



2-1987

"Art for Art's Sake in the Paleolithic" by J. Halverson and Comments and Reply

John Halverson

Levon H. Abrahamian

Kathleen M. Adams

Loyola University Chicago, kadams@luc.edu

Paul G. Bahn

Lydia T. Black

See next page for additional authors

Follow this and additional works at: https://ecommons.luc.edu/anthropology_facpubs



Part of the [Anthropology Commons](#)

Recommended Citation

Halverson, John, Levon H. Abrahamian, Kathleen M. Adams, Paul G. Bahn, Lydia T. Black, Whitney Davis, Robin Frost, et al. 1987. "Art for Art's Sake in the Paleolithic [and Comments and Reply]". *Current Anthropology*. 28 (1): 63-89. Available at <http://www.jstor.org/flagship.luc.edu/stable/2743113>

This Article is brought to you for free and open access by the Faculty Publications and Other Works by Department at Loyola eCommons. It has been accepted for inclusion in Anthropology: Faculty Publications and Other Works by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a [Creative Commons Attribution-NonCommercial-No Derivative Works 3.0 License](#).
© University of Chicago Press, 1987.

Authors

John Halverson, Levon H. Abrahamian, Kathleen M. Adams, Paul G. Bahn, Lydia T. Black, Whitney Davis, Robin Frost, Robert Layton, David Lewis-Williams, Ana Maria Llamazares, Patrick Maynard, and David Stenhouse

Art for Art's Sake in the Paleolithic

by John Halverson

The question of the "meaning" of Paleolithic cave art has been much discussed since the last century. Of all the theories proposed, "art for art's sake" has had the least acceptance, while various hunting-magic explanations have enjoyed the most success, but all theories, including recent structuralist ones, have been found seriously flawed, and the present state of the question is evidently one of despair. This may be an indication that we have been asking the wrong questions and making the wrong assumptions. Particularly tenuous and suspect is the approach by analogy with modern hunter-gatherers with their long cultural traditions, for when we are dealing with the Paleolithic it is fundamental that we concern ourselves with beginnings. From this perspective, it is proposed that cave art has no "meaning" in any ordinary sense of the word, no religious, mythic, or metaphysical reference, no magical or practical purpose. It is to be understood, rather, as a reflection of an early stage of cognitive development, the beginnings of abstraction in the form of re-presented images. The activity would have been autotelic, a kind of play, specifically a free play of signifiers. Thus Paleolithic art may well have been, in a fairly precise and instructive sense, art for art's sake.

JOHN HALVERSON teaches at the University of California, Santa Cruz, where he is a fellow of Adlai Stevenson College (Santa Cruz, Calif. 95064). He taught earlier at Princeton and the University of Sri Lanka. His undergraduate work was done at the University of Denver; he holds an M.A. from Columbia University and a Ph.D. from the University of California at Berkeley. He has contributed to *Man*, *History of Religions*, *Journal of Asian Studies*, and *The Psychoanalytic Review* and is currently writing a book on the "history of mind." The present paper was submitted in final form 11 VII 86.

Of all the theories purporting to explain Paleolithic art—and they are not a few—the most disdained nowadays is surely "art for art's sake." For Leroi-Gourhan (1967:33), the *doyen* of art prehistorians, it is "the most harmless and also the poorest" explanation. For Lorblanchet (n.d.:27) "it has only historical interest." Sieveking (1979:108) dismisses it in two words, "too trivial." Pfeiffer (1982:140) is almost equally short. Others ignore the concept altogether (e.g., Sandars 1968). It was not always so; in fact, in the 19th century, the theory of art for art's sake held the field.¹ No doubt it deserved some of the disrepute into which it subsequently fell, for its original proponents were unfortunately wont to speak of schools of art, studio exercises, aesthetic canons, and the like, as if they were dealing with Victorian art academies. And with the advent of the new science of anthropology it was superseded by hunting-magic theories, which were to hold sway for the first half and more of the present century. At the same time, however, the older theory was being recast in more sophisticated molds by Verworn and Luquet, while the magic theory was subjected to strong criticism by Luquet and Van Gennep.

Luquet (1913, 1927) was a pioneer in the study of children's art and brought this research to bear on his investigations of prehistoric art (1930). His first concern was to distinguish between "intellectual realism" and "visual realism" in artistic representation. He found that children first attempt to draw things as they know them rather than as they see them. For example, knowing that faces have two eyes, they tend to draw two eyes on a face even when it is in profile. Only later do their drawings approach visual accuracy. By analogy, Luquet wanted to attribute this same sequence to the beginnings of art in prehistory. This was an interesting idea, but there was no good evidence to support it. In fact, some animal figures often thought to be the earliest are in strict profile or silhouette, drawn, for example, with two legs and one horn, and would seem to qualify as neither intellectually nor visually realistic but especially not the former.

Luquet's second main concern was to establish a sequential pattern of development of art. He postulated the beginning in something like finger painting, the accidental production in impressionable material such as soft clay of shapes that resembled real things, which inspired in people the "realization of their ability to create certain images, not only by chance, but by a deliberate process" (Luquet 1930:132). Noting correctly that "one finds numerous figures which have been determined by the shape of the support to which the artist has applied more or less important modifications" (p. 136), he nevertheless maintained that "a study of childish drawing seems to me to establish that a fortuitous resemblance does not suffice to give an individual the idea of completing it but that it is necessary besides that his ability to create resemblance be revealed to him by the involuntary production of such" and that this could only

1. The earlier literature is critically reviewed by Ucko and Rosenfeld (1967) and by Laming-Emperaire (1962).

happen by "auto-imitation, that is to say, the intentional repetition by an individual of an activity which he had already exercised without having done it purposely" (p. 147).² Though Luquet avoided the term, the process described sounds like "play." In its beginnings at least, art had no purpose or function beyond itself. He was willing to grant a magical function to art, but only in a later stage of development. "To my mind the sorcerer-artists had been inevitably preceded by artists pure and simple, and I consider it impossible for figured art to have been anything but a disinterested activity in its initial phase." And he went on to cite the authority of Breuil, who had sensibly said, "If art for art's sake had not come into being, magical or religious art would never have existed" (pp. 112-13).

He may—perhaps in the interest of scholarly harmony—have conceded too much to the hunting-magic theorists. In a later critique of the magic theory (Luquet 1931), although he maintained the same position and stated his conviction that some Paleolithic art did in fact have magical intent, his judicious assessment of the evidence revealed just how problematic and doubtful it really was. Van Gennep (1925), on the other hand, conceded nothing. Rejecting, with an impressive armory of ethnographic learning, analogies between Paleolithic and modern primitives, he saw no reason to suppose any religious, totemic or magical component in prehistoric art. He argued that magic presupposes well-developed practical intelligence, minds capable of concatenated postulates, observations, reasonings, and judgments, and that such cognitive complexity was not likely at that early stage of human development: "It is more likely that these figured representations are only technical exercises of a simple nature" (p. 333). Not too charitably, but not unpersuasively, he argued that art never really requires much intelligence: "These marvelous artists could have been brutes, incapable of complex thoughts." His rejection of analogy was twofold: in the first place, contemporary primitive peoples all have their own long ideological traditions, which puts them in a very different case from early *Homo sapiens*; in the second place, known primitive cultures are so extremely varied that valid generalizations of religious beliefs and practices are impossible: totemism, magic, and representation are not cultural universals.

Even earlier, Verworn, in two remarkable monographs (1908, 1909), had asserted the irrelevance of ethnography on the grounds that there were no longer any Paleolithic peoples and had formulated the same distinction of art styles as Luquet, calling them "ideoplastic" and "physioplasmic," but reversed the sequence. He explicitly postulated the origin of art in play, specifically play with technics. For example, the flaking of stone beyond functional necessity, motivated by the pleasure of repetition,

produced an aesthetic sense of form. (The beautiful—and probably nonfunctional—Solutrean laurel-leaf points would seem to support this contention.) He did not go so far as to say that art *is* play and therefore to deny it any possible secondary uses, but pure art and play have in common the fact that they have no purpose beyond themselves and serve no life- or species-preserving functions.

One of his most interesting ideas was in explanation of the realism of Paleolithic art. He was struck—as who is not?—by the relative visual accuracy of Magdalenian representation, which is in the greatest contrast to what we would now call Mesolithic art (the rock drawings of the Spanish Levant) and subsequent artistic styles of the Neolithic, Bronze, and Iron Ages, so characteristically schematic, distorted, geometric, and generally indifferent to visual verisimilitude, as also are contemporary children's art and the art of contemporary primitives. Why are these so distorted, even bizarre, in contrast to the naturalism of Paleolithic art? Because they are "already the product of more extensive reflection than the latter, which simply represent the unmediated recollection of the seen object" (1909:50). Paleolithic art may be said to be essentially "thoughtless" (as Van Gennep would later hint). Unmediated by cultural tradition, ideology, or reflection, it could fairly represent the thing seen, as distinct from the thing known. This seems to me a potentially profound insight. Certainly the sequence "physioplasmic" to "ideoplastic" is more plausible, closer to reality, than Luquet's, considering the archaeological evidence that Paleolithic "visual realism" clearly preceded Mesolithic "intellectual realism." To explain the disappearance of physioplasmic art, its transition to the ideoplastic mode of the Mesolithic and later, Verworn resorted to a commonly held 19th-century view that the Paleolithic was prereligious.

This second wave of art-for-art's sake theorists, much neglected today, produced a number of insights into the genesis and meaning of Paleolithic art and exhibited some sound methodological approaches as well. Most important, I think, was the recognition that they were dealing with *beginnings* and a willingness to undertake the immensely difficult task of trying to think themselves back into inchoate cultural and psychological states. The immediate corollary of such an effort is suspicion of analogy. Theorists today, it is true, regularly advise caution in applying our knowledge of modern hunter-gatherers to prehistory, but they sometimes tend to use such material rather freely anyway. Nor are they altogether without justification, but it seems to be now generally accepted that ethnographic parallels are too precarious to be of any great value, especially when the peoples most often referred to are desert or semitropical groups, such as the Australian Aborigines, whose ecology bears so little resemblance to that of the European Ice Age (and even very similar ecologies and economies may show quite different cultural developments). But the main difficulty is that all observable cultures are already steeped in long tradition. As Verworn correctly observed, there are no extant Paleolithic cultures. Hence

2. This is equivalent to Piaget's "circular reactions," an early form of sensory-motor intelligence in which the child purposely repeats accidental actions that interest or please it. Davis (1986a) seems at least implicitly in the spirit of Luquet in postulating a long tradition of nonsemantic marking activity as a necessary preliminary to image making.

analogies with modern hunter-gatherers can have no intrinsic validity or value and are probably only misleading.

