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BEYOND ART: Toward an Understanding of the Origins of Material Representation in Europe

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Through the coloring of metaphor, the nonverbal perception of existing structures, and the symbolic imagination, humans have the unique capacity to create new things (52:38).

INTRODUCTION

In the pages that follow, I seek not to provide a comprehensive review of explanations for the "origins of art," but to accomplish three complementary tasks:

First, I attempt to reorient, in a direction more satisfying to anthropology, research that seeks to understand or explain that phenomenon generally recognized as the first "art." I propose a framework that focuses on material forms of representation and that seeks to understand them as metaphorically based, socially meaningful constructs.

Second, I provide a broad, critical evaluation of the current record pertaining to the earliest material representations, echoing and elaborating upon Chase & Dibble's (23) skepticism about alleged symbolic objects dating to before the Middle/Upper Paleolithic transition.

Third, I present an overview of Aurignacian material representation, the operational chain that produced it, and the patterning inherent in it.

I conclude by reaffirming my previously stated view (123) that the invention of material forms of representation went hand in hand with a major social transformation across the Middle/Upper Paleolithic transition in Europe. In

addition, I attempt to understand the advantages and cultural evolutionary consequences of metaphorically based material representations. This concern with metaphor and its relationship to “the origins of art” stems directly from Knecht’s (52, 53) probing and fresh analysis of the foundations of innovation in early Upper Paleolithic organic projectile technology. I have taken many of her insights, notably her emphasis on the role of nonverbal thought in technological innovation, and aimed them at the question of “art” in the Aurignacian.

BACKGROUND TO THE PROBLEM

Since the discovery in the mid-19th century of engraved bone and antler objects, and somewhat later of painted and engraved images on cave walls, there have been frequent attempts to explain the origins of “Paleolithic art” (19, 25, 34, 39, 42, 49, 72, 74, 102). In almost all cases, including the most recent examples, these attempts have been made by art historians, developmental psychologists, nonanthropologically trained archaeologists, or devoted amateurs. Few anthropologically satisfying models for art origins have been developed.

Partly as a result of being the work of nonarchaeologists, many treatises on the origins of “art” have mistakenly focused on cave art (especially cave painting, and especially Lascaux and Altamira). In reality, three-dimensional animal and human sculptures, engraved and painted blocks, and simple “non-figurative” motifs appeared at least 15,000 years before the first cave was painted. In other words, studies that purport to deal with the origins of “art” have often ignored the first half of art history. As Delluc & Delluc (35) have pointed out, the period from the first visual representations at about 35,000 years ago until the painting of Lascaux is as great as the period from Lascaux to Picasso!

A more serious problem, as Conkey (29, 30) has frequently noted, is the reliance on the concept of “art” as if it were a universal category of human existence. This fetishization of a recently derived historical category is particularly serious in art history (18:1), which, “never having really broken with the tradition of the *amateur*, gives free rein to celebratory contemplation and finds in the sacred character of its object every pretext for a hagiographic hermeneutics superbly indifferent to the question of the social conditions in which works are produced and circulate.”

Two modern anthropological themes have been entirely missing from the literature on the origins of art: a broader concern with *material culture* (2, 31, 120), and a sophisticated formulation of the notion of the *social construction of meaning* (10, 56, 113) and the related issue of representation. As a result, “origins of art” articles usually end up speculating about the process by which “art” (almost always conceived as graphic depiction) was “discovered,” rather than illuminating the broader social, technological, and ideational contexts and

processes that made complex representational systems possible, desirable, and useful.

With roots in art history and/or psychology, origins models are almost always derived from developmental psychology with overwhelming confidence in the notion that Piagetian ontogeny recapitulates phylogeny (34, 72, 73, 74). Thus, the development of “art” in human history is presumed to be mirrored in the process by which modern children learn to depict (34, 73). Remarkably, the desirability and utility of “art” are treated as self-evident. In other words, once it was discovered that lines and objects could stand for things, “art” spread rapidly because its value (usually phrased as giving pleasure to its creators) was self-evident. This view is similar to the old notion that plant and animal domestication were so self-evidently useful that we need not explore why they came about, only how.

I find this view unfruitful, and I wish to recontextualize the question by shifting the focus from “art” to the material construction and representation of meaning, and by applying this broader conception to what we know of the material record for such representation. I argue here that the value of material representation was not self-evident at the outset and that like all inventions, material representation was contingent upon, coherent with, and dialectically related to the contemporaneous neurological, social, technological, and ideational context.

Another flaw in models of the origins of “art” is equally serious: They restrict themselves to graphic depiction. Despite dozens of demonstrations in modern social anthropology that personal adornment is one of the most powerful and pervasive forms in which humans construct and represent beliefs, values, and social identity, the thousands of body ornaments known from the beginning of the Upper Paleolithic have been ignored in the fetishization of “art” as depiction (34) and the trivialization of bodily adornment as “decorative art” or “trinkets” (3). Such an attitude toward body ornaments is totally unfounded and prevents a more thoroughgoing understanding of prehistoric societies. Personal ornaments, perhaps more than any other aspect of the archaeological record, are a point of access for archaeologists into the social world of the past.

The neglect of personal ornaments is surprising on two counts: They are a commonly encountered part of the archaeological record, and ethnographers currently see body ornamentation as a significant source of insight into social and cosmological aspects of human cultures. The view of personal adornment taken here is coherent with that of T. Turner (113:112) who argues that “The surface of the body, as the common frontier of society, the social self, and the psycho-biological individual, becomes the symbolic stage upon which the drama of socialisation is enacted, and bodily adornment in all its culturally multifarious forms, from body-painting to clothing and from feather head-dresses to cosmetics, becomes the language through which it is expressed.” According to Andrew Strathern (103:15), “What people wear, and what they

do to and with their bodies in general, forms an important part of the flow of information—establishing, modifying, and commenting on major social categories, such as age, sex and status, which are also defined in speech and in actions. Whatever the precise origins of clothing, then, they can be sought only within the general context of the development of social communication and of society itself.”

The argument presented here—that preserved representations, the images that they comprise, and the material qualities inherent in them are value-laden symbolic representations/constructions—raises a fundamental question: How is it that particular images, objects, materials, colors, forms, and textures come to have—indeed, first came to have—value and to carry meaning within a given social and symbolic context? Beidelman (9) has eloquently argued that much of the answer to this question lies squarely within the domain of social psychology and psycho-linguistics. Nevertheless, archaeology’s ability to answer this question hinges in part on whether there are cross-cultural generalities in the rendering valuable of particular kinds of objects and images for purposes of social display. Indeed, choice of rare and exotic materials; labor-, skill-, and knowledge-intensive production; and metaphorical reference to valued or sacred subjects are virtually universal in their effectiveness in constructing meaning and communicating social identity in the ethnographic present. I argue below that these also characterize even the very first personal ornaments in the archaeological record.

REPRESENTATION AND MATERIALITY

The argument here is not that material forms of representation signal the origins of representation per se. In my view, linguistic representation was prerequisite to other forms of representation. As Quine (98:3) noted long ago, “Conceptualization on any considerable scale is inseparable from language.” As I will show below, the conceptual complexity evident in the earliest known corpus of material representation is considerable. Rather, I argue that tangible, visible, material representations have a value, immediacy, authority, and duration quite different from those of linguistic representations. I am in firm disagreement with Davidson & Noble (33), who view depiction as prerequisite to language.

