As White puts it, 'An organism has the ability to symbol or it does not; there are no intermediate stages'. On the same page he cites approvingly Descartes's ascription of animals and humans to separate realms (White 1949, 24). A symbol's meaning is arbitrarily assigned to it by human beings (ibid., 29), who can only apprehend its meaning in symbolic terms (ibid., 26). White briefly acknowledges the evolutionary origin of the symbol, but with no attempt at any account of how that might have happened. However, his conviction that there can be no semi-symbolic organisms implies that it must have been an evolutionary leap – a point he makes more explicitly in 'The primate revolution' (White 1959b). Having come into being, it was 'the symbol . . . which transformed our anthropoid ancestors into men and made them human' (White 1949, 22).

It seems clear from this brief review that White first formulated the framework that now dominates thought on the matter of modern human origins. His ideas reverberated through cultural anthropology, inspired his students (e.g. Sahlins 1959; Spuhler 1959) and are alive and well in palaeoanthropology today. All of the elements discussed above are to be found in contemporary palaeoanthropological discourse on modern human origins,

sometimes with structurally minor adjustments, such as replacing White's human–animal dualism with our modern–archaic counterpart. Indeed, both Kuhn and Stiner (2006) and Shea (2011) speak explicitly of symbol use as 'extrasomatic'.

### Modernity before symbolism

Symbolism has not always exerted such a grip on the palaeoanthropological imagination. In *The descent of man* Darwin saw human *reason* as our species' distinctive property, and he regarded language and fire as our greatest inventions (Darwin 1871, 137); that is, language was a secondary consequence, not the primary fact, of human evolution. Darwin also denied any qualitative difference between humans and apes, with no boundary or property definitively setting human beings apart. Wright's *Tools and the man*, published in 1939, foregrounds technological evolution, and admits 'life-like engravings and paintings' in the Magdalenian only as evidence for 'powers of observation and a naturalistic realism of execution' (Wright 1939, 52). Bordes's *The Old Stone Age* (1968) makes no reference whatever to symbolism in eight chapters devoted to the Upper Palaeolithic. He simply did not regard symbolism as a significant aspect of Upper Palaeolithic technical practices.

Similarly, Richard Klein's early writings show no particular interest in symbolism. He notes the proliferation of art objects in the Upper Palaeolithic, but presents this as just one element in an Upper Palaeolithic behavioural package that also includes blades, bone artefacts and standardized tools. For the young Klein, the distinctive property of modern humans is complex social organization (Klein 1969; 1972). While Mellars's first formulation of the trait list refers to innovative Upper Palaeolithic practices including the production of personal ornaments and art, it is the innovativeness that is presented as distinctively modern, and he is sceptical as to the evolutionary significance of symbolism (Mellars 1973, 272).

Grahame Clark, however, in his 1967 book *The Stone Age hunters*, notes that the capacity for symbolic communication probably underpins the cumulative character of human culture, but he equates symbolism with language and draws only a difference of degree, not of kind, between modern and archaic peoples (Clark 1967, 25). Later in the book Clark uses 'symbol' only to refer to non-naturalistic – i.e. non-iconic – motifs and representations in Upper Palaeolithic art (*ibid.*, 58, 72, figures 44, 45, 65) while also accepting a ritual dimension to Neanderthal burial and even cannibalism in *Homo erectus* (*ibid.*, 41–42). While Clark's discussions of symbolism are historically interesting they clearly do not represent an early expression of the current palaeoanthropological orthodoxy. It is with Sally Binford's 1968 comparison of Middle and Upper Palaeolithic burials that the orthodoxy can be seen taking shape. She interprets the greater incidence of grave goods and personal ornaments in the Upper Palaeolithic as reflecting modern humans' 'increased means of symbolizing the status of individuals' (Binford 1968, 147). Still, it is not until the 1980s that the paradigm appears in mature form (White 1982; 1989; Pfeiffer 1982; Dibble 1984; 1987; 1989; Chase and Dibble 1987). Only then do Klein (1985) and Mellars (1989a) move beyond their former

scepticism and elevate symbolism to a position of primary importance in the emergence of modern humans.

### Why symbolism?

*The rise of American palaeoanthropology* How, then, to explain this four-decade delay between White's ideas and their acceptance in palaeolithic archaeology? One key factor is the growth of American palaeoanthropology in the years following the Second World War and an influx of American archaeologists, schooled in the four-field tradition of American anthropology, into Old World palaeolithic archaeology from the mid-1960s.

