

Review

## Pleistocene Paleoart of Europe

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**Abstract:** As in Australia, Pleistocene rock art is relatively abundant in Europe, but it has so far received much more attention than the combined Ice Age paleoart of the rest of the world. Since archaeology initially rejected its authenticity for several decades, the cave art of France and Spain and the portable paleoart from various regions of Europe have been the subjects of thousands of studies. It is shown, however, that much of the published information is unreliable and subjective, and that fundamental trends in the evidence have been misunderstood. In particular, the data implies that the paleoart of the Early Upper Paleolithic, the work of robust humans such as Neanderthals, is considerably more sophisticated and developed than that of more recent times. Thus, the European paleoart demonstrates that the teleological model of cultural “evolution” is false, which is to be expected because evolution is purely dysteleological. This is confirmed by the extensive record of pre-Upper Paleolithic European paleoart, which is comprehensively reviewed in this paper.

**Keywords:** rock art; portable paleoart; Pleistocene; bead; pictogram; petroglyph; Europe

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### 1. Introduction

This is the final paper in a series listing the known Pleistocene paleoart of the world, beginning with Africa, the presumed cradle of hominids several million years ago (Bednarik 2013) [40]. That first paper of the series began with the observation how strange it is that, although this form of evidence is significantly more common elsewhere, it is Europe that most people first think of when the subject of paleoart is raised. This is perhaps because the number of publications about European paleoart is so great that they exceed the number of actual instances of it, whereas the topic of Ice Age paleoart in the

rest of the world has received almost no attention. Prior to the present series, there were only two published papers reviewing this issue in the much greater continental Asia on a pancontinental basis, none for Africa, one for Australia, and none considering the Americas continent-wide. Such an incredible imbalance would be unthinkable in any scientific endeavor—say, in a field such as plate tectonics or climate change—yet in an important field such as studying evidence of memory storage outside the hominin brain, the focus has been entirely on one small continent. The main significance of paleoart, after all, is that it represents practically all surviving exograms (Bednarik 2014) [42]. Such an important subject needs to be pursued in the most balanced fashion, and the distortion it has suffered for over a century inspires no confidence in the relevant findings or methods of enquiry.

One may protest that it was in fact in Europe that the Pleistocene antiquity of humans or some paleoart was initially recognized. However, it is true that the first protagonists of such ideas, from Jacques Boucher de Crèvecœur de Perthes (1788–1868) to Don Marcelino Santiago Tomás Sanz de Sautuola (1831–1888), were universally rejected by archaeology for decades. The eventual grudging acceptance by the gatekeepers of hominin history (Cartailhac 1902) [56] was soon followed by great research efforts lavished on the Franco-Cantabrian cave art and the Upper Paleolithic portable “art”, generally in a Eurocentric pattern. The primary role of archaeology in serving their nation states is to help create the myths that explain their origins (Trigger 1984, 1989; Kohl and Fawcett 1995; Bednarik *in press*) [162,163,110,44]. The notion that art was invented in Europe is readily plausible within a colonialist perception of the world. Thus began the depreciation of paleoart by explaining it within the simplistic reference framework archaeology was capable of comprehending, essentially as art or as symbols, without proof that it was either. As its study was appropriated in the service of reinforcing European cosmovision and ideology, prospects of scientific investigation were retarded for much of the 20th century. Thus, the study of the most important evidence of how hominin cognition evolved came to be dominated by a humanist program dedicated to inventing origins myths.

The archaeological myth that paleoart began in Europe, that small appendage of Asia, is reflected in a number of ways; for instance, there are numerous European Ice Age rock art sites on the UNESCO World Heritage List, outnumbering all other types of cultural properties on it. Although the actual number of Pleistocene rock art sites is far greater in the rest of the world, not a single one has ever been nominated for listing. The myth is also reinforced through countless school and university curriculums and is so deeply embedded in the world’s archaeo-lore that it dominates humanity’s thinking about cultural origins. The main role of the rock arts of other continents seems to be to provide ethnographic analogies for European, especially Upper Paleolithic rock art. Therefore, the task of extracting from this vast and largely mythological edifice any elements that constitute reliable empirical data is by no means an easy task, because so much information is tainted by preconceived expectations and dogma. The logical way to proceed is to review the relevant evidence critically and skeptically, in the same way this author has approached it in Africa, Asia, Australia and the Americas. That will be attempted here, applying a basic chronological framework.

It may be useful to clarify the underlying rationale of this paper, and of the whole series it concludes. “Paleoart” is the collective term describing all art-like manifestations of the distant past (Bednarik *et al.* 2010) [45], and is best defined as the corpus of surviving evidence of ancient exograms. To treat it as art is not warranted, because that term derives from an ethnocentric concept: “the status of an artifact as work of art results from the ideas a culture applies to it, rather than its

inherent physical or perceptible qualities. Cultural interpretation (an art theory of some kind) is therefore constitutive of an object's arthood" (Danto 1988) [67]. It would be preposterous to contend that modern (Westernized) humans could fathom the ideas culture applied to paleoart tens of millennia ago. They cannot even establish the status of recent ethnographic works (Dutton 1993) [82] with any objective understanding: interpretation is inseparable from the art work (Danto 1986: 45) [66]. Moreover, archaeology has developed an all-pervasive perception that paleoart was symbolic (involving referent and referrer). Perhaps it was, or some of it was, but before proclaiming this it would need to be demonstrated by scientific testing—which it has not been. Therefore, even the most fundamental assumptions archaeology makes about paleoart are false. This is before the mispronouncements, mis-datings, mis-attributions, misidentifications and the overwhelming lack of a credible narrative are considered. As a more viable alternative, here paleoart is treated as surviving traces of exograms: externalized memory traces akin to engrams (Bednarik 1987, 2014; Donald 1991) [16,42,77], which places a very different epistemological framework on the evidence. One of the more immediate effects is that the question, is anything art, becomes as irrelevant as it should always have been, having no scientific merits.

As in the previous papers of this series (on Africa, Asia, Australia and the Americas), paleoart will be presented in specific classifications, such as rock art, presumed beads and pendants, engraved or notched portable objects, pigment use, manuports, figurines, rock art, and a new category, objects thought to be "deliberately deposited".

## 2. Lower Paleolithic Paleoart

To begin with, no credible evidence of Lower Paleolithic rock art has ever been offered from Europe. In contrast to Africa and Asia, there are also no figurines or proto-figurines from that period, nor any relevant manuports, and the instances of pigment utilization are comparatively small in number. Already at this point the notion that "prehistoric art", whatever that jargon term is intended to mean, first arose in Europe begins to look questionable.

Purported proto-sculptures such as the 6-cm-high flint nodule Isaïe Dharwent (1906, 1913) [75,76] collected in or before 1902 in northern France, probably from a Middle Acheulian level, are not widely accepted. The same applies to Boucher de Perthes' (1846) [47] hollow flint nodule, from the Final Acheulian of the Somme valley and now in the Musée des Antiquités Nationales de Saint-Germain en Laye. However, these early finds have spawned a cottage industry of finding and curating proto-figurines supposedly of that period, spanning northern France, Holland, England and northern Germany, *i.e.*, where flint-bearing chalk deposits are common, and where thousands of supposed examples have been reported. A typical case is Gross Pampau near Hamburg, where numerous specimens were collected, but the site lacks any archaeological occupation evidence. Claims of these assemblages being paleoart seem to be based generally on pareidolic recognition of iconographic aspects of often unmodified stones. Flint nodules, especially, tend to have rather suggestive shapes, but the great bulk of this material seems to be illusory. Similar stones are being collected due to their pareidolic effects in many other parts of the world and this author has examined literally thousands from locations lacking evidence of human activity. Unless these claims are backed by accompanying assemblages of lithic artefacts and human modification of the natural stones can be demonstrated, or it

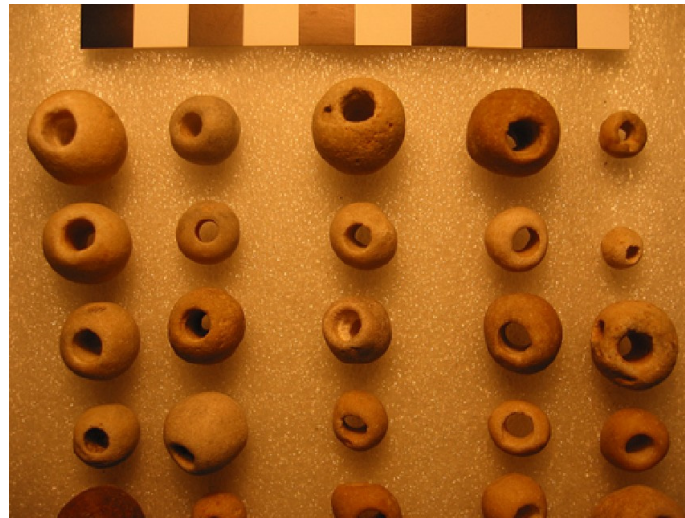
can be shown that hominin agency must have been involved in the presence of exotic materials at a particular site, these almost countless propositions remain devoid of supporting evidence. Their sheer number renders it difficult to focus on any promising component.