For me, the great innovation was in the *material rendering* or *objectivation* (10) of concepts, forms, emotions, social relations, etc—a process that Hallowell (48) referred to as “extrinsic symbolization.” Representational objects thus become part of what Berger & Luckmann (10) call “the reality of everyday life,” and for them (p. 35) “The reality of everyday life is not only filled with objectivations; it is only possible because of them. I am constantly surrounded by objects that ‘proclaim’ the subjective intentions of my fellow men” Such is the power and evolutionary significance of *material* representations, and to repeat, it is quite probably *material forms* of representation that we are monitoring in the archaeological record, not representation itself or the emergence of the capacity for it.

But materiality implies cultural production involving, minimally: (a) selection and procurement of raw materials, (b) transformation of these into conventional forms via a set of techniques and relations of production, and (c) the exchange/display/use of the finished objects. Each of these operational stages is of course played out in a particular social and cultural, not to mention, physical environment. Such an operational chain in the construction of representational objects leaves significant traces in the archaeological record (30, 60, 61, 63, 64, 66, 99, 127) and raises for archaeologists the distinct possibility of studying, literally, the construction of meaning and its socio-spatial distribution. Thus, we can respond directly to the important sociological question of how “subjective meanings become objective facticities” (10:18).

To some considerable degree all objects, and not merely those that we artificially privilege as “art” objects, are cultural representations (57, 58, 133). As Knecht (52, 53) has shown so forcefully, Aurignacian split-based point technology exhibits a set of underlying technological principles that represent a choice from among several other possibilities. Thus it is easy to imagine split-based antler points acting to reflect or represent a particular cultural or regional identity in the way imagined by Sackett (100) for hammers and screwdrivers. More for lack of space than lack of interest, however, I restrict my discussion here to objects presumed to be largely representational in intent.

Apart from the fact that representational objects come to form part of our cultural environment, what is it about material forms of representation that makes them so useful or desirable? Weiner (117, 118) argues that because objects endure beyond a single human life they can play a critical role in social reproduction and continuity. Moreover, objects have histories (see also 24 for an East African example) that link them to ancestors, a fact that imbues them with political authority that words and actions lack. Finally, Weiner proposes that objects are remote from the wearer/giver and can, therefore, carry messages too dangerous or controversial for words (see also 10:30–34). On a more obvious level, they are highly visible and interpretable given a shared system of meaning (15, 16, 134) and have the effect of communicating not only intra-group distinctions but regional affiliations and group membership as well (27).

The complex process of constructing social and political identities with material objects is well illustrated by Weiner’s (119) description of shell and seed ornaments being bestowed upon a child by its father in an attempt to enhance its “social beauty.” According to Weiner (119:61), “Once a child wears shell decorations, it has entered, if only minimally, into the world of politics.”

METAPHOR AND MATERIALITY

The concept of representation has widely varied usages in anthropology and semiotics, ranging from the literal (e.g. *This drawing represents a horse*) to the metaphorical and metonymical (e.g. *This drawing, by virtue of being a horse, represents intelligence*). Two of the most recent articles on the origins of “art”

(34, 49) exemplify the former usage. Indeed, Halverson (49) suggests that Paleolithic cave paintings may have represented nothing more than the esthetic pleasure derived from depiction (i.e. they were devoid of representational value or meaning). As we shall see, however, even the oldest known Upper Paleolithic depictions were highly skewed with respect to subject matter, style, technique, and spatial distribution, indicating a complex conceptual and organizational underpinning that is probably based on metaphor.

Lakoff & Johnson (56:5) consider that “the essence of metaphor is understanding and experiencing one kind of thing in terms of another.” Moreover, they note (p. 3) that “metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.”

Nisbet (87:4) observes that “Metaphor is, at its simplest, a way of proceeding from the known to the unknown. It is a way of cognition in which the identifying qualities of one thing are transferred in an instantaneous, almost unconscious flash of insight to some other thing that is, by remoteness or complexity, unknown to us.” And further, on the same page, “Metaphor is our means of effecting instantaneous fusion of two separated realms of experience into one illuminating, iconic, encapsulating image.”

While metaphor has traditionally been viewed as a poetic device, Lakoff & Johnson, like V. Turner (114), construct a powerful argument that metaphor is at the very heart of perception, conception, and, most important for our purposes here, representation. Turner (p. 25) goes so far as to suggest the likelihood that “scientists and artists both think primordially in such images; metaphor may be the form of what M. Polanyi calls ‘tacit knowledge.’”

Two sub-classes of metaphor are important to recognize: *metonymy*: using one entity to refer to another that is related to it (56:36)—e.g. *The Times hasn't arrived at the press conference yet*; and *synecdoche*: a special case of metonymy where the part stands for the whole (p. 36)—e.g. *We need some new blood in the organization*.

If metaphor pervades not only language, but thought and action as well, there ought to be such things as material metaphors, and they ought to be observable today and detectable in the archaeological record. Moreover, the absence of metaphorical thought in our hominid ancestors would have had severe consequences for their ability to deal with intangibles like time and death, which modern humans understand and organize metaphorically.

Indeed, we know from the ethnographic record (and from any evocative piece of modern “art”) that material metaphors exist. In the domain of personal adornment, Strathern & Strathern (104:176) observe, parts of animals or plants are used to associate the wearer with the qualities of the whole organism. “If we turn to self-decoration itself, there also we find a lack of representational art. The process of decoration in Hagen is not representational but metonymical; that is, when Hageners wish to associate themselves with magically powerful things, such as birds, they do not construct masks, carvings, or paintings

of these. Instead they actually take parts of the birds, their feathers, and attach these to themselves as decorations." Precisely the same sort of metonymical system has been documented by Kuper (55) for the Swazi, who maintain a rich ceremonial body decoration composed of animal parts. Among the Swazi two of the cosmologically and socially most important species, the elephant and the lion, are the subject of a rich folklore that places great value upon certain of their fundamental social behaviors. In body decoration, they are represented metonymically by ivory and lion-skin, respectively. According to Kuper (55:621), "The lion and the elephant appear together in Swazi cosmology as the most powerful and dominant in both the untamed world of nature, and the world of men."

Ethnographically the range of animal and plant species chosen for the decorative value of their parts is usually quite constant within the same tribe and among closely related tribes. This homogeneity is probably due to the fact that their value as ornaments derives from a deeply imbedded and widely shared cosmological structure with respect to particular species—usually those of peripheral dietary significance. In other words, animals of great cosmological value or power are often used in the construction and communication of social identities. Therefore, while body decoration and graphic representation are intensely social phenomena, part of their power and legitimacy in constructing social identity and meaning is drawn from the fact that they implicate a deeply held and widely shared cosmology.

It has long been observed that animals and their biological and social characteristics have served as metaphors for human social distinctions. As Lévi-Strauss observed (70:13), "The animal world and that of plant life are not utilized merely because they are there, but because they suggest a mode of thought. The connection between the *relation of man to nature* and the *characterization of social groups*, which Boas thought to be contingent and arbitrary, only seems so because the real link between the two orders is indirect, passing through the mind." I return to the important subject of metaphor when I examine Aurignacian representational objects, arguing that the invention of material representations, particularly metaphorical ones, was critical to virtually every aspect of the explosive transformation in European culture that we have come to know as the Middle/Upper Paleolithic transition.