Without the analogy, hunting-magic theories virtually evaporate, for direct evidence is nil. There are no unambiguous Paleolithic depictions of animals being hunted or killed, and even if there were, they would not necessarily imply sympathetic magic (Ucko and Rosenfeld 1967:160–61, 187). Theories of fertility and increase magic suffer equally from the lack of visual corroboration or even correlation. Of course, it is not claimed that any of the theories are demonstrably wrong. All remain possibilities. Indeed, most recent commentators would probably allow various motivations at different times and places, recognizing the improbability of finding a single reductive theory to fit all the material. A certain despair of finding any precise meaning to Paleolithic artistic activities has led to an even unhappier resort to the vague notion that the art is just in some way or other, in the broadest sense, “religious.” This impression has crept into the vocabulary of some, especially the French, who insist on referring to “shrines,” “sanctuaries,” “chapels,” and the like and regarding the caves as “cathedrals of prehistory.”³ An example of continuing impressionism of this sort is the interpretation by Nougier (1978:66–68), following Breuil, of a blobby “face” at Rouffignac as “the Great Being” of the cave, “the Guardian Figure of Rouffignac,” and, quoting Breuil, “the Spirit governing hunting and the multiplication of game.” Even to see a face at all is not easy, let alone one “à hauteur noble,” and the rest is merely fantasizing.

In the 19th century, by contrast, it was commonly held that the Upper Paleolithic was prereligious, that mankind had not yet evolved a sense of the supernatural. I suppose that such a position would find little endorsement today. Yet it remains the case that nothing in Paleolithic art can be attributed with any solid assurance to religious motivations. It is true that the so-called sorcerer of Les Trois Frères and one or two figures are suggestive of shamanism and that the well-known “Venus” figurines and the “Femme à la Corne” relief of Laussel suggest cultic associations. But not only are such representations rare, they do not by any means *require* religious interpretation, and the overwhelming majority of images—many thousands—look simply like pictures of animals (which does not mean, of course, that they might *not* have had “religious” connotations, but equally, there is nothing to suggest that they *did*). This lack of evidence extends to the Mesolithic as it is known from eastern Spain (Sandars 1968, Beltrán 1982). These rock paintings, of seemingly narrative composition and dominated by schematic “stick” figures of humans, are altogether unlike Franco-Cantabrian Paleolithic art and also quite unlike those modern representations, Australian, for example, that are known from informants to be magico-religious in purpose. Their scenes of combat, hunting, honey gathering, etc., are not noticeably sug-

3. It is surprising that bone piles have not evoked the word “refectory.”

gestive of religious themes and could easily be only commemorative. In truth, it is not before the Neolithic of the Near East that religious significance can confidently be attributed to figural art.⁴

Notable attempts to avoid analogy and impressionism (which also mark the decline, if not the end, of hunting-magic theories) are found in the works of Leroi-Gourhan (1967) and Laming-Empeaire (1962), whose exhaustive stylistic-statistical approach was meant to avoid presuppositions and concentrate strictly on the empirical analysis of the data. But Leroi-Gourhan’s “structuralist” conclusion that Paleolithic art is pervasively informed by a fundamental male-female opposition seems to many a giant leap from the empirical data, depending as it does on the seemingly arbitrary assigning of animal figures and “signs” to gender categories, and even his statistics and statistical methods have been called into serious question (Parkington 1969, Stevens 1975). In any case, both Leroi-Gourhan and Laming-Empeaire ended up in the “vaguely religious” category of interpretation.⁵

Both, however, have subsequently retreated from their earlier positions. In a recent work, Leroi-Gourhan (1982) does not refer to his earlier theory, and Laming-Empeaire (1970) has disavowed her metaphysical conception of cave art and tentatively proposed—evidently inspired by Lévi-Strauss—a link with societal organization and interaction. The same inspiration, with similar results, seems apparent in some recent interpretations of *art mobilier* which stress art as “information,” a somewhat elusive notion which seems to come down to nothing more than the speculation that artistic images might have been signs used for group identification, whether to maintain “cultural boundaries” (Conkey 1980) or to maintain “alliances in the mating network” (Gamble 1982). It is implied that art emerged as an adaptive behavior in a social context. Thus Conkey (1978:63) argues that because the production of art forms takes time and energy, it must compete with other activities, and “it therefore follows that participation in the production of art forms would have at least some adaptive value for the individual as well as for the group to the extent that other potential activities are not engaged in.” I am not sure this is a sound argument, for artistic activity might well “compete” only with leisure (and need not have consumed much time or energy in any case). Furthermore, the implication that any sustained activity must be “adaptive” is suspect, for evolutionary success, in behavior as in genetics, requires only that the trait in question not be maladaptive. In a later publication Conkey

4. I would not deny the *possibility* of some sort of religion in the Paleolithic, but the evidence is extremely thin. Burial data, from the Mousterian on, do not necessitate any assumptions about an afterlife. In the recently discovered “shrine” at El Juyo we have what may be evidence for recognizable religious practices in the Magdalenian (Freeman and González 1983), but there is still nothing to connect the images of cave art with religious or protoreligious practices.

5. Cf. Laming-Empeaire (1962:289): “the cave art . . . was the reflection of great religious or mythological themes.” Leroi-Gourhan’s great work (1967) is saturated with the religious theme.

(1983) raises doubts herself about the art-as-adaptive-information hypothesis. These recent views, while retaining functionalist assumptions, do at least move away from the magicoreligious framework. Sieveking (1979:208–9), though she would preserve at least some very tenuous religious connections, probably expresses the opinion of many when she concludes that “trying to deduce the meaning of Paleolithic art is fairly unrewarding” and that “it is very probable that we shall never know the meaning of Paleolithic art. . . .”

There remains another possibility, however, which is that Paleolithic art has *no* meaning, that is, that it had no religious-mythical-metaphysical reference, no ulterior purpose, no social use, and no particular adaptive or informational value. In other words, it was “art for art’s sake.” That unfortunate label, with its connotations of fin-de-siècle decadence and aestheticism with Pater and Wilde posturing in the background, inevitably brings a note of absurdity to any theory to which it is attached. For that reason I should be glad to replace it with another, “representation for representation’s sake,” which is not only less invidious but also more accurate in that the concept of art could have been no less alien and meaningless than religion, myth, or metaphysics “at the dawn of human reflection.”⁶ The Magdalenian painters, it seems safe to say, did not know they were creating “art,” but they certainly knew they were making representations.

It is obviously a difficult task to reconstruct the beginnings of figural representation with much assurance, but it is a fundamental problem, and I should like to suggest a possible sequence based primarily on what we know, or think we know, about media and technics in the archaeological record.⁷ The first human artifacts, and for something like two million years the only ones, were stone tools. It is fair to assume the very early use of found tools and the manufacture of perishable wooden implements, but this does not affect the argument. The immemorial practice of stone-knapping provided the motor schema for carving. But carving, as distinct from chipping, required a new medium, one that did not fracture as flint or quartz did, and this was furnished by bone, ivory, and soft stone (and probably wood). Our presumed earliest works of “art” are sculptures, and like stone tools they are three-dimensional, sculptures in the round. The next steps would be high and low relief, engraving, and finally painting, that is, a sequence gradually reducing the dimensionality of figural representation, step by step, from three to two. Of course, this sequence can probably never be substantiated, except perhaps for the first and last stages (painting is evidently later than sculpture in the round), for earlier modes

would persist as newer ones developed. Judging by quality, especially visual verisimilitude, much relief sculpture, for example, must have been contemporaneous with cave painting. Nevertheless, it would seem to be a plausible sequence. In the beginning is the cutting tool, used first for carving, then for incising. There are many examples of engravings enhanced by paint, and the presence of paint in incised grooves verifies the sequence. The use of paint itself may well have begun much earlier with body decoration, making its application to images a simple step. The last stage before purely two-dimensional representation could have been the interesting and subtle one of enhancing naturally formed images by outlining and addition. This is a well-known phenomenon, though seldom clearly discernible in photographs; actual viewing, however, reveals again and again how figures suggested by natural conformations of rock were “brought out” by embellishment. If Luquet was right about the precedent need of habitual representation before “completion” of suggestive or partial shapes, that could well have been provided by the practices of engraving or relief. The painting sequence then would go from body decoration to coloring engraved images to “bringing out” natural shapes to, finally, representation on any surface. Again, a step-by-step process is indicated involving the convergence of two media and one finally superseding the other.

The last stage, two-dimensional representation uninfluenced by the supporting surface, constitutes a considerable feat of abstraction. For stereoptic vision, natural perception is three-dimensional. The ability to make two-dimensional figures that disregard the conformations of the surface they are painted on and to recognize their correspondence with real animals was a momentous development, completed by the representation of the third dimension itself in the form of rudimentary perspective (for example, the appropriate overlap of legs to indicate that one is behind another). It is representation by abstraction, and the image attains its own free-floating existence, independent of scene or surface. Such a sequence suggests a coevolution of technique and cognition, the internal image acquiring the same detachment from circumstance and particularity as the external image. Percepts become concepts. *This* horse becomes *a* horse, disembedded from the concrete.

I am not suggesting that depictive activities were the *cause* of cognitive development toward conceptualization, certainly not the only cause, but they were surely contributing factors. I should imagine with Stoliar (1977–78:25–26) that mimetic activities and synecdochical responses to bones, for example, also contributed to the process.⁸ Indeed, any behavior (including

6. Laming-Empeire's (1962:294) apt phrase.

7. What follows (which is not, of course, a great departure from other scenarios) may be compared with Piette (1904), Rowe (1930), Hornblower (1951), Stoliar (1977–78), Zhurov (1977–78), Collins and Onians (1978), and Conkey (1983:214). Critical discussion of the various theories of the genesis of art would take us too far afield.

8. The interesting work of Stoliar (1977–78) has only recently come to my attention. It is evident that we have been moving along somewhat similar lines of thought, at least we share the sense that the depictive activity of the Paleolithic has some important relation to the formation of consciousness. Stoliar's discussion of the latter actually occupies only a few pages at the end of this two-part article, and I confess I do not find it easy to follow. In general, he

speech) in which subject and object, signifier and signified were consciously differentiated would have played a part. It happens that representational figures are the only surviving material indications of the process and hence of unique value in reconstructing it.