Another problem is with objects that are typologically authentic, but their “artistic” component may not be of anthropogenic origin. For example, a hand-axe from l’Observatoire, Monaco, bears linear, deeply cut reticulate markings that appear to be artificial. The accompanying industry is a Middle Acheulian without Levallois technique (de Lumley 1976: 834, Figure 12.5) [120]. However, examination of the object shows that the grooves are of a purely geological nature. Another hand-axe, this one from the Lower Paleolithic of West Tofts, Norfolk, Britain (Oakley 1981) [137], bears a distinctive fossil cast of a shell on one face. It has been suggested that the tool was intentionally knapped around the prominent fossil, in which case it would not necessarily be symbolic, but would be exogrammatic. Unfortunately, there is no proof of intentionality; the inclusion of the cast could reasonably be fortuitous. The same applies to an Acheulian round-scraper from Saint-Just-des-Marais in France that has been fashioned on a silicified sea-urchin (Kuckenburger 1997: 293) [111].

Lower Paleolithic use of coloring material includes the several faceted fragments among 75 pieces of red, brown and yellow, fire-treated limonite, in the Acheulian of Terra Amata, France, c. 380 ka (380,000 years) (de Lumley 1966) [119]. A 33-mm-long hematite fragment excavated from the Acheulian of Bečov, Czechoslovakia, bears striations on both sides and the distribution of hematite powder near it suggests that its removal occurred *in situ* (Marshack 1981) [123]. Another rubbed hematite piece has been found at a site in Achenheim, France, and was used about 250 ka ago (Thévenin 1976) [160]. Hematite remains excavated with lithics at Maastricht-Belvédère, Holland, must have been transported some distance and were deposited about the same time (Roebroeks *et al.* 2012) [150]. Then, there is the apparently shaped slab of ochre Howell (1966: 129) [104] reported from the major Acheulian site of Ambrona in Spain.

Whereas pigments are not as common from the Lower Paleolithic of Europe as they are in Africa (Bednarik 2013) [40], Europe is better represented in the incidence of a particularly important class of early exograms, beads and pendants. Among the earliest are the numerous perforated *Porosphaera globularis* fossils from a series of French Acheulian sites, including Les Boves near Amiens; from St. Acheul; the Loire River; Soissons near Aisne, Picardie; and from near Paris (Bednarik 2005) [26]. These were collected practically since stone tools began being gathered by Boucher de Perthes (1846; *cf.* Prestwich 1859: 52) [47,144], although misidentified until 2005 (Figure 1). Another 252 specimens of the same species were collected in England, most of them in the Biddenham quarry at Bedford (Smith 1894: 272–276) [155]. It has been suggested that these several hundred Acheulian beads might be natural accumulations (Rigaud 2006–2007; Rigaud *et al.* 2009) [146,147] but this is illogical, because in a natural sample of these fossilized sponges only about a quarter of them is reasonably close to spherical in shape; most would be outside the size range of the beads; and not a single one would have a tunnel with two openings (Neumann *et al.* 2008) [136]. It is therefore impossible to explain the clustering at archaeological sites of specimens that are spherical and possess central perforations. Moreover, many of them show traces of working and, more importantly, extensive wear from having been assembled on a string for long periods of time (Bednarik 2005) [26].

**Figure 1.** Perforated *Porosphaera globularis* fossils from the Acheulian of Biddenham quarry at Bedford, England.



Two other beads or pendants from Europe are a wolf incisor (Figure 2) and a triangularly shaped, pointed bone fragment that are both expertly drilled at one end, from the Repolust Cave in Styria, Austria (Mottl 1951) [132]. The 2000 accompanying stone tools have been variously defined as Levalloisian, Tayacian, and Clactonian, but are best regarded as a handaxe-free undefined Lower Paleolithic industry. They are from two layers below an Aurignacian horizon, separated from it by substantial stadial sediments. The assemblage is undated but on the basis of the phylogeny of the bear remains seem to be in the order of 300 ka old. The perforations are attributed to animal gnawing by d’Errico and Villa (1997) [73].

**Figure 2.** Wolf incisor, drilled at its root, 36 mm long, from a Lower Paleolithic occupation layer in Repolust Cave, Styria, Austria.



Several engraved portable objects have been excavated at European sites and attributed to the Lower Paleolithic. The earliest are two marked bone fragments from Kozarnika Cave, northwestern Bulgaria, a bovid bone 8 cm long with about 10 grooves (Figure 3), and a cervid bone fragment bearing 27 notches along an edge. Found in early 2004, together with many proto-Levallois and small bifacial stone implements, a human molar and a 10-cm human cranial fragment, paleomagnetic orientation implies an age of between 1.1 and 1.4 million years. However, these finds and their dating



are in need of independent verification as they predate any similar occurrences by a great margin. Much more secure are the status and age of the several engraved objects from Holstein interglacial deposits of the Steinrinne near Bilzingsleben in Germany (Mania and Mania 1988) [129]. Sometimes described as being in the order of 300 ka old, they are probably somewhat older (the corresponding marine isotope stage 11 is from 424–374 ka ago; Lisiecki 2005) [118] and were found on extensive living floors of robust hominins retaining significant erectine features. At least two of four engraved bone objects derive from the long-extinct forest elephant (*Palaeoloxodon antiquus*). The four bone fragments feature a variety of deliberate arrangements, as demonstrated by lasermicroscopic study (Steguweit 1999), of linear grooves made with stone tools (Figure 4). The site has also yielded a broken polished ivory point and a quartzite slab, both of which bear arcuate markings (Bednarik 1995) [21]. A forest elephant vertebra found at Stránská skála, Czech Republic (Valoch 1987; Bednarik 1995) [168,21], bears a series of evenly spaced, radiating engraved incisions that are probably also intentionally made and may be of an age similar to that of the Bilzingsleben series. From France comes another bone fragment, probably of a horse, that bears 10 regularly spaced cuts along one edge. It was found in the Upper Acheulian of Sainte Anne I, at Polignac, Haute-Loire, France (Raynal and Séguy 1986; cf. Crémades 1996) [145,64]. However, the markings on a bovid rib excavated in the Acheulian of Pech de l’Azé, France (Bordes 1969; Marshack 1977) [46,122] are probably not anthropogenic as has been suggested.

**Figure 3.** Bovid bone fragment bearing 10 grooves, Kozarnika Cave, Belogradchik, Vidin region, Bulgaria, from a handaxe-free tradition 1.1–1.4 million years old.



**Figure 4.** Deliberate engravings on a tibia fragment of the forest elephant from the major Lower Paleolithic occupation site near Bilzingsleben, north of Erfurt, Germany; one of several engraved pieces from the living floor of the Holstein interglacial.



### 3. Middle Paleolithic Paleoart

With the gradual introduction of the Middle Paleolithic technocomplexes, notably the Micoquian and the various types of Mousterian, the volume of known paleoart in Europe increased significantly. Suggestions of pigment use remain rare, compared to southern Africa, as do reported manuports. Jullien (1965) [107] has reported the discovery of human incisors found with red ochre from the Mousterian at Pinar, France. Red pigment was apparently used in the Mousterian burials of the type site Le Moustier and La Chapelle aux Saints. The polished dentine “plaque” made from a mammoth molar found at Tata, Hungary (Vertés 1964; Marshack 1976; Davidson 1990) [172,121,68] bears faint traces of red ochre, suggesting that it was covered with pigment in the Mousterian, c. 50 ka ago. The Mousterian layer E, over 50 ka old, of the substantial occupation site Cioarei Cave in Romania has provided significant quantities of ochre and eight containers to prepare pigment, made of upper parts of stalagmite crust (Cârciumaru and Tutuianu-Cârciumaru 2009) [55]. Of interest is also a manuport, a piece of iron pyrite from the Mousterian of Arcy-sur-Cure, France (Leroi-Gourhan 1967: 39) [116].