MATERIAL REPRESENTATION AND THE MIDDLE/UPPER PALEOLITHIC TRANSITION

Two contradictory views have emerged concerning the nature of the Middle/Upper Paleolithic transition in Europe. Some authors (23, 83, 84), including myself (123, 124, 129), have persistently viewed the transition as abrupt and revolutionary in all of its various aspects (art, body ornamentation, bone/antler technology, etc). Pigeot (95) has recently argued that even stone tool technology reveals fundamental cognitive differences between the late

Mousterian and the early Upper Paleolithic. This work is most compatible with a “replacement” model for the emergence of anatomically modern humans in Europe (106, 107).

Others, working from the same published record, argue that the “real” transition occurred not at the Middle/Upper Paleolithic boundary but 15,000 years later, at the late Glacial maximum (71, 105). It will be clear below that the latter position, which in my opinion is founded on an “in situ evolution” view of the emergence of biologically modern humans in Europe, contradicts the archaeological record of the European Early Upper Paleolithic. It glosses over thousands of body ornaments (127–129) and bone/antler implements (52, 69), not to mention hundreds of engraved/incised objects, many of them three-dimensional representations (45, 47, 126, 127).

I have recently argued (127) that what is revolutionary about the Early Upper Paleolithic in comparison to the Mousterian is the existence of a metonymical quality to objects transformed into that which we recognize as “art” and personal adornment. In other words, particular forms, designs, and qualities were of interest to Mousterians but were never dissociated from their natural context. For example, a Mousterian biface from a Périgord surface site has a band of golden color running through it, which has been retained along one edge of the tool, apparently at the expense of bilateral symmetry. This tool very much resembles Mousterian flint tools from England and France that retain naturally embedded fossils (88, 89). Mousterians occasionally collected the fossils they encountered, such as the fossil shark’s tooth from Darra-I-Kur in Afghanistan (38), the Nummulite fossil from Tata (115) in Hungary, and the fossil shells and blocks of pyrite from the Grotte de l’Hyène at Arcy-sur-Cure (41). Peculiar forms and qualities were collected and examined but apparently never transferred to new contexts—a transfer that is the basis of metaphorical thought.

“Symbolic” qualities have been claimed for certain objects of pre-Upper Paleolithic age, but upon closer examination such claims are highly doubtful. Because a critical discussion of the full range of alleged pre-Upper Paleolithic representational forms is excluded by space limitations, I direct the reader to Leonardi’s (65) thorough and skeptical inventory of most of these objects and to Chase & Dibble’s (23) less comprehensive but excellent critical review. I wish to note, however, that I am doubtful about Leonardi’s view (65:99) that an incised bone from Pêch de l’Azé, a piece engraved with angular marks from L’Ermitage and some incisions on stone from the Abri Tagliante indicate a figurative intent, “*si vague soit-elle.*” Like an Acheulean example from Polignac in France (26), none of these exhibit the continuity through time or formal redundancy that would argue in favor of their being purposeful, not to mention representational. Moreover, there is nothing to suggest that a single zig-zag incision from the Mousterian of Bacho Kiro (77), while perhaps purposeful (carnivore gnawing remains to be fully excluded), is necessarily representational.

Mania & Mania (75) have published recently a series of marked bones from the German Acheulean site of Bilzingsleben, claiming that the markings were purposeful and probably symbolic in intent. I doubt this interpretation and find no greater patterning in these marks than on the wooden cutting board in my kitchen.

Otte (92, 93) has recovered from the Mousterian-age layers at Sclayn in Belgium a series of bear teeth with grooves at the enamel-root junction, which he suggests may be Mousterian pendants. However, they are purely paleontological specimens, unassociated with archaeological material. Moreover, Gautier (40) has convincingly shown the presence of identically thinned bear teeth in modern populations of bears, apparently the result of oral digestive processes (116), often involving dietary grit. I found these teeth entirely unlike any purposely manufactured pendants that I have seen, in that no tool traces are present.

Two "pendants" from La Quina (80) have been proposed by Marshack (78, 79) to be Mousterian in age. The first is a fox canine, the root of which is alleged to have the initial traces of the manufacture of a hole by gouging. While Combier (26) questions its artificial nature, my objections concern the very complicated stratigraphy of this site (80, 81), excavated in 1905, long before credible stratigraphic controls were employed in Paleolithic archaeology. Because it has been recognized for many years that the stratigraphy of La Quina (*amont*), from which the tooth comes, is subject to major revision, there are serious doubts about the piece's Mousterian provenience. Moreover, even Martin recognized that final Mousterian and basal Aurignacian levels were in contact at La Quina (81:18).

The second object from La Quina is a reindeer phalange that has "perhaps" been pierced by human action. However, after initially suggesting that this piece was a pendant, the excavator, Martin, rejected this possibility and argued instead for carnivore perforation. I have seen numerous similar examples from Aurignacian levels, none of which, in my opinion, can be attributed to human activity. Chase & Dibble (23) share this view for pierced phalanges recovered by Bordes from the Mousterian levels at Combe-Grenal. Indeed, Chase (22) has documented one modern example that he found in a coyote coprolite and that was apparently produced by gnawing or by gastric erosion.

In Central Europe, the German site of Bocksteinschmiede has yielded two possible gouged pendants (121) associated with a Micoquian (dated elsewhere to as late as 45,000 BP (1) or late Mousterian industry. Although, in my opinion both objects are probably natural (carnivore perforation?), the vestigial metapodial is somewhat similar to pierced moose metapodials from the Aurignacian at the Moravian site of Mladec (90). To this point, none of the other "terminal Mousterian" sites from Central Europe has yielded personal ornaments.

Possible decorative objects have been reported from pre-Upper Paleolithic time outside of Europe: A single pierced shell was recovered from Border

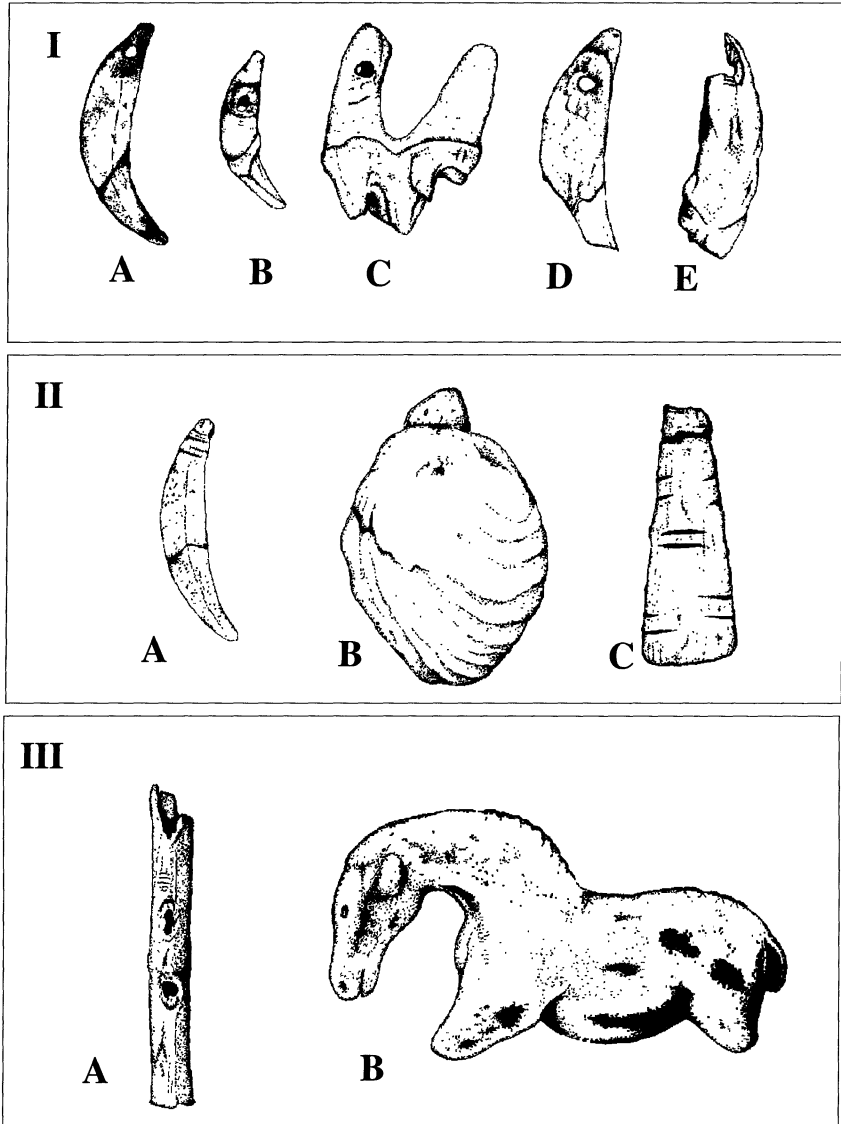
Cave (8) in South Africa and “a few Mediterranean *Glycymeris* sp. shells were collected in the lower Mousterian layers” of Qafzeh in Israel (7). Not having personally examined these objects or photos of them, I can make no assessment.