In such a sequence no practical purpose need be inferred. For all people who can actually be observed, the creation of images is a pleasurable activity, autonomously rewarding. It is reasonable to assume that this was also true of prehistoric people. Such an activity lies within the province of play. Verworm and Luquet drew attention to what might be thought of as the most primitive form of play—the repetition of actions for their own sake—and gave it central place in the origin of artistic activity. Bataille (1955:35–39), more grandly and poetically, would use the criterion of play to distinguish Neandertal *Homo faber* from Cro-Magnon *Homo ludens*; for Bataille the ludic propensity is both transforming and transcending. For a more sustained philosophical view of play in human evolution and its aesthetic correlations, we might do well to go back to Schiller (1954 [1793]). Seeing human nature traditionally enough as a combination of the sensuous and the rational and pondering the emergence of the latter from the former, he posited an evolutionary intermediate stage which he called the aesthetic, the beginning of contemplation and reflection. For him man began as a sensuous animal whose relation to nature was simply one of response: nature encountered rather than perceived. Nature existed only as it existed for man. But man became truly man only when he was able to see natural appearances as things in themselves. The subject-object relationship was born in the aesthetic stage, and man was first freed from nature when nature became an object rather than merely a force. What brought about this change was an inherent “delight in *appearance*, a disposition toward *ornament* and play.” The essential thing seems to be the self-conscious recognition of appearance *as* appearance: to see an animal, say, without desire or fear, as neither food nor threat, just as it is, or rather (for Schiller was a Kantian) just as it appears. “The reality of things is the work of the things; the appearance of things is the work of Man, and a nature [*Gemüth*] which delights in appearance no longer takes pleasure in what it receives, but in what it does” (p. 125). When the power of imagination is awakened, man “can join together what Nature has sundered, as soon as he can think of it together, and sunder what Nature combined, as soon as he can separate it in his intellect” (p. 127).

Such a process may be indicated by cave painting. In the first place, the animal figures are completely disengaged from any kind of natural surroundings, appearing by themselves without the normal background in which

seems to imply a very much greater approximation to abstract thought in the period than I would allow and assigns a much more causal role to depictive activity than I would. On the genesis of depictive activity, which is his chief concern in the article, I find the critique of Zhurov (1977–78) on the whole persuasively destructive.

the animals themselves would have been seen; they are abstracted and radically displaced from nature. In the second place, the figures seem to be, for the most part, displayed very freely without regard to size or position relative to one another or even absolutely. The familiar paintings of Lascaux will call this to mind at once. There we find horses juxtaposed to ibexes twice their size and to aurochs five times their size. On the left wall of the rotunda, a large horse floats over a string of horses half its size and is itself superposed on a giant aurochs. Indifference to size seems to be universal in cave depictions (there may be none that are actually life-size). Again, more often than not, where figures are clustered, they lack any visually appropriate relation to one another. This is especially true of ceiling decoration, as at Altamira and Rouffignac, where the figures are every which way, but it is also found on walls, as at Niaux and Pech-Merle.

These remarks may seem to deny artistic composition in cave art (cf. Ucko and Rosenfeld 1967:40–47; Graziosi 1960:28–30), and in fact I do mean to deny it, though with appropriate qualification. The word “composition” is often, I believe, used too loosely. It ought to refer to an intentional arrangement of parts to form a coherent, unified and meaningful whole. It does not mean a mere aggregate or cluster of elements; simple juxtaposition does not in itself constitute a composition. By this standard, the number of clustered figures that might reasonably be called compositions is extremely small. (Of course, I am not referring to the artistic composition of a single figure, which is clearly of another order and not at issue.) Minimal—or, better, borderline—composition is to be found occasionally in strings of animal figures. Lascaux has good examples in its several rows of horses, more or less the same size, color, and shape and moving in the same direction, and its “swimming” deer. These are “borderline” because, though visually coherent, they may or may not have any intentional significance. It may just as well be the case that one figure satisfactorily executed simply suggested to the artist doing another, without any thought of a “scene.” Copying is widely accepted as a basic of Paleolithic depictive activity, whether by the original artist or by successors. That one figure should inspire the creation of another (not necessarily of the same species) could easily account for most of the aggregates of figures we find. The unusual animal rows of Lascaux may be due largely to an unusual natural feature of that cave, the presence of a rock-formed horizontal, which the artists tended to follow, producing a perhaps unintentional linearity. Besides such minimal and possibly accidental compositions, there is next to nothing one can point to and confidently call a scene or the depiction of an event—for that is usually what is implied by a composition: the sense that something is going on or that “it adds up” to something. The most notable exception would be the famous Lascaux shaft “scene.” Without arguing whether it is or is not a scene, it must be admitted that it does *look* like one, even if we do not know what it means, but it must also be admitted that it is unique: there is nothing like it in the rest of

Magdalenian art. So the proposition that composition is at least extremely rare still holds.

But of course there remains the possibility of *symbolic* composition that would not be apparent to untutored perception. "Mere" juxtapositions might in this case constitute an intentional and meaningful whole, and this is indeed the heart of structuralist interpretations. Such composition is more difficult to deny, but on the other hand it is even more difficult to prove. Surely the burden of proof is on its proponents, and just as surely they have not succeeded in demonstrating any patterns that would require symbolic interpretation. They could be right, but the possibility is just as strong that aggregates of figures lack symbolic value and are not compositions in *any* sense.

It is worth noting that when we come to Mesolithic rock paintings, composition is perfectly evident and for the most part immediately intelligible as scenes depicting ordinary activities of hunting, warfare, etc., that require no straining after hidden meaning. This fact suggests the possibility of a further evolution of representation: from free images to composition. In such an evolutionary sequence the putting together of figures into meaningful scenes would come only *after* a period of producing individual figures for their own sake with at best occasional and minimal correlation among them.

The Magdalenian, or, more broadly, the Upper Paleolithic, may have been such a period. Representational activity—"art"—did not begin in the Magdalenian, obviously, but it did undergo an enormous and archeologically sudden expansion. It has justly been called an "explosion"—of creativity (Pfeiffer 1982) or of "symbolic behavior" (Conkey 1978). From about 30,000 B.C. on, there seems to have been a very slow and sporadic building up to a take-off point around 15,000 B.C. Before that, representational works are few, geographically scattered, and almost all sculptures and engraving. Conkey (1983:221) makes the excellent suggestion that "a case could be made for the development of Paleolithic art to have been a mosaic of diverse systems of visual representations that solidified or gelled, and perhaps even 'took off,' by the Würm III/IV Solutreomagdalenian." It also assumed some particular characteristics: first, it became concentrated in the Franco-Cantabrian area, perhaps because of major population shifts to that area (Jochim 1983), and second, painting became the dominant new medium, perhaps because of its comparative ease of execution and outstanding visibility. The Magdalenian is thus both a culmination and a beginning. Throughout the Upper Paleolithic visual representations are consistently of individual figures, including, I believe, the Magdalenian, though they often proliferated in aggregations. That generally they did not form compositions seems to me fairly certain. That they were not cultural symbols seems to be a very solid possibility.

There is, however, what might be called a milder form of symbolic value, namely, connotation. The cave images "denote" the animals represented, and it might be expected that they would also carry with them the con-

notations that the animals themselves must surely have had for their hunters, connotations, for example, of strength, fleetness, ferocity, etc., and evoke various feelings of awe, fear, desire, excitement, and the like. On the other hand, the fact that the images *are* images—immobile, unthreatening, unchaseable, inedible—could have had the effect of radically inhibiting the normal emotions of the chase and the normal connotations of the animals. This seems to me the greater likelihood—that a relatively dispassionate response would be evoked by images so extremely distanced from their referents, with a concomitant reduction of connotative or symbolic attributes.

Magdalenian art may thus be understood as a visible indication of Schiller's "aesthetic stage," showing a delight in appearance and a disposition toward play and implying an attitude toward the natural world in which the things of nature, or rather certain things of nature, namely, animals, exist in their own right as objects of contemplation, not simply as forces or as objects of feeling. Because the cave figures were consciously executed, a consciousness of self as maker would have been entailed, a self-conscious ability to re-present things of nature completely divorced from nature.

Cassirer (1953:89) has given greater precision to such insight into the growth of human consciousness by identifying the process as the creation of signs:

In the immanent development of the mind the acquisition of the *sign* really constitutes a first and necessary step towards knowledge of the objective nature of the thing. For consciousness the sign is, as it were, the first stage and the first demonstration of objectivity, because through it the constant flux of the contents of consciousness is for the first time halted, because in it something enduring is determined and emphasized.

He observes further that in producing the sign "consciousness operates freely and independently" (p. 90), differentiating itself from its representations, so that "the limits of the 'subjective' and 'objective' worlds become for the first time really clear." "In positing the sign, consciousness detaches itself more and more from the direct *substratum* of sensation and sensory intuition: but precisely therein it reveals its inherent, original power of synthesis and unification" (p. 108).

Upper Paleolithic representations are the world's first observable signs, and there is good reason to think that they have the kind of implications for the development of human consciousness that Cassirer postulated in very general terms. They imply the beginnings of reflection in the first attempts of consciousness to differentiate itself. If we give any credence to Onians's speculations (Collins and Onians 1978) about the origins of art, we may be able to see *stages* of this development within the Upper Paleolithic. Onians suggests that the very earliest, pre-Solutrean representations—female figurines, engraved vulvas, and animals—are to be related to the strong physical desires of young men for food and sex and provided direct tactile and visual satisfaction. These

images would be signs, then, but very heavily embedded in a sensual matrix from which Magdalenian representations, by contrast, show a relative emancipation implying a relatively higher stage of consciousness.

Piaget (1962:3) has described the ontogenesis of *internal* representation as a process of differentiation and coordination of signifiers and signified. This may be abstracted from its developmental context to serve as a description of representation in general. As representations, then, the cave drawings are signifiers distinguished from the things signified, but, being rarely grouped in compositions, they are only in a minimal stage of coordination among themselves. They may be interpreted as a "free play of signifiers." Abstracted from nature, they exist in their own right, and it does not strain credulity to suppose that they were enjoyed for their own sake, both in making them and in seeing them. Artistic representation was a new-found power, an intellectual one as well as a motor skill, and repeated for its own sake (the pleasure of "circular reactions").

The hypothesis of a "free play of signifiers" leaves ample room for learning, imitation, and diffusion. The relative continuity of style over long periods and the Franco-Cantabrian concentration of the material both argue strongly for cultural diffusion. But the high probability of imitation does not argue against the proposal that the activity was essentially one of play. Whether what began as free play, i.e., without other conscious purpose, was at some time later in the Upper Paleolithic invested with symbolic meaning and put to cultural uses seems to me impossible to determine, but the arguments against that assumption are quite as strong as any for it. The problem is, of course, that though figures *might* have had some mythical or social significance, we have no way of recognizing it. The alternative position, that the figures lacked any such significance, at least avoids anachronistic analogy; it presupposes not "primitive mind" but "primal mind," human consciousness in the process of growth. It is absurd to suppose that human consciousness as we know it appeared full-blown coincidentally with an anatomically *Homo sapiens sapiens* brain. And it is at least quite unwarranted to suppose that cultural symbolism is simply a given of the species from the beginning. If representational images were *ever* symbolic diagrams, these might be expected to follow, not precede, representations as such. The images would first of all have signified simply the animals depicted; only later would their meaning have been extended or transferred to other objects—even later, quite possibly, than the Mesolithic. It may reasonably be suggested that they maintained their status as primal signifiers throughout the precivilized period.