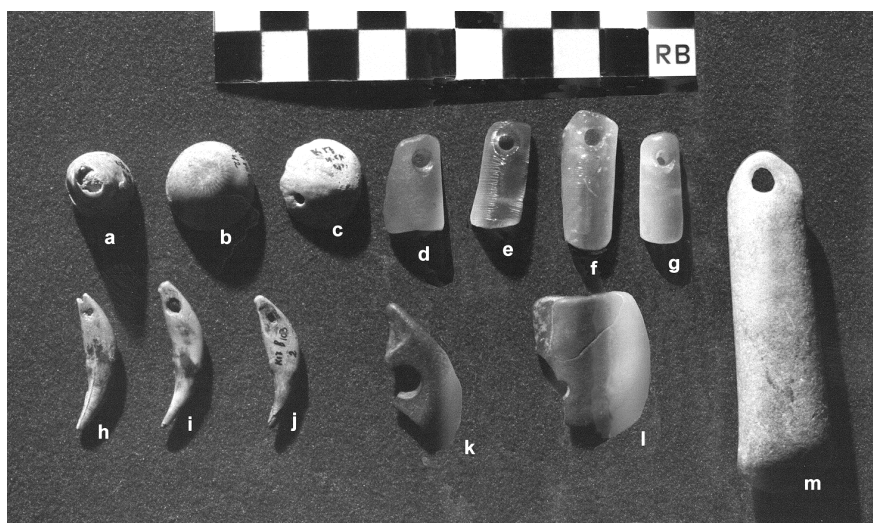
Perforated artefacts that served as beads or pendants are numerous from Middle Paleolithic contexts. The Micoquian tool tradition, which is intermediate between the Acheulian and the Mousteroid conventions, has yielded numerous examples. Among them is a collection of 111 perforated phalanges of the saiga antelope (*Saiga tatarica*) from Prolom 2 in the Crimean peninsula. Although no proof has been provided that the modifications are anthropogenic, the sheer number of specimens seems to exclude a natural explanation (Stepanchuk 1993) [158]. The site has also provided the perforated ear bone of a cave bear (*Ursus spelaeus*) (Marshack 1991) [124], besides three engraved objects. Marshack also reported several naturally perforated bone fragments from the Micoquian of the Bocksteinschmiede in Germany (Narr 1951) [134] that may have been used as pendants. In respect of two bones, Marshack has demonstrated that perforations Davidson (1990) [68] claims to be the product of gnawing were made by humans. One of these 110-ka-old artefacts is a wolf vertebra, the other a wolf metapodium (Marshack 1991) [124].

The explanation of anthropogenic modifications of bone objects as being the result of gnawing or the action of stomach acids is frequently cited by advocates of the refuted replacement hypothesis (“African Eve”) who are dedicated to rejecting any evidence of paleoart prior to what they claim was the colonization of Europe by southern Africans at the beginning of the Upper Paleolithic. Although their hypothesis has become an absurdity (for one thing, the more than 20 recognized Early Upper Paleolithic (EUP) tool traditions were by Neanderthaloid or partially robust people, not by any “invading Africans”; Bednarik 2007, 2008, 2011) [30,31,36], it is illuminating to consider their arguments concerning specimens such as the Mousterian bone flute from Divje babe I, Slovenia (Turk *et al.* 1995; Turk 1997; Turk and Dimkaroski 2011) [165-167]. Although it has a two and a half-octave compass that extends to over three octaves by over-blowing and its nicely circular holes are clearly not made by compression, the object was explained away as the result of animal gnawing by several replacement advocates (d’Errico and Villa 1997; Chase and Nowell 1998; d’Errico *et al.* 1998, 2003) [73,57,74,72]. Any tubular bone fragment with regularly spaced, circular holes from an Upper Paleolithic deposit is inevitably presented as a flute, but when an identical object is from a Middle Paleolithic layer it will be rejected, like many other “unwelcome” finds, by any means. Indeed, it was even suggested that the Divje babe I bone flute is really from the Aurignacian (Brodar 2008) [51]—a

pointless argument as that tool tradition is also by robust humans. Similarly, the partly perforated fox canine from the Mousterian of La Quina, France (Martin 1907–1910; Marshack 1991) [125,124] has been rejected after a superficial examination (through glass) by Davidson (1990) [68] who suggested that the partial perforation is the result of animal chewing, though he admits that “why an animal would chew a tooth is less obvious!” Moreover, the positioning of the hole centrally in the root is fully consistent with Paleolithic perforation of animal canines and incisors and would always be considered anthropogenic in Upper Paleolithic contexts.

Other pierced bone fragments from the Mousterian of France include a specimen from Pech de l’Azé (Bordes 1969) [46], and a perforated reindeer phalanx from La Quina (Martin 1907–1910; Marshack 1976) [125,121]. The Spanish Mousterian has provided perforated phalanges and a perforated cranial fragment from Lezetxiki (Baldeon 1993) [13]. Two small objects with holes are from the Mousterian of Fontmaure in France, one a fossil cast, probably a crinoid, the other a naturally perforated limestone concretion. The opening of the first specimen appears to have been enlarged, at least from one side. Two incomplete, perforated canines found in level 11 of Bacho Kiro, Bulgaria, are from a transitional, late Middle Paleolithic or Proto-Aurignacian tradition (Marshack 1991) [124]. The drilling area of one of them was prepared by repeated surface incision. There is also a spindle-shaped bone pendant from the same level 11. Of perhaps roughly similar age are 13 perforated objects from the lower occupation layer at Kostenki 17, on the west bank of the Don River, Russia (Praslov and Rogachev 1982; Marshack 1991; Bednarik 2008: Figure 5) [143,124,32]. They are from below the Campanian Ignimbrite tephra stratum, soundly dated at 40,012 years BP, and include three polar fox canines, three gastropod shells, four fossil objects of amber color and three stone objects, including one large, elongated and well-made pendant. All holes are distinctly conical or bi-conical in section, and the rotation marks are clearly visible, often to the naked eye. In the hole of the large pendant, even the wear of the suspending string is clearly discernible (Figure 5). It is to be noted, however, that pendants were often not perforated, but simply tied to the supporting string, usually with the help of an incised groove.

**Figure 5.** Thirteen pendants from stratum 2 of Kostenki 17, a >40-ka-old Spitzinian occupation: three polar fox canines, three perforated gastropod shells, four belemnite fragments and three stone objects; all probably the work of Robusts.





Another class of exogram of the European Mousterian comprises several circular objects, such as a shaped circular limestone disc from La Quina, France (Henri-Martin 1947) [103]. A particularly complex example is the partially translucent fossil nummulite excavated in Tata, Hungary (Vertés 1964) [172]. It is decorated by two lines forming a symmetrical cross. Marshack has shown that the cross visible on both sides of the fossil consists of one natural fracture and engraved lines on each face at right angle to the fracture. From the same deposit comes the finely polished and beveled, elongate plaque made from a lamella of a mammoth molar mentioned above (Vertés 1964; Marshack 1976) [172,121] (Figure 6). Of considerable interest is the circular sandstone pebble with central groove and two cupules from the Mousterian of Axlör, Spain (Barandiarán 1980) [14]. It brings to mind the much earlier cupules in Africa and Asia, and those at La Ferrassie (see below).

**Figure 6.** Both views of a polished and beveled lamella of a mammoth molar, formerly coated in ochre, from the Mousterian deposit of Tata, Hungary.



The Middle Paleolithic of Europe has also produced numerous portable engraved objects. Three bone fragments found with Micoquian stone tools in the Kiesgrube Oldisleben 1, Artern County, Thuringia, Germany, are of particular interest. On one scapula fragment appears an arrangement resembling a human stick figure, in which case it would represent the oldest known figurative depiction in the world (Figure 7). Another bears two sets of sub-parallel incisions totaling 21 grooves, suggestive of the same marking strategy as evident on one of the Bilzingsleben artefacts found only 10 km away, but significantly older (Bednarik 2006) [28]. The third bears eight parallel lines, made very deliberately by repeated tool applications. Also of the Micoquian are three engraved items found in Prolom 2 Cave, Crimean peninsula, featuring sets of convergent lines (Stepanchuk 1993; Bednarik 1995) [158,21]. One is a modified first phalanx of *Saiga tatarica* bearing seven lines, another a triangularly shaped bone splinter bearing two lines, while the third is a horse canine decorated with four deep grooves.

Further specimens from German sites have not been attributed to a particular tool industry, but are likely to be Middle Paleolithic. The bone artefact with a series of cuts from Taubach near Weimar is of the Eem Interglacial (Moog 1939; Kuckenburger 1997) [130,111]. A fragment of a mammoth tusk with a

set of well over 20 short, obliquely cut notches from Wyhlen near Lörrach is Rissian (Moog 1939) [130] but has disappeared at the end of World War 2, and may even be from a Lower Paleolithic context. Several French engraved or notched specimens are of the Mousterian. They include eight apparently intentionally notched bone fragments from the Mousterian of Abri Suard, Le Chaise-de-Vouthon, Charente (Duport 1960; Debénath and Duport 1971; Crémades 1996) [81,69,64] and other objects from Petit Puymoyen and Montgaudier listed by Débenath and Duport (1971) [69]. Then there is the bovid right mandible with nine regularly spaced engraved lines, crossed by another six lines of different length, from the upper of two Mousterian occupation layers in Peyrere 1 Cave, also called Noisetier Cave, near Arreau, Aure valley, Hautes-Pyrénées (d’Errico and Allard 1997) [71]. A bovid shoulder blade with long parallel lines has been recovered from the Mousterian of La Quina (Martin 1907–1910; Marshack 1991) 125,124. One of the Neanderthal graves in the Mousterian of La Ferrassie has yielded a small bone with several sets of parallel engraved lines (Capitan and Peyrony 1921; Marshack 1976) [54,121]; and Abri Blanchard has provided three engraved bone fragments of the final Mousterian.