Before the Second World War anthropological and archaeological studies of human evolution were dominated by European figures in whose homelands and their imperial dominions palaeolithic research was carried out. The only pre-war American evolutionary physical anthropologist of genuine international stature was Ales Hrdlicka, while American prehistoric archaeology before 1945 was primarily concerned with the material record of its own indigenous peoples. Only during and after the Second World War did American researchers become internationally significant in palaeoanthropology in figures such as Hallam Movius and Sherwood L. Washburn. In subsequent decades, as American cultural power and reach grew, American palaeoanthropology expanded to the point where it now dominates the discipline.

Leslie White himself was doctoral supervisor to two figures of significance to this question: Lewis Binford and Arthur Jelinek. Although Binford was never a palaeolithic archaeologist per se, his influence on the discipline has been profound. His early programmatic works (e.g. Binford 1962) were heavily influenced by White's ideas, particularly his systematic view of culture, its objective reality and its separateness from psychology. From 1981, with the publication of *Bones. Ancient men and modern myths*, Binford was primarily responsible for introducing into anglophone palaeoanthropology a rigid archaic-modern dualism, in which non-modern hominins were depicted as wholly lacking in culture and thus not at all human. This position, reiterated in several subsequent publications (e.g. Binford 1989), clearly perpetuates White, though Binford rarely showed much interest in symbolism, focusing instead on the organization and planning depth of subsistence, mobility and technology.

Jelinek, who became the leading figure in palaeolithic archaeology at Arizona, represents another line of intellectual descent from Leslie White. He maintained an interest in the relation between lithic artefact form, function and style, with style conceived as the arbitrary residue left behind when utilitarian functional and material factors have been accounted for (Jelinek 1976). It is precisely this position which was further developed by Jelinek's Arizona students Chase and Dibble in their seminal 1987 paper. Together, Binford and Jelinek introduced to palaeoanthropology White's ideas about culture and symbolism and set the intellectual agenda for much of American and anglophone thinking on modern human cognitive and behavioural evolution from the 1980s onwards.

But, as was noted earlier, the identification of symbolism as the defining property of the modern human mind and culture was a general feature of the cultural anthropology in which the growing cohort of American palaeolithic archaeologists was schooled. Movius, for example, was fundamentally a Boasian particularist and a culture-historical thinker whose central interest was space–time cultural systematics. Yet, despite the differences between his and White’s theoretical positions, Movius’s ideas drew him towards problems of stylistic variation and cultural dynamism (Movius 1949) and attribute analysis (Movius *et al.* 1969) that fed directly into the work of his students at Harvard such as Sackett, Bricker and Brooks. Sackett cannot be described as a neo-evolutionist, but his work on style (Sackett 1973; 1986; 1990, 36) shares with Chase and Dibble (1987) the conviction that arbitrary style is symbolically active within culture. Brooks, on the other hand, has embraced a non-Boasian evolutionism and champions what is now the symbolism orthodoxy (McBrearty and Brooks 2000). Finally, the Chicago school of palaeoanthropology, led by Washburn and his student F. Clark Howell, also produced important figures in the field, including Sally Binford, whose 1968 paper on symbolism has already been noted, and Richard Klein.

The symbolism orthodoxy should therefore be understood as a historically arisen paradigm introduced to human-origins studies from American cultural anthropology for historical reasons. This is not, however, a sufficient explanation for the orthodoxy’s development and entrenchment. Another, quite separate driver of this was a profound change in the understanding of pattern and process in human evolution from 1980.

***Phyletic gradualism in human evolution*** During the course of the 1960s, under the influence of the neo-Darwinist New Synthesis, the notion of human evolution as a branching process driven by mutation, and of species as invariant essential types, gave way to *phyletic gradualism*, which understands evolution as a continuous process of adaptation in time and space within a single variable but unbranching population lineage (Cartmill 2001). This provoked a pruning of hominin taxa. *Sinanthropus pekinensis* and *Pithecanthropus erectus* were subsumed into the genus *Homo*, which contained just three palaeospecies: *Homo habilis*, *Homo erectus* and *Homo sapiens*. These species were cast as *grades* arbitrarily subdividing an evolutionary continuum. With the exception of the early African *Homo habilis*, each species was a regionally variable but pan-Old World population. *Homo sapiens* was defined broadly to include Neanderthals, who were distinguished from anatomically modern humans only at the sub-species level – *Homo sapiens neanderthalensis* and *Homo sapiens sapiens* respectively. Other less well understood large-brained specimens were lumped together in a global ‘archaic *Homo sapiens*’ sub-grade. *Homo sapiens sapiens* in each region was understood to be the direct descendant of earlier *Homo sapiens* in the same region, making modern Europeans the descendants of the Neanderthals. This phyletic gradualist scheme subsequently hardened into the multiregional hypothesis for modern human origins (Wolpoff 1989; Frayer *et al.* 1993; Wolpoff, Hawks and Caspari 2000; Wolpoff *et al.* 2001; 2004).