Without hoping to solve all problems of cave art or even do anything more than offer suggestions, I would like to discuss briefly three recurring major questions: Why are the figures so "naturalistic"? Why are they located where they are? And why are the subjects almost always animals?

"Naturalism" is one of the most salient and provocative features of cave art. The figures really do look like

the animals represented. Although they are far from photographic and although it is easy to exaggerate their anatomical accuracy, they are for the most part clearly recognizable semblances of their subjects. In this respect they are very distinct from the representations by Australian Aborigines or European children, a fact that severely attenuates analogical comparisons. Verworn (1908:32) attributed the visual distortion of the latter to the fact that such representations are already the product of reflection, while the prehistoric images "simply represent the unmediated recollection of the seen object." He surmised that Paleolithic man "above all did not speculate about things. He sought nothing behind things. . . . He took into account only what he perceived." I find the suggestion compelling: Paleolithic representation is naturalistic because it is unmediated by cognitive reflection. At this early stage of mental development, percept and concept may have been undifferentiated.

It is not suggested that *all* cave art is naturalistic. In a quite different mode are the countless so-called signs, apparently abstract designs in geometric style. Whether these were intended to represent anything, such as traps or buildings, or were just "play with forms" is a hopelessly obscure question. On the other hand, much of the "stylization" and "schematization" that Lorblanchet (1977) emphasizes is not necessarily so far removed from naturalism as he implies. His examples are dorsal lines of horses and single-stroke mammoth-head outlines, but these are really, as he says, "abbreviated" representations rather than schematizations. However fragmentary, the figures are still naturalistic in that they faithfully follow natural shapes. Moreover, as seen in herds and high grass, backs and heads would be salient in recollected perception. And in any case, these abbreviated figures bear virtually no resemblance to clearly stylized and schematized Mesolithic forms. Nevertheless, the idea of naturalism should not be overemphasized, for there remains much that is quite unnatural about Paleolithic art. It is certainly not a reproduction of nature. Two-dimensional figures painted on a cave wall without scenery constitute a major abstraction from nature; the images are taken *out of* and isolated from their natural habitat, emphasizing their independent status as images.

If early prehistoric representation existed for its own sake, having no "meaning" in any ordinary sense of the word, the implication is clear that the act of representation itself must have been important (as has been recognized in varying degrees by many writers, e.g., Luquet 1931:397–98; Ucko and Rosenfeld 1967:194; Bataille 1955:129; and Berenguer 1973:86). If it was of *primary* importance, it would follow that the work need not have been seen, or meant to be seen, by anyone other than its creator.⁹ Thus the question of whether the figures are

9. "Occasionally one suspects that only one expedition took place, perhaps just the one artist who went there to establish, once for all, the sanctuary that was henceforth known to exist deep under ground" (Leroi-Gourhan 1967:164).

located in readily accessible places or not may have no significance. In fact, figures in places of indubitable difficulty of access are quite exceptional (Ucko and Rosenfeld 1967:115; Leroi-Gourhan 1967:163). A somewhat different question is why deep caverns were decorated. It is different because many remote sites (e.g., Niaux, Rouffignac) are easy enough to get to even though distant from the present cave entrances (original entrances, so often indeterminable, could have been even closer). I would not venture a reason that people are attracted by caves, but there is no doubt that they are, and that is perhaps sufficient, for clearly the attraction was the same in prehistoric times. That the caves were explored then is evident not only from the paintings but from footprints in caves without any painting or signs of habitation. Sites for painting may have been selected initially by no more than the observation of one of those suggestive natural configurations, which inspired a further proliferation of free figures. At Niaux, one of the deepest caverns, for example, though almost all the numerous paintings of the Salon Noir are independent of surface shape, there is one remarkable utilization of natural features: a hole in the wall somewhat in the shape of a stag's head has had antlers painted above it to augment the illusion (Clottes n.d.:8). It may have been simply this feature that determined the site. In any case, it is certainly not necessary to attribute any sacral value to remote sites.

The impulse to explore seems to be an innate human (even primate) trait—some psychologists (e.g., Hebb 1955) would even give it the status of a "drive." Is it also a natural desire or propensity to reproduce images of reality? The evidence is too skimpy to be taken too seriously, but what there is is provocative. One bemusing anecdote comes from an infrahuman source, the Gardners' signing chimpanzee Moja, who after drawing some unrecognizable configuration identified it in sign language as a bird (Gardner and Gardner 1978:37). Another comes from a cross-cultural study of children's art. Alland mentions a Chinese two-year-old who had never drawn before who decided spontaneously that his first effort would be a picture of a tiger (Alland 1983:15–16). His intention, like Moja's, was a figural representation, and neither had any guidance in that direction. Such incidents, however interesting, are hardly to be pressed into a theory of innateness, but two generalizations seem safe enough: first, there seems to be a natural primate propensity for "playing with form," in Alland's phrase; second, there seems to be a natural pleasure evoked in both the making and the recognition of realistic images.

In the Upper Paleolithic these images are almost entirely of game animals. Why animals? Verworm's answer seems reasonable: animals preoccupied the imagination of hunting peoples (1909:48–49). If these people were to represent anything, animals—what they thought about most—would be the obvious choice, especially if they were not guided by specific purposes. There seems to be no doubt that the pursuit of game was a principal activity and focus of attention for Magdalenian peoples, and therefore the assumption is plausible enough. Even for

people who are far less dependent on game, Lévi-Strauss's maxim seems to hold good: "animals are good to think." For hunters in particular there is much indeed to occupy the mind in planning, preparing, tracking, trapping, stalking, chasing, killing, butchering, transporting, distributing, eating, celebrating, reminiscing, and dreaming. I say "occupy the mind" to emphasize the fact that such mental activity need not imply analytical, reflective, or speculative modes of thought. Embedded in the concrete and action, it implies no search for meaning. "Good to think" in this restricted (and un-Lévi-Straussian) sense, animals would also surely be "good to represent." And their representation in turn requires no reflective thought.

That this kind of thought should be externalized, graphically recreated, objectified—this is the "miracle" of the Upper Paleolithic: not art, as often stated, but representation. There is no apparent biological, neurological, or cultural imperative to reproduce reality in graphic form; indeed, representation seems to be quite "useless," serving no practical purpose, at least in its beginnings. It is perhaps our own developed consciousness that has misled us into assuming meaning and purpose for what in itself may have been simply a free play of signifiers. By the time of the Spanish Levant paintings, free representations have been organized for meaningful purposes; the great formal contrast between this art and that of the Paleolithic suggests that the apparent randomness and playfulness of the earlier forms may be actual.

That modern efforts to interpret Paleolithic cave art have tended to dissipate in conjecture, leading to a general giving up on the problem, is perhaps an indication that we have been taking the wrong approach, an approach burdened with anachronism and paradigmatic presuppositions. Yet surely the most interesting question about the beginnings of art is still Why? Is a different approach possible, one that does not presuppose adaptiveness, pragmatic purpose, ritual, magic, or preoccupation with food or sex? It may be that the true significance of Paleolithic art lies in the history of consciousness. This art provides our earliest evidence of abstraction, the foundation of reflective thought. The images are abstracted from nature, yet concretely represent natural objects with their own independent existence, made, not given. Consciously created, they would invite a conscious response rather than the automatic or habituated reaction evoked by their natural counterparts. As external representations were disengaged from nature, so the percept was freed from the presence of its object and perhaps consciously differentiated, thus, like the figure on the wall, acquiring its own independent status. Knowing that they were making representations, the painters may have had an incipient awareness that it was a process of projection, a transferring of images in the mind to images on a wall. And this self-awareness of the mind in operation would be the first step in concept formation, the beginning of genuine thought.¹⁰ If, as I suppose, Paleolithic art had no practical function, it may

10. Cf. Werner and Kaplan (1963:12–21).

be the first cultural work of mankind to be freed from praxis and therefore belongs in the general category of play and in the specific category of play of the mind. This is not the body play of animals or the mimetic play of higher primates, but a playing with signifiers. It was an activity undertaken for its own sake, with its own pleasures and rewards, but nevertheless pregnant with the cognitive future of humanity, for out of such activity would emerge conscious, reflective thought.

Comments

LEVON H. ABRAHAMIAN

Institute of Archaeology and Ethnography, Academy of Sciences of the Armenian S.S.R., Yerevan 375009, U.S.S.R. 14 VIII 86

I am afraid that Halverson, even in replacing the "art for art's sake" label with "representation for representation's sake," is stepping into the realm of the fin-de-siècle aestheticism he wants to dissociate himself from. Emphasizing more than once that Palaeolithic man is not to be compared with modern (even primitive) man, he nevertheless does so, neglecting the fact that Palaeolithic "art" (and representation) is but a single component of the syncretic phenomenon of prehistoric life and not a careless "play with signifiers." It has to be noted that Stoliar's (1977-78, 1985) ideas on the beginnings of art and its influence on the formation of consciousness (see n. 8) are mainly based on this syncretic activity (including its ritual and economic components).

Even if one accepts Halverson's cautious proposal of a "natural desire or propensity to reproduce images of reality," it is important to keep in mind that these "figural representations," whether by the chimpanzee Moja or the Chinese two-year-old, were unrecognizable and needed special interpretation (in sign or verbal languages). That is, they were not realistic. According to Halverson (who follows Verworm), naturalistic representation is unmediated by cognitive reflection, but I disagree; man (even Palaeolithic man) is not a Polaroid camera. The realistic style is a style that must be specifically learned, and for the artist the most nonfigurative depiction may be real. Often, indeed, it is *more* than real, not *less* as Halverson thinks; here we must not neglect ethnographic data on primitive peoples.

The problem of correlation between realistic and nonfigurative styles seems to me the most interesting one in the article. Here there are some curious correlations in Australian rock art, where after the realistic Phase II (according to McCarthy's [1964:33-37] periodization) comes the schematic and symbolic Phase III, and this is succeeded by Phase IV, again a realistic one. The roots of Phase III Kabo (1969:301-2) rightly relates to the thermal maximum in Australia, which gave rise

to a real explosion of magical rites and their reflection in the artistic style (Abrahamian 1983:22, 24-26). The return to the realistic style, a kind of an Australian "Renaissance," might mean that the society was emerging from a period of stress; unfortunately, the last two phases are not dated securely enough to prove this hypothesis. One can call to mind the situation in the beginnings of 20th-century art, when major reconstructions in the social and psychological spheres (the socialist revolution, the revolution in physics, etc.) gave rise to a burst of nonfigurative tendencies in art.