**Figure 7.** Apparently iconographic engraving on bone, from Oldisleben 1, near Halle, Germany, from a Micoquian context of the last Interglacial.



Similar finds elsewhere include five engraved bone pieces and a bone retoucher with numerous incised lines from the Mousterian of Tagliente shelter, Italy (Leonardi 1988) [112]. A utilized bone fragment with a series of five barb-like, incised marks from Cueva Morín, Spain is also of the Mousterian (Freeman and Gonzalez Echegaray 1983) [92]. The same deposit yielded a rib fragment with paired line markings, and it should be noted that the quality of “paired-ness” is found in many very early markings. The engraved bone objects from level 18c in El Castillo, Spain (transitional Mousterian/earliest Aurignacian, c. 40 ka), comprise the fragment of a bone chisel with three series of incised lines, a fragment of a deer metapodial with three deeply incised grooves, and a flat bone fragment with painted lines resembling a horse head. There are also two decorated bone fragments from level 18b of that site (Cabrera Valdés *et al.* 2006) [53]. Huyge has shown that the serrations on a fragment of a mammoth bone, Mousterian, Schulen, Belgium (Huyge 1990) [105], were made with stone tools, and that the transverse incision at the top may have facilitated snapping the bone along a predetermined line. Prominent polish on the created projections is interpreted as suggesting that the artifact was a musical instrument, a notched rasp. The Mousterian of Bacho Kiro in Bulgaria, a cave that has also yielded earlier exogrammatic finds, has produced an engraved object, a pointed bone piece bearing deeply cut zigzag patterns (Figure 8). However, the various patterns Frolov (1981) [93] has described on a mammoth shoulder blade of the Mousterian of Molodova, Russia, are probably natural, taphonomic features, perhaps drying cracks and other alteration phenomena. Similarly, we consider the several grooved bear teeth Gautier (1986) [94] has recovered from the Mousterian of Sclayn, Belgium, to be marks caused by silica-rich plant diet, such as grasses, which the dentation was not adequately suited for. The extensive markings on a Micoquian horse tooth excavated at Neumark-North near Halle, Germany, are considered to be heat fractures by the author.

**Figure 8.** Bone fragment bearing engraved zigzag patterns, from the Middle Paleolithic of the vast cave Bacho Kiro near Dryanovo in central Bulgaria.

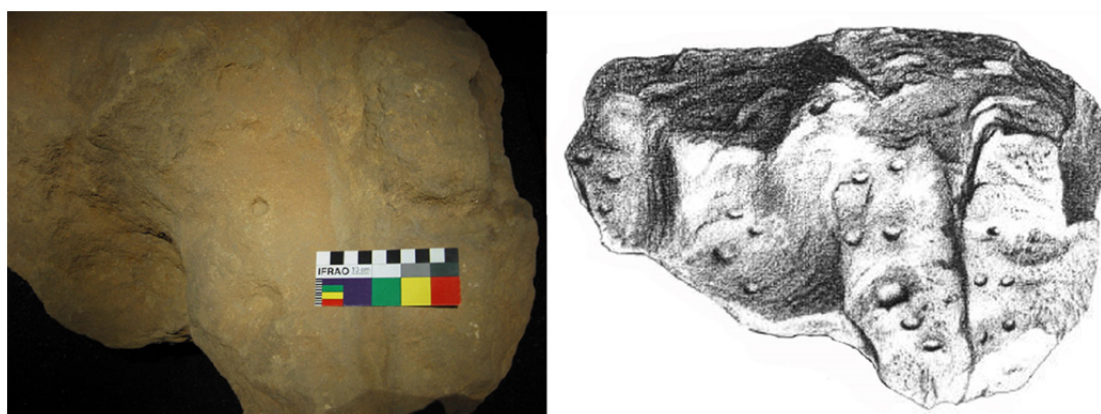


Other materials besides bones and teeth have also been engraved by hominins of Middle Paleolithic tool traditions. Particularly extensive are the incisions on a small schist plaque, about 50–60 ka old, from Temnata Cave near Karlukovo, Bulgaria (Crémades *et al.* 1995) [65]. It bears some 43 parallel markings, which have been subjected to internal analysis. They are certainly anthropogenic, whereas this is not assured for the markings on a limestone pebble from Grotta dell’Alto, Italy (Leonardi 1988) [112]. Leonardi has also described three flint flakes with possibly engraved lines and a limestone cobble with intentional engravings from the Mousterian of Tagliente Shelter, Italy; and another flint flake with possible engravings from Solinas Shelter (Leonardi 1988) [112]. Further incised pebbles with markings have been reported from the Mousterian of Hungary (Vértes 1965) [173]. A quartzite

pebble recovered from Mousterian level 21 in El Castillo, Spain, bears five very small cupules (Cabrera Valdés *et al.* 2006) [53]. Four are arranged in an evenly spaced row, the fifth is nearby and in the center of the row, evidently an intentional composition. Also relevant here is a Mousterian antler fragment from Grotte Vaufray, Dordogne (Vincent 1988) [174], bearing eight transverse, tool-cut notches of different sizes.

The best-known and almost unique instance of Middle Paleolithic rock art from Europe is the large limestone slab over burial No. 6 of the “Neanderthal” cemetery in La Ferrassie, France (Peyrony 1934) [141]. It bears 18 cupules, mostly arranged in pairs, and was placed with these on the block’s underside above the interment of a robust child (Figure 9). Limestone clasts with traces of brown paint residues were also excavated in the Mousterian deposits of the cave (Kuckenburger 1997) [111]. One limestone block bearing brown, bluish and black paint traces was recovered from the Mousterian of its type site, Le Moustier. Peyrony thought he recognized in them a motif consisting of patches and irregular bands (*cf.* Kuckenburger 1997: 306) [111].

**Figure 9.** The sepulchral slab placed over “Neanderthal” child’s grave in the Mousterian cemetery of La Ferrassie, Dordogne, France.



Although perhaps not qualifying as paleoart, the more appropriate definition of exograms certainly demands the inclusion here of deliberate depositions of cave bear remains, typically skulls and long bones. Such depositions have been reported from caves in many parts of Europe and the practice relates to both the late part of the Middle Paleolithic and the EUP (Early Upper Paleolithic), straddling in effect the artificial divide between the two eras. Among these sites are the Drachenloch (Bächler 1940) [4], Reysersdorfer Cave (Zotz 1939) [175], and especially Veternica Cave (Malez 1956, 1958, 1965) [126–128]. Evidence offered in support for ceremonies involving cave bears includes the striking positioning of 10 bear skulls in the Caverne des Furtins, France (Leroi-Gourhan 1947) [113], and similar finds in the Hungarian caves Homoródalm ser, Istállóskő (Vértés 1951, 1955) [169,170] and Kölyuk Caves (Vértés 1959: 160–162) [171]; in the Salzofen Cave, Austria (Ehrenberg 1951, 1953a, 1953b, 1954, 1956, 1957, 1958, 1959; Trimmel 1950; Schmid 1957) [83–90,164,154], and in Mornova Cave, Slovenia (Brodar 1957: 154–155; Zotz 1944: 29) [50,176]. These early reports were challenged by Cramer (1941) [63], Koby (1953) [109] and Jéquier (1975) [106]. Koby even rejected that the cave bear was hunted, apparently unaware of the extensive evidence to the contrary (Bednarik 1993, 2010) [18,35]. However, recent discoveries have confirmed that crania, mandibles and femora or other long-



bones of cave bears were deposited intentionally. The best-known instance is the skull perched on the edge of the upper surface of a conspicuous, table-like boulder centrally located in the Salle du Crâne, Chauvet Cave, France (Clottes 2001: Figs 202, 203) [58]. This “altar”, a few meters from the magnificent horse panel, is surrounded by 52 further skulls of this species on the floor. In all, there are 190 skulls of *Ursus spelaeus* on the cave’s floor, most of them occurring in conspicuous concentrations relatively free of other skeletal remains. In the vast Salle des Bauges, closer to the entrance, very few bear remains can be seen, but in two cases, about 10 m apart, occur the combination of a cave bear skull with a cave bear humerus. In both instances, the skulls are placed upright, and the humeri have been inserted into the ground perfectly vertically in front of them, at least half submerged in the sediment and precisely aligned with the longitudinal axis of the skull. There are no other bones in the vicinity.