In sum, most of the supposed personal ornaments and purposeful markings attributed to the European Acheulean and Mousterian are dubious on either stratigraphic or taphonomic grounds. Even if we were to accept all of the even remotely credible specimens, it is clear that, unlike the case in the Upper Paleolithic that follows, there is no continuity or redundancy in form. Over the course of hundreds of thousands of years there are no two objects that are alike and there is certainly no gradual evolutionary trajectory.

It may be the case, as Leroi-Gourhan (quoted in 26:72) argued, that “Derrière les orbites proéminentes des Paléanthropiens, quelque chose se passait déjà qui allait prendre beaucoup d’importance par la suite.” However, accepting even one or two of the supposed personal ornaments at face value renders the relative explosion of beads and pendants (and graphic imagery) at the beginning of the Upper Paleolithic all the more interesting! If Neandertals were mentally capable of representation, why did material representation not become fixed as an enduring part of their adaptation when it has such obvious selective advantage? I have suggested elsewhere (122, 127, 128) that the answer lies in the emergence of new kinds of social systems that rendered both possible and useful the sharing and reproduction through time of complex ideas, conventional representational forms, and hence complex systems of meaning and social action.

AURIGNACIAN MATERIAL REPRESENTATION IN EUROPE

The earliest fully credible material representations in Europe are the pierced animal teeth (Figure 1) recovered by Kozłowski (54) from Bacho Kiro Cave in Bulgaria, from an Aurignacian level dated to >43,000 by the traditional radiocarbon method. Recent thermoluminescence (TL) dates from El Castillo in Spain have now pushed back the basal Aurignacian, with bone/antler implements, to the vicinity of 40,000 BP (11, 20, 21). From a similar Aurignacian assemblage at nearby El Pendo (43) were recovered pierced animal teeth and a steatite facsimile of a vestigial deer canine, in an Aurignacian level underlying two Castelperronian levels. At Mladec in Czechoslovakia a group of pierced moose telemetacarpals and numerous pierced animal teeth were found in what is accepted as a very early Aurignacian assemblage (perhaps 40,000 BP) associated with early modern human skeletal material (90). It remains to be seen whether similar assemblages in France and Italy (13, 14), almost all of which contain at least some personal ornaments, will be found to be equally early once the traditional limits imposed by radiocarbon dating have been overcome by TL applications.



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Figure 1 Various representational objects from the early Upper Paleolithic.

I: Examples of pierced teeth from Aurignacian and Castelperronian contexts (roughly actual size). A: Castelperronian from Arcy-sur-Cure; B: Aurignacian I from Brassempouy; C: Aurignacian I from La Quina; D and E: Early Aurignacian from Bacho Kiro.

II: Examples of objects grooved for suspension (roughly actual size). A,B: Castelperronian from Arcy-sur-Cure; C: Aurignacian I from Abri Blanchard.

III: Evidence of complex representation from Aurignacian I contexts. A: Broken bird-bone flute from Isturitz (roughly half actual size; after 94); B: Sculpted ivory horse from the Aurignacian I of Vogelherd (somewhat larger than actual size)

Marshack (79) attempts to bolster the presumption that symbolic behavior characterized Neandertals and evolved *gradually* into its prominent role in the Upper Paleolithic (presumably as part of the process that saw Neandertals evolve gradually into anatomically modern humans!). In doing so, he gives the mistaken impression that the personal ornaments from Castelperronian levels at Arcy-sur-Cure pre-date Aurignacian materials in Western Europe. Remarkably, this argument ignores the fact that in Western Europe the Castelperronian developed several thousand years after the first appearance of the Aurignacian (85), and overlies Aurignacian levels at El Pendo (11), Roc de Combe (17, 59), and Le Piage (59). Indeed, the famous but poorly published Castelperronian body ornaments, bone/antler implements, and decorated objects from the Grotte de Renne at Arcy-sur-Cure (67, 68, 86, 110, 111, 131) are radiocarbon dated to no older than 33,000 BP. In other words, Aurignacian personal ornaments had been well established for as long as 10,000 years by the time there is evidence that the Castelperronians (apparently Neandertals) began producing them.

Interesting questions arise at Arcy, one of only two Castelperronian sites (50) to have yielded personal ornaments. It has recently been observed (131) that the personal ornaments (Figure 1) and incised objects from the Castelperronian at Arcy are typically "Aurignacian" in technology, raw material, and form. Either Castelperronians were working on an Aurignacian model, they were scavenging objects from contemporaneous Aurignacian sites, or the Arcy objects are the product of stratigraphic mixture with the overlying Aurignacian levels.

In sum, personal ornaments first appear in Europe in Aurignacian levels dated to around 40,000 BP. There is no indisputable evidence for such objects in Mousterian/Castelperronian contexts that pre-date or are contemporaneous with the initial Aurignacian presence in Europe.

In the past two decades, social anthropologists have tended to view social identity as being constructed and communicated through the medium of bodily adornment. At the same time, new interest has arisen in what Appadurai (2) has called "the social life of things." Unfortunately, the very social anthropologists who espouse a concern with the material construction of social identity and meaning seldom address the material means by which natural substances are transformed into objects that act as social signifiers. Thus, we frequently lack an integration of technology and social dynamics through which we might gain access to the culturally embedded technological production sequences from which socially meaningful decorative styles emerge. In the remainder of this chapter, I take this notion of the construction of social identity and meaning literally by examining the materials, technologies, and subject-matters of Aurignacian material representation in Europe.

I include in my discussion representations of all sorts, but only those that can be considered among the first such objects created by humans. Therefore, I discuss only artifacts attributed to the Aurignacian archaeological culture of Europe, which dates to the period from about 40,000 until about 28,000 years

ago, and which left a rich archaeological record of images and personal ornaments.