*The impact of radiometric dating and DNA sequencing* New evidence that emerged from 1980 dealt a severe blow to the phyletic gradualist narrative of human phylogeny. First, the dating of the Saint-Césaire Neanderthal to 33–35 kya (Lévêque and Vandermeersch 1980) meant that it was simply too close in time to the oldest known anatomically modern human specimens in Europe to have been their ancestor (Stringer, Hublin and Vandermeersch 1984). Similarly, the dating of the robust but anatomically modern specimens from Qafzeh, Israel, to c.125–74 kya (Valladas *et al.* 1988), and of the Neanderthal specimen from Kebara, Israel, to 55–60 kya (Valladas *et al.* 1987) meant that anatomically modern humans had been in the Levant at least 15,000 years before Neanderthals and so could not possibly have been their descendants.

Also in that period, the sequencing of mitochondrial DNA from living people (Cann, Brown and Wilson 1984; Cann, Stoneking and Wilson 1987; Stoneking and Cann 1989) began to point to all living humans sharing an African female common ancestor who had lived between 120 and 240 kya. Subsequent studies (e.g. Vigilant *et al.* 1991) reached a similar conclusion. Though proponents of the phyletic gradualist multiregional model continued (and continue) to argue for an inclusive *Homo sapiens* in which there had been no evolutionary discontinuities (Clark and Lindly 1989; Wolpoff 1989; Frayer *et al.* 1993), opinion shifted decisively towards a *replacement* model, in which modern humans had originated recently and only in Africa, and subsequently dispersed through the rest of the world, replacing archaic hominins such as the Neanderthals and *Homo erectus* – the ‘out-of-Africa’ hypothesis for modern human origins (see Stringer 2002 for a clear exposition).

*Cladistic taxonomy and symbolism as autapomorphy* Taxonomy aims to resolve phylogenetic relationships between taxa by classifying them according to their observable similarities and differences. The more similar two organisms are, the more recent their last common ancestor must be. Taxonomic methods in use in the mid-20th century, however, were weak at resolving polyphyletic groups, i.e. classes of organisms that shared characteristics through independent convergent evolution, not through common ancestry. In the 1980s *cladistics*, a taxonomic methodology devised by Hennig in the early 1950s to resolve this problem (Hennig 1950; 1966) became established as the dominant phylogenetic method. Cladistics rests on a number of critical propositions (Cartmill 2001):

1. Evolutionary patterns are generated by ‘branching’ speciation events.
2. Taxa must be monophyletic evolutionary branches or clades, and include a founder, the distinctive traits of which define the taxon, and all *and only* its direct descendants.
3. Species are to be understood as logical individuals, not as variable populations.
4. Organisms’ traits should be weighted as to their phylogenetic significance on the basis of whether they are ‘primitive’ *plesiomorphies* shared between several taxa and inherited from their more or less distant common ancestor; ‘derived’ *synapomorphies*, recently arisen traits that serve to



identify close evolutionary relationships between sister taxa; or unique derived *autapomorphies* that serve to define the taxon as a discrete clade.

By the mid-1980s phyletic gradualism in palaeoanthropology was therefore under attack on two fronts. On one front, new evidence had cast very serious doubt on a Neanderthal ancestry for modern Europeans, and promoted a phylogeny in which living people were descended from a speciation event in the African late Middle Pleistocene. On another front, it was under threat from cladistics, which rejects both species as variable populations and evolution through cumulative change in an unbranching lineage. Palaeoanthropology's response was to abandon phyletic gradualism. By the late 1980s Klein (1989, 414–16) was explicitly adopting a cladistic position on hominin classification. Membership of *Homo sapiens* was restricted to living people and their recent Pleistocene African ancestors; the Neanderthals were expelled and returned to their original status as a separate species, *Homo neanderthalensis*. The poorly defined 'archaic' *Homo sapiens* was abandoned as a term, at least for non-African specimens, and its former members distributed somewhat contentiously among species including *Homo heidelbergensis* and *Homo rhodesiensis*. As large-brained but anatomically archaic specimens formerly attributed to *Homo sapiens* were hived off into separate species, out with them went the possibility that archaic and modern humans were not essentially different from one another.