Other recent discoveries are the four skulls arranged in a radial formation on the floor of Piatra Altarului (Altar Cave), one of a system of six caves in the Bihor Mountains in north-western Romania (Bednarik 2007: Figure 5) [30]; two skulls surrounded by ochre stones excavated by Marin Circiumaru from the Mousterian of Cioarei Cave, also in Romania; and one large skull in a “box” formed by stone slabs, clearly man-made, found by Ion Emodi in Igrita Cave, Transylvania. Perforated cave bear mandibles, some with multiple holes, have been reported from several sites, including Veternica and Potočka Caves (Brodar 1938: 153) [49], Drachenloch (Bächler 1940) [4], Mokriška Cave and some sites in Silesia (Zotz 1939: 27) [175]. Bear cults were practiced across the circumpolar region well into historical times (Hallowell 1926) [102] and continue in parts of Siberia today. The Khanty still conduct ceremonies with the skulls and long-bones of bears and preserve these (pers. comm. Andrew Wiget). In view of the extensive evidence from the final Mousterian and the early EUP, it needs to be considered that the deposition and alterations of cave bear bones probably had cultural significance and exogrammatic meanings. Similarly, evidence of utilization of diurnal raptor parts in what seems to be symbolic behavior has recently been reported from the Middle Paleolithic of France and Italy (Morin and Laroulandie 2012) [131].

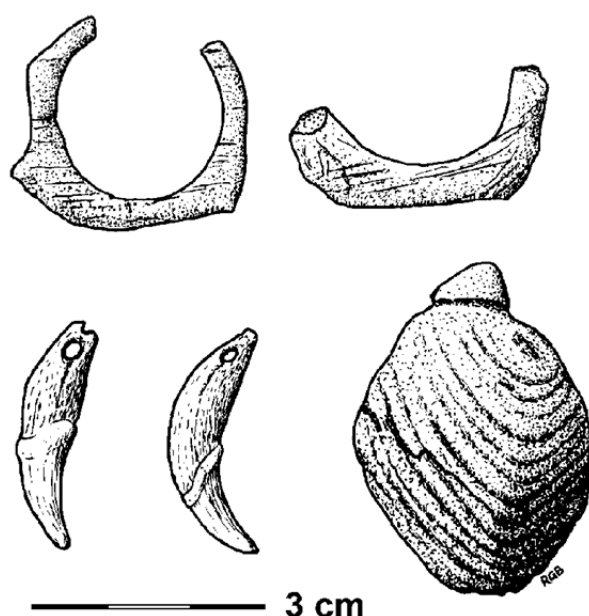
#### 4. Early Upper Paleolithic Paleoart

The EUP (roughly between 45 ka and 30 ka ago) comprises a series of technocomplexes such as the Aurignacian, Châtelperronian, Uluzzian, Proto-Aurignacian, Olshewian, Dufour Aurignacian, Bachokirian, Bohunician, Streletsian, Gorodtsovian, Brynzenian, Spitzinian, Telmanian, Szeletian, Eastern Szeletian, Kostenkian, Jankovichian, Altmühlian, Lincombian, and Jerzmanovician. The discovery in 1979 that the Châtelperronian (previously called the Périgordian) is a Neanderthal tradition has since then presented a conundrum to those who see the EUP as peopled by Graciles (or “Moderns”). Since the late 1980s, the replacement advocates alleviated their discomfort by suggesting that the Châtelperronian Neanderthals must have scavenged the numerous paleoart objects found in their occupation deposits (Figure 10), which shows to what lengths the adherents of a dogma will go when its doctrine is challenged: what would primitive brutes do with purely “symbolic” artefacts? In 1995, we pointed out that there is no evidence that the Early Aurignacian is the work of “anatomically modern humans” (AMHs) (Bednarik 1995a: 627) [21]; by 2007 we proposed that the Aurignacian cave art of Chauvet Cave was created by Neanderthaloids (Bednarik 2007) [30]; and a

few years later we suggested that all EUP traditions, not only the Aurignacian, probably belonged to them (Bednarik 2011) [36]. It would be judicious, therefore, to attribute the paleoarts of all these technocomplexes to more or less robust hominins, who were subjected to gradual gracilization leading to the forms many define as AMHs. Consequently, it is useful to separate the cultures of the Upper Paleolithic into two horizons: the EUP, dominated by Robusts including Neanderthals, and the LUP, characterized by increasingly gracile humans.

Interestingly, there is no fundamental difference in the forms of paleoart of the two periods, and most certainly there is no obvious trend toward greater sophistication. On the contrary, some key indicators imply the opposite. For instance, the Russian Streletsian with its distinctively Middle Paleolithic roots has yielded (from just three graves) about 700 times as many beads as the distinctively Upper Paleolithic Spitznian of the same region; the Aurignacian sculptures of southwestern Germany seem more sophisticated conceptually than the LUP figurines; and the rock art of Chauvet Cave is so magnificent that some commentators still find it impossible to accept its Aurignacian age and prefer to attribute it to the LUP. Clearly, the teleological view of human artistic development, which has dominated all of 20th-century archaeological thought, is not easily displaced. Nevertheless, it is true that the frequency of surviving paleoart manifestations does increase with time. That does not, however, mean that the incidence of paleoart production increased correspondingly: most forms of exograms are greatly affected by taphonomy. Therefore, it is impossible to effectively quantify these phenomena through time without judicious application of taphonomic logic (Bednarik 1994) [20].

**Figure 10.** Some of the jewelry from the Châtelperronian of Grotte du Renne, Arcy-sur-Cure, Yonne, France, made by Neanderthals.



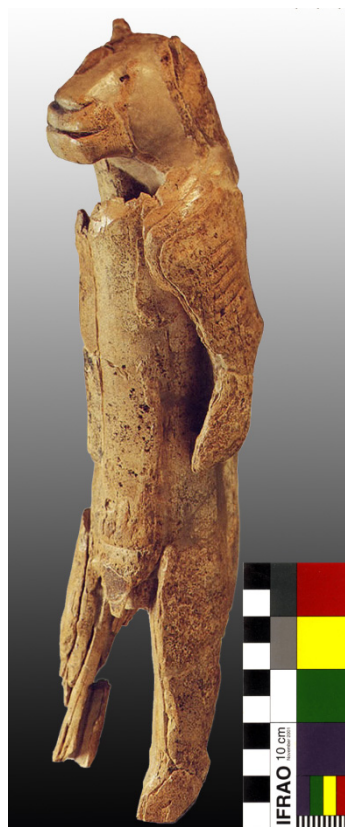
Among the portable objects from the EUP, some show continuities from the preceding late Mousterian, including the fossil crinoid segment from the Châtelperronian of Arcy-sur-Cure, France (Leroi-Gourhan 1971) [116]; or the dense concentrations of powdered red ochre from two circular dwelling remains in Grotte du Renne (Leroi-Gourhan 1961) [114], of the same period and country. The cave El Castillo in Spain has yielded a bone with “graphite” lines suggestive of an animal head, and



another with the probable lower rear quarters of an animal drawn with sharpened manganese, both from the very early Aurignacian (Cabrera Valdes and Bernaldo de Quirós 2004) [52]. Most recently, there have been unconfirmed reports of Neanderthal petroglyphs in Zarzamora Cave (Segovia, Spain). That the many paleoart objects from the Châtelperronian of Grotte du Renne at Arcy-sur-Cure, south of Paris, were used by Neanderthals seems generally accepted now, although some archaeologists still have difficulties accepting that they also made them (Figure 10). They include not only perforated jewelry items, but also grooved pendants (Leroi-Gourhan and Leroi-Gourhan 1964) [117], which as Marshack (1991) [124] points out are not typical for the Aurignacian.

That technocomplex has produced not only a large number of beads and pendants and extensive evidence of pigment use, but also significant quantities of portable “art” and rock art. Mobiliary paleoart attributed to the Aurignacian tool industries include the several ivory figurines from Geißenklösterle and Vogelherd, and the therianthropes found in Hohlenstein-Stadel (Figure 11) and Hohle Fels (Conard *et al.* 2003) [62]. These caves are located in the Swabian Alb of southwestern Germany and until the mid-1990s their iconographic sophistication was considered incompatible with the rock art then known of the same period, 30–35 ka ago. They are matched by the female human sculpture of green serpentine from Galgenberg, north of Krems, Lower Austria, dated to c. 31,800 years BP. Bone flutes of the period come from Abri Blanchard in France and Istálóskő in Hungary. Decorated bone and ivory objects are numerous from the Aurignacian, such as those from Kůlna Cave in Moravia and from numerous sites in Western Europe, and many of the figurative sculptures are also decorated with geometric markings.

**Figure 11.** Ivory therianthrope, combining lion and human elements, 29.6 cm long and about 40 ka old, of the Aurignacian deposit in Hohlenstein-Stadel, Baden-Württemberg, Germany.