Over the past five years I have studied approximately 5,000 pierced objects and associated production debris from Western, Central, and East European Aurignacian sites dating from ~40,000–28,000 BP. These objects, to the extent that they have even been recognized previously, have been conventionally assigned to the category of body ornaments. Roughly one third of these objects are pierced teeth and shells, while the remainder are carefully formed ivory and soft stone beads. In this same period, I have examined virtually all of the known Aurignacian “art” objects, some of which are also pierced for suspension.

My presentation here follows my research design, which is to (re)construct operational chains for each class of material representation. For each class of object I speak to the following topics: raw material choice and acquisition; techniques of production and labor investment; use and use-context; and subject-matters, motifs, and metaphors. Since these are topics not addressed through the archaeological record until recently, the existing data base is not always adequate to a full discussion. Therefore, what follows is to some degree a patchwork quilt that perhaps raises more questions than it resolves. However, I hope it begins to move us beyond the sterility of the question of the “origins of art.”

Raw Material Choice and Acquisition

There is considerable overlap among different classes of Aurignacian material representation in the raw materials employed. The full range preserved in the record (Table 1) includes various mineral and animal substances, including limestone, schist, talc-schist, steatite, mammalian teeth, bone, antler and ivory, fossil and contemporary species of marine and freshwater shells, fossil coral, fossil belemnite, jet, lignite, hematite, and pyrite. However, this relatively extensive list should not be taken to suggest a kind of random use of materials encountered in the environment. A number of pronounced choices were made, which I discuss below.

Personal ornaments are frequently manufactured of materials exotic to the regions in which they are found. This is especially true of shells (109, 112) and rare minerals, but may also be true of ivory, at least in the southwest French Aurignacian, although this remains to be firmly demonstrated. In general, there appears to be a source-distance gradient, with rare minerals falling off with distance North from the Pyrenees, and Atlantic and Mediterranean shell species becoming more attenuated as one proceeds into the French interior. Figurative and quasi-figurative objects show a distinct difference from personal ornaments in that their supports are, nearly without exception, of local materials (ivory and limestone in southern Germany; limestone in southwest France; and steatite in Austria).

Techniques of Production and Labor Investment

The operational chain for Aurignacian ivory and stone beads varies both intra- and inter-regionally. In France, beads of the commonest form (Figure 2), represented by more than 1000 specimens, have been called basket-shaped. Found in large quantities early in this century at Abri Blanchard, Abri Castanet, Abri de la Souquette, Isturitz, and Saint Jean de Verges, these have now been radiocarbon dated by Delporte at Brassempouy to between 33,000 and 32,000 years ago. They were created from pencil-like rods of ivory or steatite that were then circumcised and snapped into cylindrical blanks from one to two centimeters long. These were then bilaterally thinned at one end to form a sort of stem. A perforation was then created at the junction of the stem and the unaltered end. This was usually done by gouging from each side, rather than by rotational drilling. These rough-outs were then ground and polished into their final basket shape using hematite as an abrasive.

Ivory beads in south German Aurignacian sites (46), also radiocarbon dated to between 33,000 and 32,000 years ago, are substantially different, although the basic principle of reducing an ivory baton was the same (Figure 3). In the case of Geissenklosterle, for example, a baton elliptical in section was circumcised and snapped into a series of blanks. The individual blanks were then thinned and perforated by gouging. In this case, however, two holes

Table 1 Raw materials used in Aurignacian representational objects

Limestone	occasional objects of suspension support material for several dozen figurative and quasi-figurative engravings and patterned arrangements of incisions and punctuations
Ivory	one case of a cervid tooth facsimile hundreds of objects of suspension about two dozen 3-D and bas-relief sculptures including animals, humans, and therianthropes, and facsimiles of teeth and shells
Hematite/Manganese	occasional objects of suspension occasional painted lines on limestone supports one case of a painted animal image on a limestone support
Schist	numerous objects of suspension
Talc-Schist, Pyrite and Steatite	numerous objects of suspension occasional cervid tooth facsimiles one case of a 3-D anthropomorphic sculpture
Mammalian Teeth	hundreds of objects of suspension, with special selection of fox canines, cervid vestigial canines, wolf/hyena carnassials and bovid incisors occasional examples of horse incisors and human molars one case of a phallus sculpted from the base of a bovid incisor
Bone	occasional objects of suspension frequent support material for patterned arrangements of incisions and punctuations
Antler and Horn	occasional objects of suspension one case of a bovid horn-core sculpted into a "phallus"
Fossil and Contemporary Shells, Including Coral and Belemnite	hundreds of objects of suspension with fewer than a dozen species making up more than 90% of the several hundred known specimens
Jet and Lignite	occasional objects of suspension

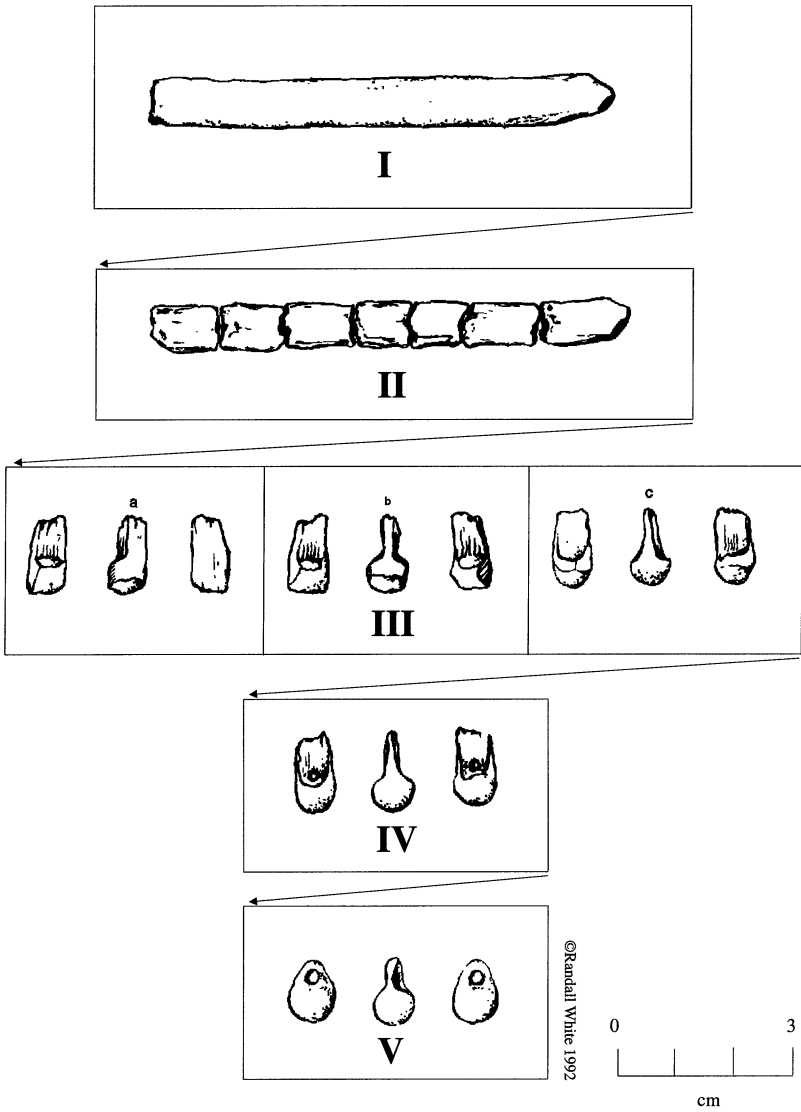


Figure 2 The production sequence for ivory and steatite basket-shaped beads from French Aurignacian I contexts