Another Australian example shows that ethnographic data must not be neglected if one is looking not for formal analogies but for the underlying mechanisms of the phenomena being compared. Australian rock art includes handprints resembling the Palaeolithic ones—real, pure representations of nature in Halverson's sense, though, of course, they may be of different origin and function. Strangely enough, in a southern Queensland cave there are handprints lacking a finger or a joint *inside* the cave and imprints of complete hands *outside* at the entrance to it (Mulvaney and Joyce 1965:201-5, pl. 23-31). And in the Palaeolithic data the schematic and symbolic style prevails inside the underground sanctuaries while open sites are the domain of the realistic style (Laming-Emperaire 1962:293). Thus even in the case of handprints, in this unique branch (or dead end?) of art (Stoliar [1976; 1985:55-69], for example, denies its relation to linear depictions), one can see how the simple bending of a finger (for discussion of the finger's being bent versus amputated, see Ivanov 1972:112), that is, the slightest deformation of reality, is the first step toward the sacred. This example shows that the type of site itself influences the style of the representation. More than that, caves containing realistic animal representations are not just long corridors that provide convenient surfaces for the artist's "play" (let us remember that there are representations on almost inaccessible parts of caves too) but a type of space that determines the organizing principle of the Palaeolithic remains (Leroi-Gourhan 1964:109 ff.; Toporov 1972:81-83). This brings us to the problem of the composition in Palaeolithic art. As Halverson says, here compositions really do not exist, but only if we mean compositions in the usual modern sense of the word. The composition (and topic) here, Toporov (1972:86) has noted, is as if taken out of the brackets of the representation and lies outside of it.

KATHLEEN M. ADAMS

Anthropology Department DH-05, University of Washington, Seattle, Wash. 98195, U.S.A. 7 IX 86

Halverson's article raises a number of interesting issues and represents yet another contribution to the debate concerning the nature and meaning of Palaeolithic art. His comprehensive discussion of the literature provides us with an informative update of Ucko and Rosenfeld's (1967) classic review. I strongly support his substitution of the term "representation" for "art," given the unlikelihood of the existence of a concept of "art" in the

Palaeolithic. Others (for instance, Davis 1986a:193) have recently adopted the term "representation" for similar reasons, observing that it is potentially misleading to infer an "aesthetic" sense from Paleolithic activities. Although a number of Halverson's ideas merit discussion, I will limit myself to two issues: the problem of "why caves" and the issue of supporting data.

Halverson's explanation that caves serve as the locale of Palaeolithic representation because, quite simply, people are attracted by them strikes me as weak. People are attracted to a variety of places, not just caves. Furthermore, it is quite possible that other surfaces (such as animal skins, bark, etc.) were painted but the material did not survive in the archaeological record. This is one instance where Halverson's argument suffers from his hasty dismissal of evidence from contemporary hunter-gatherers. Although I recognize the limits of the contemporary hunter-gatherer analogy, a survey of contemporary San (Lewis-Williams 1981) or Walbiri (Munn 1973) representational form, for instance, would suggest that much hunter-gatherer iconography involves the use of impermanent substances (charcoal, etc.) on highly perishable surfaces.

A second point concerns the ever-present problem of evidence. Halverson dismisses hunting-magic and religious explanations as lacking in evidence, but the explanation he advances is equally unsubstantiated. Indeed, any attempt to understand the nature and meaning of representation in the Palaeolithic remains a speculative venture. While Halverson does an admirable job delineating and assessing the various hypotheses concerning Palaeolithic art, his quest is essentially doomed from the outset because, as he himself has shown, evidence to support theories is lacking. Until further evidence is unearthed, Halverson and others are forced to engage in what a friend fondly terms "arm-waving anthropology." These limitations aside, Halverson's article is both well-written and interesting—he is to be commended for his creative contribution to the debate.

PAUL G. BAHN

428 Anlaby Rd, Hull HU3 6QP, England. 3 IX 86

This is a provocative and stimulating paper which raises intriguing questions such as why many Palaeolithic figures are so naturalistic; the speculations about the origins of art are interesting, although I feel that until we have firmer dates for more examples of the earliest figures such speculations are likely to be as unrewarding as attempts to discover the precise meanings of the art. Suggested sequences of appearance of different forms of representation tend to be highly subjective and often twist the facts in order to make them fit—thus Stoliar's scheme (1977–78, 1985) requires the Montespan clay statues to be early Aurignacian or even Chatelperronian in date, while Hornblower (1951) assigned them to the Gravettian, though there is not the slightest shred of evidence for these views and the figures are almost certainly Magdalenian.

I also find myself in profound disagreement with the author on several points of fact and interpretation. He rightly dismisses hunting magic and similar simplistic explanations; but has it not occurred to him that if all recent specialists in Palaeolithic art have also rejected "art for art's sake" as an explanation, it is not (usually) through a perverse desire to find ritual and mysticism at all costs but simply because their experience and knowledge of the art have shown this idea to be unsatisfactory? As Lewis-Williams (1982:429) has pointed out, an aesthetic interpretation of this type "reduces cultural phenomena to an innate tendency and directs explanation inward to mental states about which we can know nothing," and Halverson's paper is a perfect illustration of this argument. The Palaeolithic artists must certainly have derived great personal satisfaction, and perhaps enhanced prestige, from the best of their work, but that hypothesis is untestable. Simple aesthetics explains nothing and has no bearing on meaning.

Ironically, the paper seems to be solely concerned with parietal figures, whereas it is in the portable art that "art for art's sake" finds its most plausible examples, for in many cases one may simply be seeing the decoration of functional objects. Even here, however, more may be involved, from marks of ownership to the complex notations and seasonal images studied by Marshack (1972). Similarly, the early finds of "Venus" figurines from poor excavations might have borne interpretation as child's dolls or "cheesecake," but the more recent finds from carefully excavated sites in the U.S.S.R. were discovered in very special settings: for example, one from Kostienki I, found in 1983, was upright in a small pit, leaning against the wall and facing the centre of the living area and the hearths; the pit was filled with soil mixed with red ochre and was capped by a mammoth shoulder-blade (Praslov 1985:182–83).

The adoption of "art for art's sake" as an explanation resembles the assumption that someone is innocent until proven guilty—positive proof of ritual or religious motivation is required, but, as Halverson himself admits, *nothing* pre-writing can be proved absolutely to be religious. However, his paper omits all of the major factors which strongly suggest that the art had complex meaning. For instance, if his view that the parietal pictures were merely "objects of contemplation" were true, one would expect to find a pretty broad spectrum of subjects, accumulated more or less randomly on suitable surfaces in the caves. Yet the opposite is the case: the animals depicted are primarily horse and bison, together with a few other herbivores, and rare carnivores, anthropomorphs, birds, and fish. The percentages of different species in each cave's inventory—whether parietal or portable depictions—never correspond either to those in the contemporary environment or to those in the site's faunal remains (Altuna 1983, Delporte 1984).

Leroi-Gourhan, despite the criticisms which can be levelled at his approach, did make it clear that certain species tend to be located in particular parts of the cave. It is well known that some panels are "overdecorated" while others, apparently equally suitable, were left

blank. Moreover, as Pales showed in his survey of parietal human depictions (Pales and de Saint Péreuse 1976:153–56), as one goes from daylight through obscurity to total darkness in caves, the percentages of definite females/definite males/neutrals change dramatically: in daylight zones, 56.2% of humans are female, 6.2% male, and 37.5% neutral; in obscurity, these figures have changed to 31.4%/8.1%/60.4%; in total darkness, only 3.6% of the humans are female, 16.3% are male, and a massive 80% are neutral.

Finally, as the innovative research of González García is showing (1985 and personal communication), even the choice of surface was careful, with different species being depicted according to whether a panel was concave or convex.

All of this suggests strongly—and without any recourse to ethnographic analogy—that there is complex meaning behind both the subject matter and the location of Palaeolithic figures. Surely there are patterns here that require symbolic interpretation? Surely these repeated patterns suggest that individual artistic inspiration was subject to some more widespread cognitive system?

I also contest Halverson's view that there is no composition; of course, it depends what one means by composition. If one means scenes, then one must agree that recognizable scenes are very few (see Delporte 1984: 115); but if one means a planned layout of figures by one or more artists, then I feel sure that these abound in Palaeolithic iconography. I have always believed (Bahn 1978:125) that the bulk of Palaeolithic art should be seen as a large output by a relatively small number of expert artists. The very promising attempts by Apellañiz (e.g., 1981) to identify different works by the same artist, together with experiments such as those by Lorblanchet (1980), who managed to reproduce the 25 drawings of the black frieze of Pech-Merle in only one hour, support this view, and one can reasonably infer that many panels like the black frieze were planned and laid out, in a single artistic event, as a composition within a given space rather than accumulated as a random juxtaposition of figures. In any case, how does one differentiate an "intentional arrangement of parts to form a coherent, unified, and meaningful whole" from a "mere aggregate or cluster of elements"? The Palaeolithic compositions may not look meaningful to Halverson—but the Australian compositions he cites also do not look very meaningful until one learns the story behind them. As Lewis-Williams has said (1981:10–11), it is necessary to look beyond the superficial lack of a narrative or literal connection between apparently disparate figures and to concentrate on the relationships between them.

Portable art too has many examples of composition—one need cite only the processions of animals on bones such as those of La Vache, the famous baton from Lortet showing deer associated with fish, the Duruthy baton depicting two ibex fleeing in terror from a carnivore, or the Laugerie Basse engraving clearly showing a supine woman behind and beyond a deer. Many other examples could be given.

Finally, I query some of the author's statements: Halverson claims that Palaeolithic depictions are "consistently of individual figures"—but this is far from being an absolute rule; quite apart from the compositions mentioned above, there are clear examples of association such as the Trois Frères birds, the Enlène spearthrower depicting fighting fawns, the two reindeer of Font de Gaume, and the numerous examples of "affrontement" (see Welté 1975–76). And is it really true that painting became dominant in the Magdalenian? Certainly many of the spectacular painted figures seem to belong to that period, and they are the ones which tend to be published and remembered; but parietal engravings (quite apart from the thousands of engraved objects) are still quantitatively supreme (compare, for example, the number of engravings at Lascaux or Trois Frères with the paintings in these sites). Only a few caves are dominated by painted figures.

I do not believe that Palaeolithic iconography illustrates an obsession with either hunting prowess (Bahn 1985a) or sexual matters (Bahn 1985a, 1986) even in its earliest stages; the "macho" interpretation of hunting exploits and sexy pinups (see Guthrie 1984, Collins and Onians 1978) is largely based on subjective and wishful thinking and ignores the strong possibility that some if not all the artists were female. However, although I think that ritual and religion were very probably involved, I agree strongly with Halverson about the exaggerated references to shrines and suchlike, and it is heartening that scholars are at last abandoning the traditional concepts of "sanctuary" and "church" in connection with the caves (e.g., González García 1985). Recent discoveries of Palaeolithic parietal figures in the open air (Fortea 1981, Jorge et al. 1981, Bahn 1985b) may also help to redress the balance and make us realize that the figures, albeit linked to ritual, were probably an integral part of life in this period.