The rock art attributed to the Aurignacian until the discovery and prompt dating of the massive corpus in Chauvet Cave, France, consisted of simple grooves and cupules, petroglyph shapes usually regarded as vulvae, and a very few crudely made zoomorphs, suggesting that the rock art had not yet reached the refinement of three-dimensional depiction evident from the sculptures. Examples of this tradition are the limestone clast No. 16 from La Ferrassie, Middle Aurignacian (Bednarik 2008: Figure 30) [33]; another decorated block from the same site (Figure 12); and a smaller block featuring engravings interpreted as part of a zoomorph and ovals, also from La Ferrassie. Then, there is an engraved block from Abri Cellier, also in the Dordogne (Figure 13), together with the presumed horse head and vulva found on yet another, 48-cm-long limestone block, and a clast bearing a large cupule and three “vulvae”, all from Cellier rockshelter. A much larger rock bearing a nearly complete quadruped often described as a possible ibex figure, from Abri Belcayre; a smaller clast with a single “vulva” from Abri Poisson; and several decorated blocks from Abri Blanchard, including at least five bearing “vulvae”, are also attributed to the Aurignacian. In addition, Leroi-Gourhan (1971: Pl. 54) [116] defined the two anthropomorphs deeply engraved into a block from Terme-Pialat, Dordogne, as possibly being of late Aurignacian, but apparently without evidence. Recently, some Aurignacian pictograms (paintings) on rock fragments, possibly exfoliated from cave walls, were also recovered. From Abri Castanet comes a ceiling block bearing red and black pigment markings that is associated with a 37-ka-old deposit. In Fumane Cave, in the Lessini Mountains of the Veneto region, Italy, two Aurignacian painted rock plaques have been excavated recently. Pictograms on actual cave walls of Peña de Candama in Asturias, Spain, have long been attributed to the Aurignacian, and include yellow bovid figures and charcoal dots. The most recently dated new site of presumed Aurignacian cave art concerns a charcoal zoomorph in Coliboaia cave in the Natural Park of Mount Apuseni, Bihor, Romania (Clottes *et al.* 2011) [61]. Another bovid image, drawn with fingers on a soft cave wall in Cueva de la Clotilde in Cantabria, northern Spain, and some other figures in that site have been attributed to the Aurignacian, but only on the basis of style.

**Figure 12.** Engraved limestone block, 56 cm long, from the Aurignacian of La Ferrassie, Dordogne, France.



**Figure 13.** Engraved limestone block, 60 cm long, from the Aurignacian of Abri Cellier, Dordogne, France.



However, the proposition of great antiquity in respect of the cave art in Baume Latrone, Gard, southern France, is supported by empirical evidence. The cave's decorated chamber contains both petroglyphs (as finger flutings and engravings) and pictograms (finger paintings in red clay) (Bednarik 1986) [15]. One of the zoomorphic petroglyphs is of a duck-billed quadruped that has been "identified" as a horse by Leroi-Gourhan (1971: 330) [116]; and first as a saiga antelope, later as an ibex by Drouot (1953: 26; *cf.* 1968: 147, 1976: 158) [78-80]. It is superimposed over finger flutings (Figure 14) that, on the basis of speleo-weathering are roughly four times as old (Bednarik 1986: 34). [15] Drouot regards the image as being of the early Solutrean, but again this is only a stylistic and therefore misleading attribution. There are approximately 10 clay pictograms of what are said to be mammoths, which Clottes (2008: 60) [59] attributes to the Aurignacian (Figure 15). Some of the contours of these zoomorphs were first sketched by shallow incisions that show that at the time the formerly soft panel surface was fully hardened and desiccated. Adjacent traces of finger flutings are from the time the speleothem was still soft, and while the difference in timing is not quantifiable, this adds to the appreciation that the chamber's rock art, 240 m from the cave entrance, spans a great period of time. If the clay figures are of the Aurignacian, the early finger flutings would necessarily be of the Middle Paleolithic. If the zoomorph in Figure 14 is of the Upper Paleolithic, the preceding finger fluting should also be Middle Paleolithic. In a sense, the question is moot because both the Aurignacian and the Mousterian are technocomplexes of robust hominins, such as "Neanderthals" or "post-Neanderthals" (Bednarik 2007) [30]. Recently, some charcoal in the cave has been dated to around 32,740 years BP, but this cannot be linked to any of the paleoart production phases (Azéma *et al.* 2012) [3].

**Figure 14.** Engraving of a quadruped superimposed over much older finger flutings that were probably made in the Middle Paleolithic; more recent markings are also visible. Baume Latrone, north of Nîmes, southern France.





In addition to the many cited examples of archaic-looking rock art of the Aurignacian, the corpus of the best-dated Franco-Cantabrian cave art in Chauvet is arguably also the most sophisticated rock art of the entire Upper Paleolithic. This confirms the identical pattern observed in the mobiliary paleoart of the period: artistic sophistication, in terms of naturalism, movement, production methods and even the apparent depiction of “moving pictures”, of the EUP is not repeated in the more regimented genres of the subsequent LUP. Those who question or reject the attribution of Chauvet to the Aurignacian (Zuechner 1996; Pettitt and Bahn 2003; Pettitt *et al.* 2009) [177,139,140] also need to consider that the small rock art corpus of l’Aldène, at Cesseras (Hérault, France) can only be of the Aurignacian (or earlier) because the decorated passage became closed around 30,300 years ago (Ambert *et al.* 2005; Ambert and Guendon 2005) [1,2]. Oddly enough Pettitt, who rejects the well-established Chauvet chronology, has recently supported (Pike *et al.* 2012) [142] much less credible new claims for the Aurignacian age of several rock art motifs in Spanish caves, using a dating method that may not be reliable (*cf.* Clottes 2012; Bednarik 2012) [60,37]. With his co-authors, he has repeated the proposition (Bednarik 2007; *cf.* Sadier *et al.* 2012) [30,153] that Aurignacian paleoart was made by robust humans.

**Figure 15.** Finger paintings of zoomorphs made with clay on the ceiling of Baume Latrone; the image was taken in 1981, before the traces of vandalism were removed.



The Streletsian is an EUP tool-making tradition of Russia, resembling the Szeletian and marked by bifaces deriving from a local Mousterian (Bader 1978) [5]. At one of its most impressive sites, Sungir, three human burials contained 13,113 tiny ivory beads and over 250 perforated fox teeth. Thus, a typically intermediate industry linking the Middle Paleolithic with the Upper yielded at just one site hundreds of times as many beads as the roughly contemporary Spitzinian in the same region which is regarded as fully Upper Paleolithic (Bednarik 1995: 627) [21]. Moreover, it contained in just three graves, occupying a few square meters, more beads than the number recovered from the *entire* rest of the Upper Paleolithic of the world. Like the extraordinarily complex cave art of Chauvet and other sites and the elaborate figurines of Swabia, this shows that the simplistic teleological understanding of the cultural Paleolithic development is fundamentally mistaken. Moreover, these factors also show persuasively that the exogrammatic culture of the still robust people of the EUP, who included “Neanderthals”, Neanderthaloids or “post-Neanderthals”, was more complex and more artistically sophisticated than that of the following LUP traditions (Gravettian, Solutrean and Magdalenian) as well as the later Azilian and “Mesolithic”.

As mentioned above, numerous other tool traditions have been identified as EUP, and so far only limited paleoart has been reported from them. However, attribution is usually not as secure as one might hope; for instance, the cave art in Coliboaia Cave may well be of one of these many EUP industries rather than the Aurignacian. Finally, the evidence of deliberate deposition of cave bear skulls and long bones from the final Middle Paleolithic, described above, extends clearly into the EUP. It is particularly evident from the Olschewian, a montane Aurignacoid tradition of central Europe specializing in the harvesting of cave bears in their interstadial hibernation haunts (Bednarik 1993) [18].

## 5. Later Upper Paleolithic Paleoart

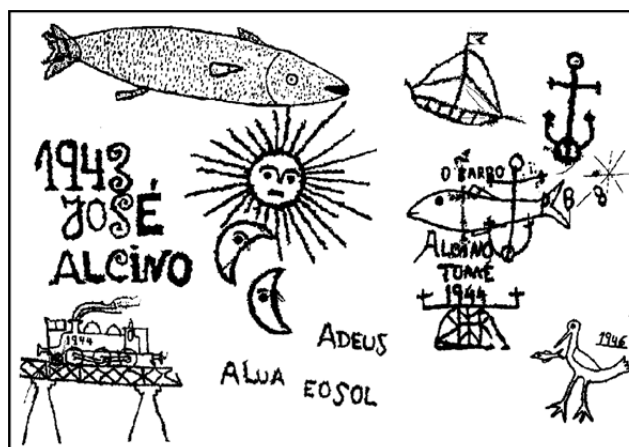
Bouvier (1993) [48] lists 291 sites of Paleolithic rock art in Europe, the majority of which feature LUP paleoart. This does not necessarily imply that the production of rock art increased, because taphonomic logic (Bednarik 1994) [20] would certainly predict such “proliferation”. Bahn and Vertut (1997) [12] expand on Bouvier’s inventory but Bahn’s pronouncements of what is Paleolithic cave art are questionable: in many cases he offers no proof, and in a number of them he is clearly wrong. It appears that he follows the traditional practice of determining Paleolithicity so well defined by Freeman (1994) [91], which resembles the theocracy of certain religious faiths: instances are validated in the same way religious shrines are. While it is undoubted that the number of Pleistocene rock art sites known in Europe is in the hundreds, it is equally true that in the vast majority of cases the sites themselves offer no credible proof of such age, other than stylistic arguments. Not only is this not adequate in the “post-stylistic era” of rock art studies (Bahn and Lorblanchet 1993), it has led to some of the most monumental blunders in rock art research. The obsessive search for Paleolithicity in European rock art is not shared in other continents, despite the clear indication that Pleistocene rock art is much more common there, at least in Australia (Bednarik 2014b) [43]. It coincides with the almost complete absence in all other continents (with some notable exceptions in North America) of fakes of Pleistocene paleoart, whereas in Europe there are thousands of examples of fake paleoart (Bahn and

Vertut 1997: Ch. 6) [12]. A detailed discussion and analysis of this constellation of fakes, mistaken attributions to the Pleistocene and over-promotion of Europe as the “cradle of art” is much needed.