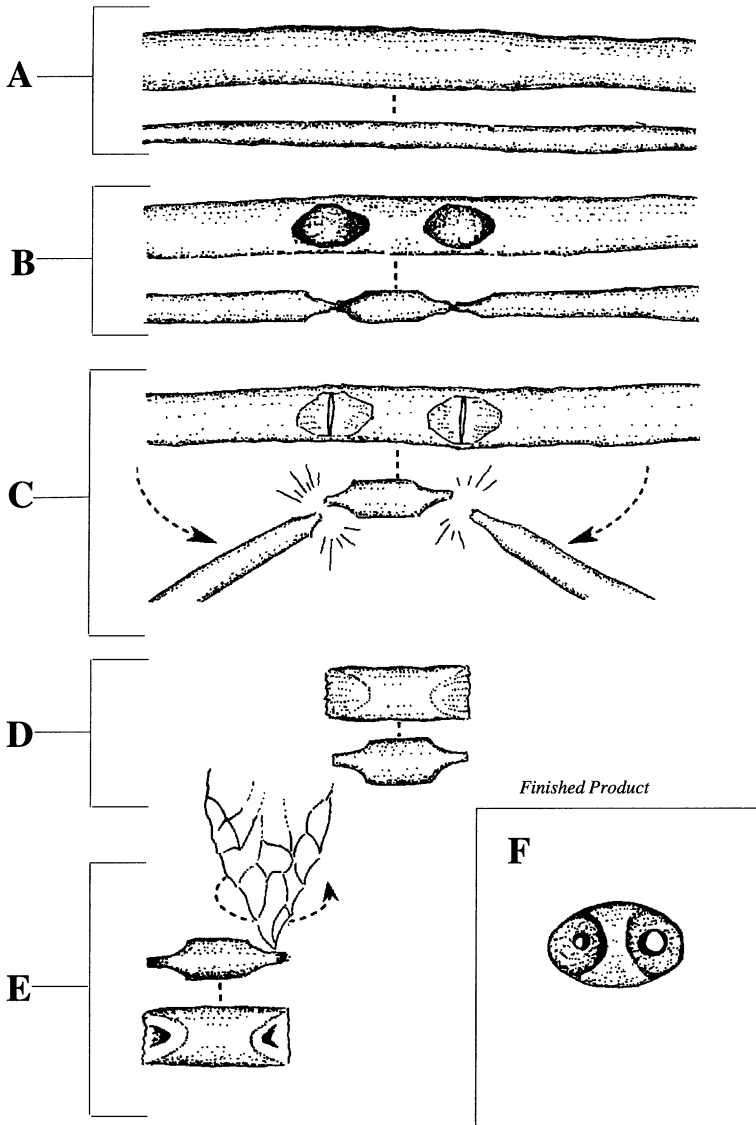


Figure 3 The production sequence for manufacturing two-holed beads from German Aurignacian I contexts (after 46)

separated by a bulge were dug into the blank. This type of bead is as unknown in France as the basket-shaped form is in Germany.

At least two variations of this basic reduction principle were known in the Belgian Aurignacian (62, 91), although there are serious uncertainties about cultural attribution of many of the Belgian specimens (36, 37). At Spy, ivory rods more or less flat in section were roughed out and perforated before they were detached from the larger mass. A variation on this approach existed at Goyet, where the baton was semicylindrical in section. These were segmented, perforated, and then detached from the larger mass prior to grinding and polishing.

I have studied in detail the Aurignacian-age ornament assemblage from the lower level at the site of Kostenki 17 in the Don Valley of Russia, excavated by Boriskovsky, by Rogachev, and most recently by Praslov. Charcoal associated with this assemblage, which Praslov and Rogachev have labelled the Spitsinskaya culture, has been dated to 32,700(+2000, -1600) BP and 36,400(+1700, -1400) BP (51, 97).

None of the ornaments at Kostenki 17 was manufactured of ivory; instead all were created from a variety of rare but apparently local raw materials. There are eight soft stone pendants from Kostenki 17, three of schist, three of limestone (one of which may be zoomorphic), and two of talc. In most cases, the holes were well executed, having been drilled from each side. The three schist pendants are all roughly the same size and totally natural in form. They are quite asymmetrical in outline.

Perhaps the most original component of the ornamental assemblage from Kostenki 17 is a group of perforated marine fossils that fall into two categories of raw material: fossil coral, and fossil belemnites. The three fossil coral polyps were perforated from one side only, and the holes are very delicate. There are four belemnite fossil beads, for which no production debris was found. Spectacularly beautiful in color and translucence, these might easily be mistaken for amber. Their form results from an operational chain that begins with the natural cylindrical form of the belemnites. These were split down the center, and each half, which was then semi-cylindrical in section, was subdivided into segments. It is noteworthy that this splitting-and-segmenting approach is precisely the technique that Knecht (52) has observed for the reduction of antlers into spear-points in contemporaneous sites in Central and Western Europe.

Three of these segments were then perforated near one end by means of fine, biconical rotational drilling. The fourth was conically drilled from the outside in. The distal and proximal ends were smoothed by polishing, as were the lateral margins. Two different taxa of belemnites are represented by two examples each. The primary difference between them is the presence on one form of fine transverse ripples, which have a remarkable visual and tactile effect.

In general then, ivory and steatite beads were produced by a set of regionally specific, highly standardized techniques. The end-products themselves are highly standardized in both size and form (129). Formation of such beads is labor intensive, especially when executed in ivory. Experiments conducted with elephant ivory at New York University (NYU), using faithful replicas of Aurignacian tool-forms, suggest an average time per basket-shaped bead of well in excess of one hour.

Mammalian teeth and marine shells show considerable variation in perforation techniques (108, 109, 112). Only on rare occasions, however, were they perforated by rotational drilling. Usually, preliminary gouging, thinning, or pecking was followed by pressure piercing. Much less time is involved here than for production of formed beads, since teeth already come in a more-or-less finished package except for the perforation.

Figurative and quasi-figurative images share many of the techniques employed in the production of personal ornaments. In the case of ivory and steatite three-dimensional sculptures, a larger mass was reduced by gouging, grinding, and polishing, the final stages probably being accomplished through the use of fine metallic abrasives (hematite powder). An experimental reconstruction of the famous Vogelherd horse (Figure 1) took Hahn (45) 35–40 hours to accomplish.

Engraved limestone slabs show a different, but no less complicated and labor-intensive set of techniques (35). Large, local limestone slabs frequently had their surfaces prepared by abrasion. Then, the representations themselves were applied in a remarkable diversity of line-types reflecting processes of engraving, pecking, chiseling, gouging, etc (35) that Delluc & Delluc have reconstructed experimentally.

Painted images are rare in the Aurignacian and are almost always composed of simple lines that do not seem to constitute figurative images (35, 44, 46). The sole exception is a remarkable bichrome painting of a bovid from Abri Blanchard (35), which falls outside of the range of anything else known from the Aurignacian. I have recently suggested (130) the possibility that this image is actually Gravettian in age.

Use and Use-Context: Sewing or Stringing?