LYDIA T. BLACK

*Department of Anthropology, University of Alaska,
Fairbanks, Alaska 99701, U.S.A. 27 VIII 86*

Halverson tells us that the currently dominant interpretations of the origin and function of Palaeolithic art, specifically of the cave paintings from southwestern Europe, as having had religious significance for the people who produced them "suffer . . . from the lack of visual corroboration or even correlation" and that "nothing in Paleolithic art can be attributed with any solid assurance to religious motivations." Leaving aside the fact that Halverson's concept of religion seems to me rather narrow (I prefer the broader approach of Luckmann 1967), I find his contribution a rather strange reversion to philosophies of art long since found wanting. The lack of discussion of reasons the notion of "art for art's sake" is rejected today by philosophers, aestheticians, art historians, sociologists, and most anthropologists is troubling, as is his idiosyncratic interpretation of Luquet's position. I am also not at ease with the use

made of the findings and conclusions of Ucko and Rosenfeld (e.g., their conclusion that some of the Palaeolithic animal imagery does not necessarily imply sympathetic magic is cited by Halverson with the remark that "indeed, most recent commentators would probably allow various motivations at different times and places"; Ucko and Rosenfeld [1971; concluding paragraph] in fact do so very explicitly).

Conceding that our interpretations of the Palaeolithic art are indeed inferential (as they must be) and therefore speculative at least in some degree, one is led to expect that an alternative proposition will be advanced, one that is grounded more solidly in empirical evidence. Instead, we are confronted with speculation heaped upon speculation, the whole edifice being based on assumptions, stated and unstated, for which there is no evidence whatsoever. The question, then, is rather simple: is this good speculation? Can we entertain it as a scientific proposition? My answer is no for many reasons, the main one being that it is best characterized as "unnecessarily original" (Bohannon and Glazer 1973:xii).

In just a few pages, the author offers us a schema for the evolution of human consciousness from concrete to abstract, from "inchoate cultural and psychological states" to "the foundation of reflective thought," defining Upper Palaeolithic representations as "the world's first observable signs . . . [implying] the beginnings of reflection in the first attempts of consciousness to differentiate itself." Even though Halverson concedes that anatomically the brain structure of the Paleolithic population was that of *Homo sapiens sapiens*, he borrows the phrase "at the dawn of human reflection" to describe the state of their cognitive development, their "primal mind," in which mental activity "need not imply analytical, reflective, or speculative modes of thought," and contrasts it with "our own developed consciousness."

In the light of recent findings in neurophysiology, this rehash of 19th-century notions hardly deserves much comment. However, for good measure we are offered an evolutionary schema for the arts, too, as well as the answer to what has to my knowledge been the unanswerable question of the origin of art.

The first, with stone knapping leading to carving and thence to three-dimensional representations (sculptures), which became relief and engraving, and finally to painting is hardly original with Halverson. Besides, it can be argued that a stick and not worked stone was the first tool and that a stick, or even a finger, could be used to draw in sand, on tree bark, and on skins, both human and animal. The argument that fashioning a three-dimensional image involves less abstraction than two-dimensional representation is spurious, stemming from Halverson's adherence to the old evolutionary schemata, such as Haddon's (1895), in which naturalism and realism precede abstract representation. (Riegl [1893], whom Boas [1955 (1927)] cited, also held this view.) If it is conceded that a stick could have been used to draw in the sand, etc., it is logical to argue that lines, dots, and other simple geometric (abstract?) forms are likely to have

been produced first (and more likely to have been "just so" products than the paintings of Altamira and Lascaux). Ivanov (1954: introduction; 1963:18-19), for example, postulates the possible early emergence of two-dimensional ornamentation and links it to conscious appreciation by human beings of shape and form, proportions, color, rhythm, and symmetry observed in the environment. What Ivanov talks about is not, as Halverson would have it, the imitation of nature as being at the root of artistic representation, but objectivations of concepts and subjective processes. Since such objectivations take place in society (surely no one will deny that Palaeolithic man existed in society), these "products of subjective activities . . . become available as elements in a common world both to their producers and to other men"—what we call *culture*. Objectivations "serve as indices of meaning outside . . . limitations of space and time." Not only are objectivations "essentially social" but "symbolic universes are socially objectivated systems of meaning that refer, on the one hand, to the world of everyday and point, on the other hand, to a world that is experienced as transcending everyday life." I am quoting from Luckmann's *Invisible Religion* (1967:44, 43), but I could just as easily have made reference to Berger and Luckmann's (1966) *Social Construction of Reality* or to the work of Alfred Schutz. What we are talking about here is, I repeat, *culture*, and since Palaeolithic art was produced over several millennia, we may certainly talk about *cultural tradition* (of very long standing, as human affairs go), which Halverson denies.

Finally, Halverson links the hypothesis of the origin of art he advances to the theory of art as a pleasure-producing activity. This linkage was made by Allen (1877) and others (see Listowel 1933 and 1967 for a summary of both the pleasure theory and the play theory in aesthetics) and ably criticized by Guyau (1884, 1889), among others (for a concise summary of Guyau's point of view see Munro n.d. as well as Listowel). The notion that artistic activity and aesthetic impulse originated in play appears not only in Kant (1892) and that most Romantic of the Romantics, Schiller, but closer to home in Spencer (e.g., 1896). Among philosophers of aesthetics, in addition to Allen, the theory was propounded in detail by Groos (1898, 1901) and von Lange (1895, 1907). Underlying all of these expositions are the notions that art and play are ends in themselves, useless exercises of the imagination with no permanent value, and that play and artistic activities are essentially different from work activity—the philosophy which Halverson presents to us. It is unnecessary to recapitulate all the arguments that have been advanced against the play theory of the origin of art since the time of Grosse (1893). Even "pleasure," however it is defined, and certainly play are culturally circumscribed, and especially in play societal values are expressed. Neither is meaningless. And is it necessary to argue that art in any form is one of humanity's main ways of objectivating meaningful subjective experiences, thus creating cultural universes?

I have characterized Halverson's presentation as "unnecessarily original": conceptually and analytically he

seems to reside in the 19th century. Why reinvent the wheel?

WHITNEY DAVIS

Department of History of Art, University of California, Berkeley, Calif. 94720, U.S.A. 23 VII 86

As this stimulating paper challenges the very possibility of an anthropology of art—an analysis of the cultural meanings and status of representation—it may be resisted by many readers of this journal. However, like Halverson, we can certainly take up a position outside the anthropologist's cultural-symbolic a priori: we need to focus noncircularly on how the Representational systems which constitute culture are themselves constituted, to imagine "inchoate cultural and psychological states." As these states are outside or prior to "history," our grasp will be as much speculative or philosophical as empirical. Therefore I am not disturbed by the lack of direct evidence for much of Halverson's interpretation of Paleolithic art. But despite the paper's many excellent points (for instance, it is worth recalling Verworn, Luquet, and Bataille), I have difficulty with its terminology and argument. Its Schillerian elements are especially problematic. There is space here to focus only on some issues. Halverson sets up equations between terms—roughly, "beginnings" = "free play" = "no practical purpose" = "meaninglessness" = "naturalistic," "unmediated"—which should be kept quite distinct, separately studied, and in some cases rejected.

Understandably, Halverson wishes to free Paleolithic images of implausible interpretations. He presents cogent if not especially novel criticisms of the traditional and some recent views of the Upper Paleolithic artist as a deeply spiritual if irrational being (magico-religious interpretations), an orderly and logical classifier of his world (structuralist), or a rational maximizer of his life-chances ("processual," "adaptationalist"). Certainly these accounts depend upon tendentious notions about humanness. His alternative, however, seems to reduce to an equally tendentious affirmation of the uniqueness of *Homo sapiens sapiens*, the creature he credits with "abstraction," "reflective thought," the consciousness of being a "subject," "concept formation"—in short, with "genuine thought." Paradoxically, in his account the concepts of the Upper Paleolithic artist turn out to be so very minimal that "Paleolithic art may be said to be essentially 'thoughtless.'" At the very least, *H. sapiens* prior to the Magdalenian and outside Franco-Cantabria comes off poorly. In the end, in denying the meaningfulness of Paleolithic imagery, Halverson throws out the baby with the bathwater.

What Halverson means by "meaning" is not entirely clear. Paleolithic images *denote*; they have depicted *content*, namely, various animal species. Reference is surely a large part of what we mean by "meaning." Why did Paleolithic artists represent animals? Halverson claims that animals were what the artists "thought about most," but thought about *how*, and why *these* animals?

The paintings do not only represent game animals; the artist's interest was not or not only in animals-as-food. Leroi-Gourhan and Laming-Emperaire have sought the *symbolic connotations* of Paleolithic depiction, and we might reject their methods and conclusions on various grounds. Although he appears to have an odd view of connotation as a "milder form of symbolic value," Halverson is correct that it is difficult to determine the connotations of images produced in an alien context. However, the enterprise is not misplaced and should not be dismissed lightly: that we have not been successful in decipherment is no argument that it is logically unobtainable or, more important, that the original users did not refer symbolically. For the moment, let us reserve pursuing the argument that referential meaning seems inextricably to involve symbolic connotations (Panofsky 1939, Elgin 1986).

By "meaning," Halverson *also* means "practical purpose" and "social use." It is principally in this sense that he argues Paleolithic images had no "meaning." In a reformulation of his claim, we could say that whatever conceivably complex denotation and connotation Paleolithic imagery might have had, it subsisted "for its own sake," a "free play of signifiers." What do these characterizations amount to?

Logically, representation can potentially be discovered when (say) a casually scratched line momentarily seen as a real thing is disambiguated and seen to be different from that thing (Davis 1986a, b). The human perceptual system performs this task automatically. No *particular* intention or purpose, social setting, or cultural tradition *necessarily* serves as the context for the discovery of the representational potential of nonrepresentational form.

Although a context of purposes and traditions may be the norm, it is important to focus, as Halverson does, on situations in which the sign maker does not possess any purposes or traditions—does not simply imitate or anticipate others in "conventional" solutions to "coordination problems" of life (Lewis 1969). One of these situations is that of the discoverer (or "inventor" [Delluc and Delluc 1986]) of a mode of representation. It is the situation, in Halverson's word, of "beginnings." Although we certainly need a full and positive account of what *is* going on (Quine 1960, Kripke 1980), in "beginnings" an inaugural sign maker cannot noncircularly be said to be conforming to conventions or to have a language in which he designs a language.

Perhaps, then, discovery is in a sense "free play," unlooked-for and below any self-conscious threshold. In this situation, what the sign maker does is arbitrary in the strict sense, that is, devoid of information ("meaning"). The initial decision to signify "dangerous crossing" with a red light rather than a green does not matter (although it is not inexplicable). It is not clear to me that we could ever archaeologically find this *real* moment of "beginnings," however necessary it is to our theoretical understanding of sign production.