But what unique derived autapomorphy defines the new, exclusive *Homo sapiens*? Neanderthals are readily defined by a suite of unique skeletal traits, but the same cannot be said of ourselves. Many apparently distinctive traits, such as reduced and bipartite brow ridges, are variably expressed, and in any case reflect a secondary loss of skeletal robusticity in recent *Homo sapiens*. Early specimens are hardly less robust than Neanderthals. Traits such as the canine fossa and the cranium's pentagonal profile in rear view distinguish *Homo sapiens* from Neanderthals, but not from the early African species *Homo ergaster* (Klein 1999, figure 5.17). We are left with the unique possession of a chin or mental trigone as our species' most reliable defining anatomical feature, and even that is absent in three of the early *Homo sapiens* specimens from Skhul (Schwartz and Tattersall 2000).

**Summary** The rise to dominance of the symbolism paradigm should be seen in this specific historical context. Biological anthropologists, of course, must deal with anatomical (and, increasingly, palaeogenetic) evidence when delineating *Homo sapiens*. But for palaeolithic archaeology the issue at stake has been the evolution of modern human behaviour. In the course of the 1980s the new dispensation – the collapse of phyletic gradualism, the reconfiguration of *Homo sapiens* as a clade founded in a recent African singularity, the cladistic requirement for species to be essential kinds distinguished by unique autapomorphies, a persistent Eurocentrism that regarded the European Upper Palaeolithic as a universal template for modernity, and a confident phalanx of American practitioners trained in or exposed to cultural anthropology – led palaeolithic archaeology towards the trait list, and towards its supposedly most robust element, symbolism, as the defining property of the modern

human being. In terms expressed by Kuhn and Stiner (2006, 968), symbolism has come to be seen as 'a uniquely derived and culturally universal' feature of *Homo sapiens* behaviour. The symbolism = modernity orthodoxy tells us that we can define ourselves in terms of our unique mind and its special products, symbols. *Homo sapiens* has become 'man the symboler'.

### Discussion and conclusion

The hegemony of symbolism in current palaeoanthropological thinking about ourselves and our evolutionary origin is very deeply entrenched. The consensus on this question has transcended otherwise serious differences over the process and pattern of modern human origins and discouraged critical discussion of what symbols and symbolism are, how they might be deployed in practical life, how they are actively entangled in webs of action and being, and how they might be visible to archaeologists.

But there is no escaping the deep fissures in the edifice of symbolism. It is internally contradictory and prone to double standards. Most seriously, it is riven with pervasive but unexamined dualisms that refer the modern and the archaic, the symbolic and the functional, the cultural and the natural, the meaning and the object, to separate realms of being. The realm of the modern human, minded, cultured and meaningful, is reserved for ourselves alone. As a unique defining trait of *Homo sapiens*, symbolism becomes a weapon in the struggle to exclude the other from this realm of being, from which we stride into the world of object nature and impose upon it our whimsical designs, as did our first modern human ancestor. Symbolism has become a palaeoanthropological origins myth.

Perhaps I exaggerate. McBrearty and Brooks (2000) and Coolidge and Wynn (2007) both accept that modern culture and symbolic expression developed slowly and fitfully, and did not spring into existence ready formed. But McBrearty and Brooks possibly, and Coolidge and Wynn (2007, 710) certainly, see this slow gestation of modern symbolic culture as having been conceived in an all-or-nothing mutation that enabled, whether directly or indirectly, symbolic cultural behaviour; it simply took culture some time to develop once a creature capable of bearing it came into being. The dualism remains unchallenged.

It is my earnest hope that the Neanderthals will rescue us from the hole we seem to have dug for ourselves. The accumulating evidence for Neanderthal symbolism might, in the short run, lead to their recognition as modern humans, but in the long run the very notion of the symbolic modern human being cannot hold if those it was designed to exclude succeed in gaining entry. What is more, while genetic studies of population history in the 1980s and 1990s pushed the Neanderthals out of *Homo sapiens*, now the same science finds that living non-Africans carry small but significant levels of Neanderthal DNA in their chromosomes (Green *et al.* 2010), and that Melanesians today derive an important part of their genetic ancestry from an enigmatic non-modern people known only from DNA extracted from an undiagnostic human bone from Denisova Cave, Siberia (Reich *et al.* 2011). If Neanderthals and perhaps 'Denisovans' behaved like us and had children with us, then surely they are 'us', at least in palaeoanthropological terms.

But if everybody is modern then nobody is modern. The term loses all utility if it cannot distinguish between the 21st century and an early Neanderthal 300,000 years ago. Symbolism as the supposed core character of modernity has lost any power it might have had to illuminate changing ways of life and modes of being in deep human history. The future for palaeoanthropology must instead lie in abandoning the very notion of modernity as essentialist and ahistorical, eschewing the self-serving conviction that we enjoy a special evolutionary status, and turning instead towards an exploration of the diversity of lived lives in our evolutionary past.

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