Unfortunately, there are no Aurignacian burials prior to those of Cro-Magnon at around 30,000–28,000 BP. Therefore, lacking direct association between Aurignacian beads and human skeletons, we are obliged to design research strategies to demonstrate, first, that these were indeed objects of suspension and, second, precisely how they were suspended. At NYU we are at the outset of a combined scanning-electron-microscopy/experimental-replication program that has already yielded to McLean (82) clues about the attachment of Aurignacian basket-shaped beads. Her preliminary results suggest that these were sewn on, as inferred from examples of possible scoring of the necks of beads, perhaps to hold the thread in place.

Inter-Regional Context

Conkey (29, 30, 32) has justly advised against sweeping approaches to the origins and evolution of “art” that are not temporally and geographically situated. Here I examine only the first known material representation in Europe, which seems to appear everywhere on that continent within a relatively short time. However, there are quantitative and qualitative differences in Aurignacian representational objects that go beyond the different bead production sequences mentioned above. For example, except for a couple of questionable cases in southwest France (130, 131), three-dimensional animal sculptures in ivory are limited to central Europe. Engraved limestone blocks are limited to a small area of southwest France and exhibit subject matters entirely different from those of the German sculptures. Ivory beads and pierced teeth and shells are present but relatively rare in central Europe, while they are super-abundant in France and well represented in Eastern Europe.

These regional differences in Aurignacian-age representational inventories probably indicate that the Aurignacian culture as it has been constructed based upon stone-tool and antler weapon inventories is probably a complex mosaic of regional cultures with significantly different systems of meaning and representation.

Intra-Regional Context

Within these regions, which remain poorly defined, there are significant quantitative and qualitative differences among pencontemporaneous Aurignacian sites. For example, most limestone engravings and personal ornaments in the Périgord come from a half dozen (Abri Blanchard, Abri Castanet, Abri de la Souquette, Abri du Laussel, Grand Abri de la Ferrassie, Abri Cellier) of the more than 60 Aurignacian sites excavated to date (125). Indeed, three of these sites are situated within 100 m of each other and probably represent different areas of the same Aurignacian occupation (129). Most other Aurignacian sites have yielded only small numbers of personal ornaments and decorated objects. The same pattern can be discerned in the German Aurignacian with respect to ivory sculptures (44); three sites have yielded virtually all known examples.

It is tempting to raise the possibility that, as Conkey (28, 32), Bahn (4, 5), and I (123, 124) have proposed for “portable art”-rich sites in the French and Spanish Magdalenian, these Aurignacian sites represent seasonal aggregation sites characterized by intense levels of social, ceremonial, and exchange activities. However, seasonal estimates (96) and settlement/subsistence reconstructions such as those for other Upper Paleolithic periods remain unavailable for the French and German Aurignacian.

Intra-Site Context

It has been inadequately recognized that there are major differences between German and French Aurignacian sites yielding material representations when viewed from the perspective of the size and spatial location of figurative

objects. Hahn (45) shows distribution maps of the sculpted ivory figures from Vogelherd, Geissenklosterle, and Hohlenstein-Stadel, all of these sites being shallow caves. In all cases the sculptures are tucked away in the back (Hohlenstein) or along one wall (Geissenklosterle, Vogelherd). In the latter two sites, which have yielded several figures, these are clustered in a tiny area of the archaeological “surface,” as if purposely cached or buried. In contrast, engraved blocks in the French Aurignacian are found exclusively in rock shelters and are arranged primarily along the lip of the talus, or along the back wall, giving the effect of delimiting the “living area” (35). They would have been visible to the occupants continuously.

With respect to personal ornaments, the low frequencies in the German sites do not allow any statements about spatial clustering. In the major French sites, all excavated before 1935, horizontal provenience information for most personal ornaments is simply not available.

Subject-Matters, Motifs, and Metaphors

In a remarkably thorough and empirically grounded treatise on the sculpted ivory figures in the German Aurignacian, Hahn (45) makes the following observations:

1. All sculptures show patterned markings that do not seem to represent the texture or color of the animals coats. Rather the different types of marking are patterned by species, and thus probably should be interpreted as information supplementary to the animal image itself. Generally, the rib-cage and abdomen are outlined by notches or crosses, and the major axes of the body (the back, the legs) are outlined by notches. Such markings may have provided schematic information on anatomy. More difficult to explain are instances where the entire body is covered with signs, notably punctuations.
2. The sculptures vary greatly in size and apparent function. The smallest examples were pendants. Medium-sized and large versions show no obvious function.
3. The animal species represented were available in the local environment, but there is no quantitative similarity between the fauna hunted and that represented. A high percentage of carnivores seems to exclude hunting magic as an explanation.
4. Except for a single horse, only the largest and strongest species (mammoth, rhinoceros, bison, lion, and bear) were represented, and then only adults. Where sex is determinable, only males are indicated.
5. Some of the animals are shown in a “neutral” posture, but four pieces (the horse, two lions, and the bear) are in offensive, perhaps even attacking or menacing, postures.
6. Three of the figures are anthropomorphic, one very schematic, and the other two actually therianthropic. These therianthropes, especially the human/felid statuette from Hohlenstein Stadel, show a conceptual assimilation of humans and animals.

7. Spatially, mammoths are segregated from other herbivores as well as carnivores and anthropomorphs, the latter showing similar distributions.
8. Power and strength are the dominant themes (metaphors in the terms developed earlier) represented; female imagery is absent.
9. On the whole, the complex patterning observed implies an underlying magico-religious system.

The nature of representation itself is very different in the southwest French Aurignacian, although there are certain areas of overlap. First, most figurative representation is in two dimensions, and few of these images are of animals. Those animals that do exist are barely intelligible. I attribute this to the significant conceptual differences between two- and three-dimensional representation. Reducing a large horse to a three-dimensional scale model is a task very different from that of reducing the same horse to a two-dimensional surface that gives the illusion of three-dimensionality. Two-dimensional figurative representation involves many visual tricks, and it may well be that Aurignacian people had not mastered them. For this reason, Aurignacian material representations may have been among the first to have existed. Rather than looking for prototypes, we might well imagine that they are the prototypes for later developments in representational techniques.

There is a serious problem of subject recognition in analyzing the several dozen French Aurignacian engraved blocks. A complex array of punctuations, cup-marks, incisions, and notches (see 35 for a comprehensive inventory) appear, few of which form coherent natural images. The dominant form of engraved sign has traditionally and uncritically been identified as the human vulva (6). Several dozen of these have been identified, but it is not at all clear that they represent a single coherent image class. These and other arrangements of cup-like marks may represent animal hoof-prints—a tantalizing possibility, since the association of an animal and its hoof-print might constitute a kind of natural symbol: In the absence of two-dimensional conventions for credible depiction, the removal of a hoof-print from its original context by mimicking it on stone seems to make sense as one of the earliest forms of symbolic representation—a textbook case of metonymy.

I do not claim to be able to identify Aurignacian signs as hoofs or vulvae. If they were so intended, then they are simple and elegant metonyms, as are the hundreds of pierced animal teeth in the French Aurignacian, and perhaps especially the several facsimiles of animal teeth, and shells in steatite, ivory and limestone. These teeth and facsimiles, like the German animal figurines, bear no quantitative resemblance to midden-bone inventories from the sites in which they were found. For participants in the societies concerned, they were presumably evocative of valued qualities ascribed to the animals represented.

Several ivory facsimiles of marine shells from the French Aurignacian have been reported, six from the site of La Souquette alone (127:Figure 21.6). Equally interesting is the close similarity between, on the one hand, patterned arrangements of tiny punctuations on bone, antler, and ivory objects, some of

which have been interpreted as calendric or notational (76), and, on the other hand, natural punctuated designs found on shells from the same archaeological levels (123). While some examples are more convincing than others, the transfer of such natural patterns to new contexts is one more indication that the fundamentals of metaphor were being played out in material form.