Be that as it may, even a brief review of Bahn’s list of Pleistocene rock art sites in Europe reveals many errors. For instance, he lists the finds from Geißenklösterle (Hahn 1988a, 1988b, 1988c, 1989) [96-99] and Hohle Fels (Hahn 1991, 1994; both claims refuted in Bednarik 2002) [100,101,25], Mladeč Cave (Oliva 1989; refuted in Bednarik 2006) [138,29], and Bycí Skála (refuted in Svoboda *et al.* 2005) [159]. There has never been a credible claim from Cuciulat Cave (Bahn and Vertut 1997: 43) [12], and those from Kapova and Ignatiev Caves in the Urals have also been proposed without scientific support. First questioned by Bednarik (1993) [19], they may no longer be justifiable now that Steelman *et al.* (2002) [156] have provided three Holocene radiocarbon dates from three Ignatievskaya paintings. In fact, there are now no credible claims of Pleistocene rock art from central Europe and almost none from eastern Europe, and those of mid-southern Europe need to be reviewed. However, the most serious and consequential errors occurred in the Iberian Peninsula. None of the numerous sites Bahn accepts from Portugal has provided credible evidence of Pleistocene antiquity, nor have many of those he lists from Spain. This applies in particular to all of the open-air petroglyph sites occurring on schist, *i.e.*, those he describes in his Chapter 9 (“Art in the open air”). For instance, the petroglyphs of the western Spanish site Siega Verde, which “every single European Ice Age art specialist” has identified as Paleolithic (Bahn and Vertut 1997: 132) [12], are certainly of the same age range as the numerous dated inscriptions at the same site. Fluvial erosion indices have shown conclusively that the majority of the images are of the 20th century, centering on about 1925, but some of the “typically Paleolithic” zoomorphs are actually of the 1950s (Bednarik 2009) [34]. Much the same applies to a large series of sites in the nearby lower Côa valley of northern Portugal, where again most of the panels bearing recent petroglyphs only formed in the second half of the Holocene (Figure 16). Although all river terraces there are less than 2000 years old, archaeologists claimed to have excavated Paleolithic occupation floors in them, without providing any reasonable evidence such as radiocarbon dates from hearths or credible stone tools. The obsession of wanting to prove Pleistocene ages has led to many similar pronouncements concerning engravings on open schist sites across Iberia, all of which are based on a singular argument: that the horse, Spanish bull and goat images are stylistically Paleolithic. In this, the proponents ignore that people of recent millennia have often used similar styles. The archaeologists also ignored the villagers near Siega Verde, who told them the petroglyphs were made by shepherds recently; assuring them that the Paleolithic claim would bring much tourism to the region. For that, they even managed to convince UNESCO to place the site on the World Heritage List. This is perhaps the finest expression of what the European Paleolithic obsession can lead to.



**Figure 16.** Selection of petroglyphs from the lower Côa valley, northern Portugal, which are of similar age as the bull and horse images on the same rocks that archaeologists falsely attribute to the Upper Paleolithic.



Bahn, who seems to be both in favor of and opposed to stylistic dating, has also been instrumental in projecting a proposition for Paleolithic cave art in England (Bahn *et al.* 2003; Ripoll *et al.* 2004, 2005) [11,148,149]. It was marred by inconsistencies and errors of description from the start, culminating in the contention that the Church Hole at Creswell Crags features “the most richly carved and engraved ceiling in the whole of cave art”, bearing well over a hundred images (Ripoll *et al.* 2004) [148]. Bednarik’s (2005b) [27] response that most images seemed to be natural features led to the abandonment of over 90% of these “images” (Bahn and Pettitt 2007) [10]. In the meantime, this ill-fated British proposal of Pleistocene rock art prompted a rather weak assertion for one “mammoth” motif in nearby Gough’s Cave (Mullan *et al.* 2006) [133] and it was followed by an even weaker report of a “reindeer” image in an unnamed cave in the Welsh Gower Peninsula (Nash *et al.* 2011) [135].

Even the attribution of some of the French parietal rock art to the Pleistocene is not beyond reproach. For instance, it is often carelessly stated that the Lascaux 600 paintings and 1500 engravings are around 17 ka old, but in reality no rock art in this famous cave has been credibly dated. Although substantially younger charcoal occurred in abundance in the cave, and often together with ochre, it was assumed without good reason that all the “art” relates to the earliest charcoal found. Not only is this quite unlikely in a logical sense, Bahn (1994, 1995) [7,8] has convincingly argued that the Lascaux corpus comprises considerable cultural diversity. The haphazardly excavated charcoal has provided many Holocene dates, beginning at about 7500 years BP, and the cave was open during much of the Holocene and visited and probably painted in by humans. It is likely that the most recent visitors created the most recent art, and the recent huge bovid figures cannot be of the age usually assigned to them. Aurochs has not been found in south-western France between the Gravettian and the very final Magdalenian (Delpech 1992: 131, cited in Bahn 1994) [70,7]. It is true, as Bahn suggests, that the older painting phases of Lascaux are likely to be Pleistocene, but it is quite unlikely that this also applies to the more recent art phases of that site.

In these circumstances, it seems necessary to review all assertions of Pleistocene rock art in Europe, except those of a rather small number of motifs backed by credible dating evidence. Similarly, the contentions of archaeologists to know what the paleoart styles of particular tool traditions look like

need to be treated with skepticism. The direct datings of many motifs at several sites have long demonstrated that the traditional stylistic chronology is false (Bednarik 1995) [22]. Therefore, the mainstream information about early rock art in Europe, although substantially more voluminous than that of all other continents added together, is actually less reliable than the latter. Since the subject has already been addressed in many thousands of publications there is little point in pursuing it further here, especially until a rigorous re-assessment of all such claims has been presented. The situation is significantly better in respect of European mobiliary paleoart, essentially because much of it derives from documented stratigraphical contexts, and can therefore be attributed to specific artifact traditions with a reasonable degree of confidence. That does not mean, however, that the quality of other information about this corpus is much better.

The most frequently discussed portable objects of pre-History are perhaps the so-called “Venus” figurines of the Eurasian Upper Paleolithic. They have been subjected to unparalleled attention of interpretational fervor, characterized by several common features. Their interpretations are ideologically motivated, they are taphonomically naive, they are presented by inadequately informed commentators who often had not studied any of the evidence or sites first hand, and their epistemology is often inadequate. The underlying idea of all of these hypotheses is that there is a corpus of some 100–140 (or more) female figurines, whose distribution from the Pyrenees to Lake Baikal indicates a usually Gravettian tradition concerned with fertility, or with a mother goddess cult, or with Paleolithic pornography or whatever other imagined cultural determinant. None of these reviews attempts to define the sample spatially, formally, taphonomically or temporally, by stating a rationale for including or excluding specimens. All of them omit numerous known examples that would fall well within the stated or implied parameters of such studies. Most of the figurines in question exhibit no clear evidence of female attributes, they are not corpulent or large-breasted as frequently claimed (most in fact have no breasts or vulvae at all, and one “male” figurine also has small “breasts”), some appear to be fully clothed, very few might be pregnant, and fewer still could reasonably be classified as steatopygous. Most of these specimens are either undated, or they are not from a Gravettian context. Indeed, these anthropomorphous figurines originate from all periods of the Upper Paleolithic, and some of them may be as yet undetected fakes (e.g., from Brassempouy; Bahn 1993) [6].

To analyze such an arbitrarily selected, chronologically and formally undefined, incomplete sample as this motley collection is not a scientifically promising procedure. Apart from usually *a priori* assumptions about meaning, it is not even clear what the sample is intended to be representative of (Bednarik 1996) [24]. It has been defined entirely on the basis of ideological, cultural and academic conditioning of how to detect the visual clues provided by the artists of an alien culture, and by arbitrary (and invalid) variables of spatial and chronological distribution. Consequently the sample will include specimens that are 20,000 years and 6000 km apart, but it will exclude those from the very same site and only a few millennia younger. It will exclude other forms of female depiction of the same periods, and will perceive differences in iconography as culturally conditioned, when in fact they are more likely the outcome of technological factors (Bednarik 1990) [17].