Presumably Paleolithic artists were not *all* "discoverers." Furthermore, even inaugural semiotic activity (say, ostension) takes place in some kind of a context;

nonsemiotic conditions—habits, skills, preferences, demands—constrain the possibilities of sign production. (A color-blind population could not use the red/green difference, and another might prohibit flashing lights.) Representation is socially *sited*. Finally, the particular representations constituting the material record are just and only those that the sign maker actually preserved, reproduced, and varied. Representation is a cultural *practice*. Although there will be dispute about its proper formulation, some account of purposes and traditions therefore seems unavoidable.

In sum: signs may begin in “free play” or a variety of other ways, and only some have a history of use—but if they appear repeatedly in the material record in an extended spatial and temporal distribution (which I won’t attempt to define here) they *necessarily* have a history of meaning, use, and development as a culturally sited practice of representation. This conclusion would apply as much to the “first” Aurignacian “abbreviated depictions” (Leroi-Gourhan 1967:206; Delluc and Delluc 1978) as to any later images.

I have taken up space to establish this conclusion, for I take it to heart that earlier writers, as Halverson points out, have merely assumed and not argued for the meaningfulness of Paleolithic art. Halverson mounts a number of arguments against it, but in my view none quite succeeds.

First, the so-called naturalism of Paleolithic images cannot be turned into an argument for their symbolic or functional meaningfulness. “Naturalism” is not in contrast with but rather a particular variety of symbolic convention, for there are *many* naturalisms; a variety of representational geometries “correctly” depict optical information (Goodman 1971, Hagen 1986).

Second, in “free play” presumably all kinds of schematic or abstract mark making should be equally possible. Playing apes and monkeys never produce figuration at all (Davis 1986a:197, with caveats). Therefore the “naturalism” of the Magdalenian image (Verworn notwithstanding) says nothing one way or the other about any mediation “by cultural tradition, ideology, or reflection.” For myself, I cannot imagine what the “unmediated recollection” of things in the world, or unmediated image making, would be like. Should I imagine myself as “Funés the Memorious,” the hapless total eidetic (Borges 1964:59–66)? Normally both memory and drawing are mediated by many complex conditions and filters.

Third, at points Halverson suggests that “what began as free play” at some unspecified *later* point acquired symbolic connotations or social uses (compare Luquet 1930:112–13). Does this imply that Aurignacian engravings (Delluc and Delluc 1978), at the earliest end of the known record, are completely nonmeaningful “free play”? At least by some criteria, these signs are the *least* “naturalistic” and *most* standardized in appearance (the so-called vulva signs). Moreover, although we can consider the different qualities of meaningfulness, measuring its quantity seems impossible. If they are signs, Aurignacian, Magdalenian, and Mesolithic images by

definition are *all* meaningful through and through: they have depicted contents, symbolic connotations, and typical uses and exhibit—in selecting specific techniques and styles of representation—intentions or preferences.¹

Fourth, and most important, Halverson argues from the graphic qualities of Paleolithic imagery itself that it subsisted as “free play.” His standards for judging order, self-consciousness, or purposefulness—use of “composition,” “visually appropriate relations” between figures—seem rather specialized. That Paleolithic imagery does not employ these conventions does not prove that it does not depend upon others. In fact, the coordination and consistency of a style or language could never be secured in an indefinite succession of acts of completely “free play,” even maintained as a culturally sited practice (Surrealist automatism? Abstract Expressionism?). Since an infinity of different marks can be seen as an infinity of different things, and marks themselves can be varied in an infinity of directions, a completely “free play of signifiers” should result in an *endlessly diversifying practice*. Even in the most anarchic contemporary art, this never occurs—and surely it did not in the Paleolithic. To account for the relative stylistic uniformity of Paleolithic art by the “imitation” of “free play” seems implausible. To sustain itself, “imitation” must be reinforced and (because mere copying leads quickly to corruption of the prototype) constantly rethought. Although perhaps no one has yet properly described the order(s) or system(s) of Paleolithic art, the fact that “styles” can be recognized with greater or lesser confidence (Leroi-Gourhan 1967:204–17) is fundamental evidence for the existence of system.

For reasons we must examine, the Paleolithic image maker, like any other, explored only a subset of the representations logically available. Again, an account of symbolic connotations, purposes, or uses—of the coordination and consistency of sign making—seems unavoidable.

In sum, Halverson’s descriptions of Paleolithic imagery do not really prove that it was “free play.”²

1. It could be argued that some Paleolithic marks are not signs at all, an important possibility when we consider conceivably nonsemiotic or nonsemantic marks of the Mousterian (e.g., Marshack 1976) or the “finger lines” of the Upper Paleolithic (Bednarik 1984a, 1986). I do not see how the argument could be applied to the recognizable images. Representational or not, semiotic marks should be recognizable on formal and contextual grounds; we need not be able to read the notation or see what the image is of (Davis 1986a:209; 1986b:52–53).

2. Mixed in with this claim is a second, separate thesis, namely, that the Paleolithic image is “abstracted and radically displaced from nature.” This thesis could be true whether or not the image originated in “play.” It requires an independent defense. One possibility is the suggestive idea that the viewer as it were “brackets” his perception of the surface and sees *only* image, transferable from surface to surface. However, it is unclear how a viewer learns to do this and whether it applies to all images (the image maker sometimes used natural features of the surface representationally). Another possibility might be that the image depicts universal rather than particular subjects, “a horse” rather than “this horse.” However, as any kind of image necessarily attributes some properties to its subject, we cannot differentiate in advance between the repre-

If, as I argue, signs materially produced, preserved, and varied by definition possess "meaning," then even in theory Halverson can only go so far as to claim that this "meaning," whatever it was, had "no practical purpose." Although the paper wavers, this seems to be dramatically different from the thesis that the images "had no meaning."

It is not really clear what Halverson accepts as "practical" and as "play." Both terms carry a lot of weight. Throughout, the "practical" demands of magic, zoological, sexual, or social classification, boundary maintenance or group identification, and so forth, said to be "analytical, reflective, and speculative," are contrasted with the "free" and "playful" autonomy of aesthetic action, and throughout (in the puzzling usage I have criticized) the former is meaningful, the latter not. However, the whole dichotomy requires more defense. On the one side, magic and religion, knowledge of the world, and social life all have their own particular logic, history, and aesthetic beyond the "practical" fulfillment of universal needs. On the other side, aesthetic activity "for its own sake" minimally involves the "practical" values of obtaining pleasure, experimenting, producing what is admirable, imprinting values, and so forth (leaving aside any implication in all kinds of other aspects of life).

Even if we granted that it could be isolated, we would still want to know about the origin and meaning of a domain of autonomous aesthetic action in human life, "art for art's sake." At the very most, then, Halverson's approach produces *the explanandum, not the explanation, of Paleolithic art.*

To be fair, the elements of an explanatory analysis—how could we account for the emergence and qualities of Paleolithic art?—are presented in Halverson's analysis, as a second major and rather independent theme about "abstraction" and the origin of "reflective thought." Apparently he wants to start from a "natural primate propensity for 'playing with form.'" Although this may be a necessary it cannot be a sufficient condition for representational image making (Davis 1986a:197–98, 210; 1986c:53–54).

The trick is to account for what Halverson calls the "self-conscious ability to re-present things of nature completely divorced from nature." In his view, the process involves "distinguishing the signifier from the thing signified," the "concept" from the "percept," with "this kind of thought" ("abstraction") gradually "externalized, graphically recreated, objectified" in the development of a sign system. Elsewhere I have tried to show how this occurs, without assuming that the sign maker necessarily has any special abilities or intentions or is necessarily engaged in "adaptive behavior" or "free play" or produces necessarily "naturalistic" or any other particular kind of image (Davis 1986a:199–200). Distin-

guishing a potential signifier from the signified ("disambiguation") has logically more primitive modes, such as *mere* differentiation of previously identical percepts, than "abstraction" (manufacturing a mark which as a percept is not identical with nonmanufactured percepts), in turn not yet depiction, in which a relation between marks and things is reestablished. In many respects Halverson's account is parallel.³

But what is the real point of Halverson's scenario? Whereas I would prefer to ground the very possibility of a history and anthropology of the meanings and uses of specific images, Halverson seems to want to forfeit or deny that possibility. His challenge to an anthropology of art replaces Thought and Practice with Play, in which everything—and therefore nothing—is possible.

ROBIN FROST

464 Greenwich St., New York, N.Y. 10013, U.S.A.
8 IX 86

Halverson's paper is problematic on several issues: its presumption of primitive cognitive abilities for early *Homo sapiens sapiens* in Europe, the lack of familiarity with current research in the field, and, most important, the lack of consideration of the context of the art. I would like to address these points here.

The idea that *Homo sapiens sapiens* is a neophyte, thrust into Europe around 40,000 years ago, naked of concepts and percepts, cognitively underdeveloped, and devoid of culture, tradition, and ideology is not supported by the archaeological record. White's (1982:188) intelligent comment regarding the observed changes across the Middle/Upper Paleolithic boundary is particularly apt here: "I remain firm in my contention that biological differences should be employed only as last-resort explanations. In fact, they are not explanations at all unless neurological changes and their implications can be specified." The archaeological record indicates the Upper Paleolithic *H. sapiens sapiens* was culturally and socially sophisticated. I see no reason to assume that the species was in such an early stage of cognitive development that it lacked the cognitive complexity to assign special meaning to its unusual artistic production.

As far as current research in the field of Paleolithic art goes, most of it has been greatly influenced by Leroi-Gourhan's life work. Leroi-Gourhan's research has been more or less summarily dismissed in this paper on the basis of his structuralist interpretation. The really crucial aspect of his work has gone unrecognized. Leroi-Gourhan demonstrated the existence of a framework, a sort of unifying thread that runs through all of Paleo-

3. These speculative logical scenarios, however consistent, must be distinguished from an archaeological or historical sequence thought to document the emergence of a symbol system. I do not have space to consider the formal or archaeological validity of Halverson's rather complex sequence, which starts from stone-knapping and "sculpture," or its closest competitor, Stoliar's (1977–78) sequence, which starts from the "episodic exhibition of the carcass of a killed animal."

sentation of a universal and that of a particular. We have to discover that some depicted properties are the properties of universals and some of particulars. The grounds for this investigation require much more thought.

lithic art. His contribution is the recognition and demonstration of patterning in the art, of some repeating organizational principle. French research that has followed his has concentrated more on the observed variation within this larger organization, thus providing us with information about regional, temporal, and perhaps individual site differences (see Vialou 1981, Lorblanchet 1974, Delluc and Delluc 1978). Using Halverson's term, there is *symbolic composition*—repetitive patterning of abstract and figurative representation—in Upper Paleolithic Franco-Cantabrian art, and there appear to be variations of this patterning as well. Vialou's (1981) study of Magdalenian cave art in the Ariège region of France concludes that the broad patterning identified by Leroi-Gourhan is probably a result of shared socioeconomic realities but that similarity of construction on a more specific level between caves is relatively rare. He calls these similarly symbolically structured caves "symbolic pairs" (p. 82) and contends that they are identified by rigorously analyzing figurative and abstract representations *and their combinations*. This research is addressing the site-specific level of symbolic structures. Lorblanchet (1974) investigated regional variability and regional style through the analysis of stylistic details, tendencies toward different degrees of abstraction or realism, and repetitive compositional principles. This research informs us that there is repetitive patterning in the art on different levels, that it is complex, and that there are ways to approach observed variability and homogeneity.