A final example (Figure 4) is a unique and ambiguous object from La Souquette (127:99) which seems to link metaphorically two quite different objects. The object in question began as a standard Aurignacian split-based point manufactured of reindeer antler. At some stage in its history it was transformed into what appears to be a marine mammal, perhaps a seal, by the narrowing of the point and the creation of a hole where one would expect such an animal's eye. The split base, which remained unaltered, seems to represent the animal's flippers. This object is rendered all the more remarkable by the fact that a seal mandible (the only example known from an Aurignacian level) was found in the more-or-less contiguous Aurignacian site of Abri Castanet, some 250 km from the late Pleistocene Atlantic shore.

Perhaps the most unexpected representational object that has survived from the Aurignacian is a multi-holed wind instrument, frequently described as a flute (Figure 1), from the early Aurignacian at the site of Isturitz in southwestern France (94). This flute, manufactured of bird bone (another metaphorical relationship?), indicates that music was part of the earliest representational environment that Aurignacian people had created.

As in the case of the German figurines, there are hundreds of limestone, bone, antler, and ivory objects in the French Aurignacian that bear simple but patterned arrangements of incisions and notches. It is uncertain whether any of these can be accounted for by the metaphorical model suggested here, and the motivation for them remains obscure (but see 101). However, we should be cautious about assuming a priori, with Boas (15), that no relationship between the form of such objects and their meaning was intended.

BACK TO "WHY?"

In concluding, let me emphasize some directions for thinking about why material forms of representation exploded onto the scene between 40,000 and 30,000 years ago in Europe.

It is my view that two- and three-dimensional representation was an invention and like all inventions had to be coherent in and useful to its cultural context in order to be adopted. I presume that, on several occasions prior to the Upper Paleolithic, the ability to use lines and materials to represent natural objects was recognized and perhaps even accomplished in isolated instances.

I presume that Neandertals recognized the evident association between different animal tracks and the species they could expect to find if they followed them. We should consider the possibility, however, that metaphor was not part of their neurological and behavioral repertoire. As Lakoff & Johnson (56:239) have noted for modern humans "It is as though the ability to compre-

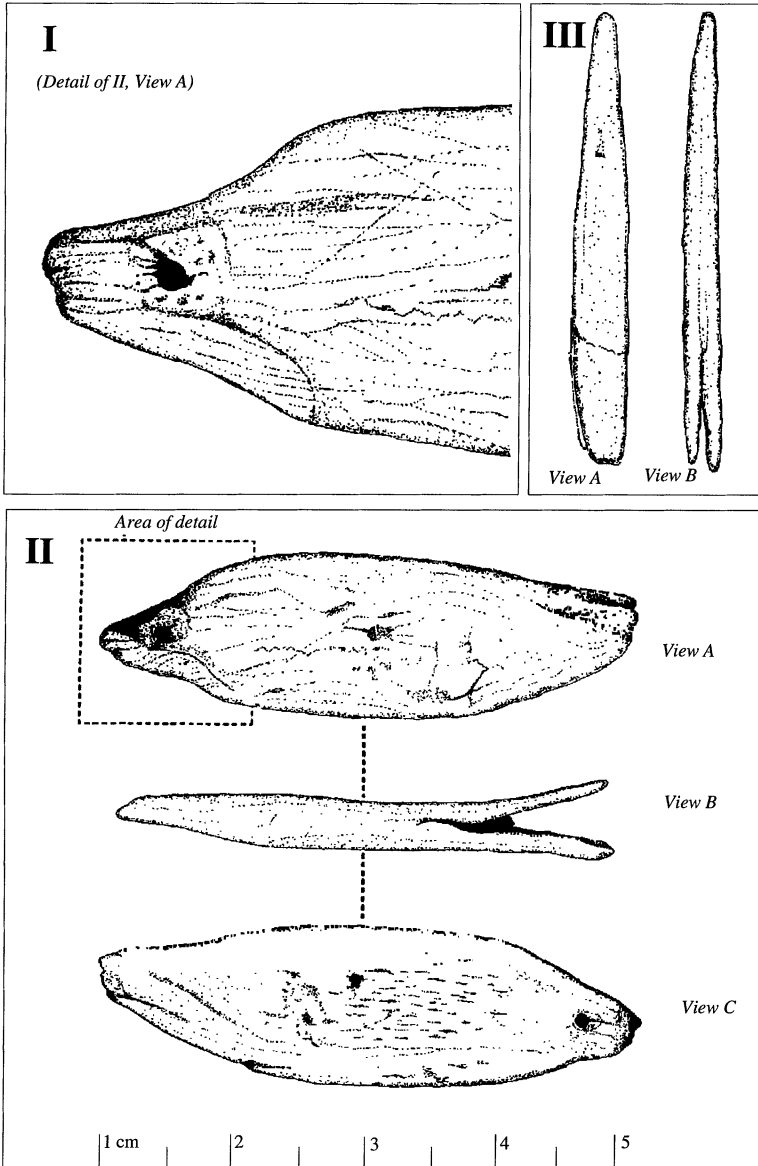


Figure 4 The transformed split-based antler point from Abri de lat Souquette

I: Detail of perforated and altered area

II: Three views of "seal"

III: Example of typical unaltered form of Aurignacian I split-based point

hend experience through metaphor were a sense, like seeing or touching or hearing, with metaphors providing the only ways to perceive and experience much of the world. Metaphor is as much a part of our functioning as our sense of touch, and as precious." The absence of this sense in Neandertals could certainly be imagined to produce what Binford (12) has described as a lack of planning depth. Modern cultures have pervasive metaphors by which time is understood and organized. Our own metaphors include "time is a moving object" and "time is a commodity" (56: Ch. 9). Although we know that metaphoric capacity is neurologically based, the study of endocasts seems incapable of resolving this question.

However, presuming Neandertals and contemporaneous *Homo sapiens sapiens* outside of Europe to have had the neurological capacity for metaphor, we must admit that what was missing prior to the Upper Paleolithic was a social context in which the invention of material forms of representation would be perceived as advantageous. We have seen in the ethnographic record that material forms of representation are frequently about political authority and social distinctions. Personal ornaments, constructed of the rare, the sacred, the exotic, or the labor/skill-intensive, are universally employed, indeed essential, to distinguish people and peoples from each other.

Conventionally executed and valued figurative imagery operates in much the same fashion, especially when it is concentrated in special locations within regions, and when its subject matter is fundamentally different between regions, as we have seen for the European Aurignacian. As Weiner has noted, objects are powerful social and political devices that transcend generations and have histories of their own. The Vogelherd ivory statuettes, found in precisely the same part of the cave, but in two successive and distinct occupational levels, imply this kind of transcendence.

The objectivation of metaphorically grounded representation also has powerful implications for technological innovation (52, 53). Nonverbal thought (i.e. thinking in images) appears essential to any significant degree of invention and innovation, and the ability to externalize, communicate, and share such images may have had powerful implications for the demographic expansion of Upper Paleolithic human populations.

It is likely that in this complex amalgum of technological innovation, increasingly strained human/land relationships, and the emergence of an internally and externally differentiated sociopolitical world is to be found the reason that material representation came to be valued by people of the Aurignacian and all of their descendants in the Upper Paleolithic and beyond.

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