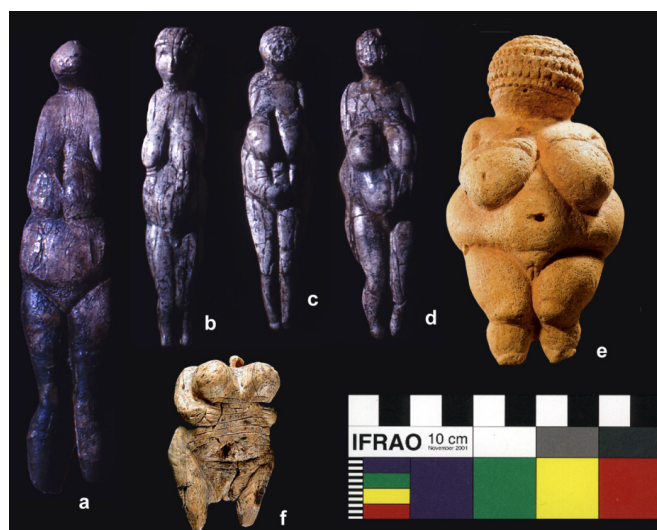
The analysis of a sample lacks any merit if the sample was defined by excluding those specimens that would contradict a desired finding. Hence, one needs to start by defining the sample without anticipating what the findings might be. Since such a definition of sample cannot be free of theory, all ideological baggage would need to be abandoned. This has not been done in the study of the figurines

colloquially known as “Venuses”. Consequently, the interpretative literature on the supposedly female figurines of the Eurasian Upper Paleolithic, with its references to fecundity and so forth, consists largely of androcentric, gynocentric, heterocentric, feminist-inspired and Eurocentric polemic. Its only relevance to fertility is that this literature would be a highly fertile area for epistemological research of heuristic dynamics in archaeology, and of how theories tend to grow, like mushrooms, in the dark. This deservedly harsh judgment does not extend to purely descriptive and ideology-free works on this material, which are rare and receive rather less attention (e.g., Rosenfeld 1977; Gvozdover 1995; Russell 2006) [151,95,152]. The figurines in question are of greatly differing formal attributes, antiquities, cultural affiliations, geographic provenience and materials. Almost certainly they do not represent a homogeneous tradition, but have been lumped together by scholars seeking confirmation of preconceived explanations (Figure 17).

While three-dimensional iconographic art of the Upper Paleolithic is widely found in Eurasia, the distribution of two-dimensional iconic paleoart differs significantly. East of France and Italy, and across all of Eurasia, Pleistocene graphic art is almost exclusively noniconic, be it portable or on rock. There are only a few exceptions (Bednarik 1995) [23]. No explanation is available for this glaring distributional discrepancy. The graphic Pleistocene art of most of Eurasia consists of “geometric” designs that are often of great complexity, especially at Russian sites. Most of this paleoart is found on plaques of stone, bone, and ivory. The thousands of engraved Upper Paleolithic plaques of Western Europe, by contrast, feature a rich array of iconic markings, at such sites as Rochedane, Mas d’Azil, La Marche, Gönnersdorf and Parpalló.

Deliberately placed objects as they have been reported from EUP and even late Middle Paleolithic contexts also occur in the LUP period, for instance as bones deliberately stuck into wall cracks in decorated caves. Beads and pendants occur widely, though more have been found in the EUP period. Pigment use is widespread and includes processes of modifying substances to achieve better colors. The paleoart of this phase includes clay sculptures and floor drawings in caves, fired clay objects, and artistically decorated utilitarian objects become commonplace in the LUP traditions.

**Figure 17.** A few of the so-called “Venus” figurines: a–d = Avdeevo (Russia) No’s 1, 7, 8 and 6; e = Willendorf (Austria); f = Hohle Fels (Germany). All are between 25 ka and 35 ka old.



## 6. Discussion

This review differs significantly from all previous appraisals of Europe's magnificent Pleistocene paleoart in a number of aspects. First, it does not focus on the Upper Paleolithic, but allots earlier periods a semblance of "equal space". It also represents an attempt to view the corpus from a global perspective. This derives from the realization that the known European body of relevant evidence is actually smaller than that of Australia, and that all other continents have at this stage been inadequately explored in this sense. Indeed, in Pleistocene paleoart Europe is indisputably the tail that wags the dog. This imbalance is so pronounced that it can fairly be defined as more marked than in any other academic endeavor. The entire field is so biased in favor of evidence from Europe that the knowledge required for a reasonably balanced overview is simply unavailable at present to the mainstream. For instance, the discipline seems entirely unaware that the amount of "Middle Paleolithic" paleoart from Australia alone greatly exceeds the known "Upper Paleolithic" paleoart of the entire world. However, an even greater misconception of orthodox archaeological understanding of paleoart is that its advent is attributed to the mythological Africans thought to have colonized Europe toward the end of the Late Pleistocene, while the resident "Neanderthals" were too primitive to create paleoart. Not only have these "ape-like Neanderthals" and their direct descendants created the masterworks of Chauvet (Figure 18), among others, the African Exodus is in any case a myth (Bednarik 2008) [31]. At this point, it is justified to pause for a moment and ask: what would humanity say today if it discovered that the fundamental beliefs of another discipline were as seriously flawed as those of this field? Pleistocene archaeology has operated as a mainstream topic for one and a half centuries. Many sciences are much younger than that, such as ethology, plate tectonics or genetics, to name just a few. Could any of these much more recently developed disciplines of science operate as successfully as they do if they had remained as embryonic as Pleistocene archaeology and paleoanthropology? So, what is it that has retarded the development of these fields for the past 150 years?

**Figure 18.** The author in Chauvet cave, the most magnificent cave art site in the world (photograph by Jean Clottes).



The answer is simply that most of their practitioners are inadequately informed, deriving their knowledge from a very limited number of mainstream journals that present the orthodox model and permit no deviation from this dogma. Thompson (2014) [161] has recently described this system as “unstable orthodoxies” presided over by a “high priesthood”, defining these disciplines as resembling “poorly managed but well-advertised corporations”, run for the benefit of their upper echelons. He explains their practices of publishing and refereeing, academic employment and research funding as a form of economic niche construction and other capitalistic trends that are detrimental to the academic endeavor. Since the origins myths created by these disciplines (Bednarik 2013) [41] are their only tangible products, it is highly relevant that the data they are based on are largely false or incomplete, as shown in the present paper. This helps explain the continuous series of blunders made historically in these fields, and still being made today.

It is of particular concern that the origins myths produced by the academic gatekeepers of the human past are so often incompatible with expectations or findings of the sciences, which have come up against numerous issues that are inexplicable within the frameworks provided by these myths. These issues include empirical phenomena such as the rapid reduction of human brain volume in the last 40 ka; the proliferation of neuropathologies and thousands of other genetic impairments in much the same period and why they were not selected against (Keller and Miller 2006) [108]; the unexplained rise of the alleles underwriting exclusive homosexuality; the abandonment of oestrus in humans; the rapid acceleration of neoteny since the “Neanderthals”; and numerous other phenomena Pleistocene archaeology and paleoanthropology cannot explain with their teleologically based replacement model. Therefore, disciplines such as the bio- and neurosciences have been hobbled by the falsities the gatekeepers of the human past have disseminated during times when the sciences were far more advanced than these anthropocentric humanities. All of the contradictions, inconsistencies and paradoxes (such as the Keller and Miller paradox) inherent in the conventional dogma about this human past have been resolved (Bednarik 2008a, 2011, 2012, 2013) [31,36,38,39], but frustratingly the dogma will be defended against these new insights until the high priesthood succumbs to old age.

Ultimately, the Eurocentric notion that this paleoart is an “art” and is “symbolic” has been a major stumbling block for the discipline: there is no proof for either assumption. On the other hand, there can be no doubt that paleoart is made up of the surviving examples of exograms from these early times, and this is how the phenomenon has been approached here. The finding, in the context of the Pleistocene paleoart of the other continents (Bednarik 2013: Figure 6) [40], is that its traditions begin many hundreds of millennia ago, that they originate neither in Europe nor in Africa, and that their beginnings are in no way related to some imaginary Exodus of some imaginary Eve’s descendants from Africa. Superficially, the substitution of exograms for art and symbols may not seem much of a departure from the traditional view, but in fact it is as different from it as cause-and-effect thinking differs from associative thinking (“magical thinking”). From the perspective of the cognitive and neurosciences, the difference could not be greater. However, it will take a long time before the anachronistic epistemology of exploring the human past will embrace science in more than just a cargo-cult fashion.

## Conflicts of Interest

The author declares no conflict of interest.

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