Halverson's proposed sequence for Upper Paleolithic art in terms of his ideas of cognitive development is inaccurate. The earliest works of art are not sculptures. Delluc and Delluc (1978) demonstrated that engraving and painting were both used in the production of the earliest Upper Paleolithic artistic manifestations, Aurignacian blocks. It is true that painting does not become widespread until the Magdalenian, but it is not true that painting predominates during the Magdalenian. Magdalenian caves exhibit an amazing number of fine, delicate engravings. Caves that are only painted are not common (even Niaux has finger engravings on the soft clay floor). In short, engraving is an early technique that continues throughout the Upper Paleolithic, culminating in work of astounding detail and finesse at the end of the Magdalenian (Teyjat, for instance). Halverson asserts that many engravings are enhanced later with paint (ochre) and uses this fact to support his sequence. There are also many examples of paintings enhanced by engraved lines. And, as far as mobiliary art goes, it is almost exclusively engraved.

Utilization of contour is also discussed in this paper. This phenomenon is not as frequent as might be expected. It is also not restricted to any time period. Some examples that come to mind are the bison on the left wall of the main gallery of Font-de-Gaume, which walk upon a natural ledge; the black outline horse in the side gallery of Font-de-Gaume, whose leg is figured by a natural rock wall concretion; the bison on the ceiling of Altamira, nestled neatly into the natural concavities of the

surface; the stag's head mentioned by Halverson in the Salon Noir at Niaux; and the spotted horses at Pech-Merle. These figures are not considered contemporaneous.

Abstract representations in the art (as well as positive and negative handprints and anthropomorphic figures) are only briefly mentioned here. These representations are considered very informative; according to Vialou (1981), abstract representations are the most definitive evidence for the presence of nondesignative codes in the art, most probably site-specific or "symbolic-pair"-specific and regionally and chronologically distinct.

The significance of the art's being situated in caves is difficult to demonstrate, but exploring a cave out of curiosity is very different from erecting scaffolding and painting and engraving hundreds of detailed representations throughout a cave (as at Lascaux) or going to the depths of Tuc d'Audoubert to leave deep circles of footprints on the clay floor around modelled clay bison. In addition, in exploring these caves, the artists appear to have had definite preferences regarding where they were going to place their representations. (Many caves exhibit untouched surfaces closer to the entry that are eminently suitable for artistic production but have been rejected in favor of less suitable surfaces which have been completely covered with figures, often superimposed.) This is not proof, but I find the evidence relatively convincing that caves were somehow special places, out of ordinary everyday experience.

White suggests (1982:176) that trends that characterize the Upper Paleolithic are directly related to "a restructuring of social relations across the Middle/Upper Paleolithic boundary in the course of which corporate and individual identity become important." If we accept that what we are observing in the Upper Paleolithic archaeological record is not a biological phenomenon but rather a cultural, or social, one, then the question of the place of Upper Paleolithic art in the lives of the humans of that period can be productively addressed only by studying the art in its archaeological context. It is in this context that Conkey (1978), Gamble (1982), and Pfeiffer (1982) proposed that Upper Paleolithic art had informational value and attempted to demonstrate in what ways it informed socially. Although these hypotheses are difficult to prove, and although this informing character may not have been intentional on the part of the Upper Paleolithic artists, it is proving informative to present-day researchers with regard to regionality and site links. Current research on cave art in its socioeconomic context is informing us on the lifeways and social relations of Upper Paleolithic peoples. It is yielding important information about regional and temporal variability. In regions that have been excavated and studied interdisciplinarily (such as the Dordogne in France), inserting the cave art into the broader picture may enable us to begin to understand links between living sites and caves.

The study of Upper Paleolithic art is difficult because it does border on the conjectural and on the subjective, but we have not given up on it. As we continue research on the art and its place in the Upper Paleolithic, we get

closer to understanding the life of early *H. sapiens sapiens* in Europe and perhaps to understanding his images.

ROBERT LAYTON

*Department of Anthropology, University of Durham,
43 Old Elvet, Durham DH1 3HN, U.K. 15 VIII 86*

Although it is useful to look beyond pragmatic functional and rigidly structural interpretations of Upper Palaeolithic rock art, Halverson's analysis is flawed.

To describe Palaeolithic "visual realism" as preceding Mesolithic "intellectual realism" is too gross an evolutionary scheme. Upper Palaeolithic paintings and engravings include polychromes, partial outlines, geometric "signs," and a mass of now indecipherable forms (Ucko and Rosenfeld 1967:76–77; Ucko 1977:8–9). "Judging by quality, especially visual verisimilitude," implies a naive assumption that "realism" is a single quality identifiable across cultures (for classic criticisms see Panofsky 1955, Gombrich 1960; see also Layton 1977). Any generalized concept of evolution as progress conceals the fact that the apparently natural goal, e.g., visual "realism," is not in fact self-evident or universal but rather *our* criterion unreflectively taken to be universal. Alland's case of the boy who decided spontaneously to draw a tiger is an exception to his general conclusion (pp. 211, 214) that the goal of representation is not universal but culturally conditioned.

Simple or early cultures should not be equated with "inchoate cultural or psychological states." Is a simple organism or an elementary mathematical equation more inchoate than a complex one? To lump together "representations by Australian Aborigines or European children" would be unacceptable in an undergraduate essay.

The concept of art as information cannot be "elusive" if Halverson finds it convenient to employ the Saussurian concepts of signifier and signified.

Halverson does not specify the characteristics of "magico-religious" art, which is left as a residual category, resembling neither Upper Paleolithic nor Mesolithic paintings. There is no inherent reason that detaching the figure from its background should be symptomatic of art for art's sake (Panofsky 1970 [1955]:59–60; Shapiro 1953:309). Certainly there is no reason to suppose that figures devoid of background will have fewer symbolic attributes: what of the cross, the swastika, the crescent moon and star, the hammer and sickle? If, as Halverson contends, we have no way of recognizing that Paleolithic motifs had mythical or social significance, then there is no way of demonstrating the contrary hypothesis, that they did not. But in fact there are pointers to cultural significance: the most frequently painted species were not those most frequently hunted, by no means all caves were decorated, some motifs seem to depict imaginary or composite animal/human forms. Although Leroi-Gourhan and Laming have changed their opinion on specific interpretations,

neither has ever rejected the view that motifs are non-randomly distributed within caves.

Better evidence for aesthetic values in at least some Paleolithic art can be found in formal compositions such as the opposed bison of Lascaux or the opposed horses of Pech-Merle. The arousal of aesthetic pleasure would not preclude functional or cognitive, structural elements in the same art.

DAVID LEWIS-WILLIAMS

*Rock Art Research Unit, Department of Archaeology,
University of the Witwatersrand, Johannesburg, South
Africa. 6 VIII 86*

The study of Palaeolithic art, it seems, has come full circle. Starting from art-for-art's sake, it has journeyed through ever-increasing intellectual complexities—sympathetic magic, totemism, religion, structuralism—only to return to "representation-for-representation's sake." Halverson guides us persuasively back to our less pretentious and seemingly less complicated starting point, but I sense in his paper the despair confessed by numerous writers. Despair is a strong incentive for arguing the art means nothing. Although Halverson does not espouse his position without cogency, we should not think an explanation suggesting an absence of meaning is more likely because its apparent simplicity contrasts with the complexity of its rivals. In the affairs of human beings, it seems to me, the more complex an explanation the more likely it is to be correct. In any event, I am inclined to think, along with others, that human consciousness was more developed by the beginning of the Upper Palaeolithic than Halverson allows. By the time representation appeared, symbolic association was not only within its grasp but inescapable. Because I develop some of these ideas elsewhere (Lewis-Williams and Dowson n.d.), I now refer to only two points, the first of which seems to undo Halverson's position.

The location of so many depictions in the depths of caves is not easily explained. The comparative accessibility of some does not reduce the enigma of the distant ones; nor can they all be explained by ancient entrances now obscured. In an earlier section of his paper Halverson argues that "ethnographic parallels are too precarious to be of any great value," but, when he comes to the question of location, he says that "people [presumably modern Westerners as well as others] are attracted by caves" and "clearly the attraction was the same in prehistoric times." On the contrary, the parallel is by no means clear. Moreover, the suggestion that people simply like to explore does not explain why, having explored, they carried painting equipment into the caves or, alternatively, why they were carrying their equipment in the first place if painting was not their intention. Belief is strained by the thought that someone edging through the narrow tunnel at Trois Frères was seized by a desire to make a representation for its own sake.

Another, less devastating weakness is Halverson's mode of viewing rock paintings. He writes that the Can-

tabrian Mesolithic art is "not noticeably suggestive of religious themes and could easily be only commemorative." He seems to think there are certain "themes" that, if present, establish the religious status of paintings, but just what these themes may be he does not say. He considers the Cantabrian paintings "altogether unlike" Palaeolithic and Australian art. Certainly, to us they look different, but are look-alike qualities useful in determining whether two arts have any meaning or content in common? A negative answer is suggested by the southern African San rock paintings, often said to have much in common with Cantabrian art. For decades the seemingly narrative and realistic nature of San art led students to regard it as secular and commemorative. Today we know that even the apparently narrative scenes are shamanistic and the "simple," realistic depictions of animals are far from simple (Lewis-Williams 1981, 1982, 1986). The difference in appearance between southern African and, say, Australian rock art does not therefore preclude their both being concerned in one way or another with "religion." Ethnography at least teaches us that "upon inspection" is no guide to understanding rock art.

Despite these reservations, Halverson is to be congratulated on a useful review and on reconstituting a long-discredited view so that it again engages our attention.

ANA MARIA LLAMAZARES

CONICET, Instituto Nacional de Antropología, 3 de Febrero 1378, 1426 Buenos Aires, Argentina. 4 IX 86

Halverson's basic appeal for a new approach to the understanding of rock art seems quite challenging. Almost all the traditional theories of the origin and function of prehistoric art are subject to the same epistemological criticism: their untestability. Halverson tries to offer an alternative by way of the reinterpretation of the old "art-for-art's-sake" thesis. Because of the unavoidable ambiguity into which one is led in considering whether "art" is a suitable designation for the Paleolithic engraved and painted expressions, he suggests replacing that term with the more accurate "representation."

He feels sure that the Magdalenian painters knew they were making representations. He also assumes that for any time and place the creation of images is an autonomous source of pleasure. Conceiving the development of human consciousness in evolutionist terms, he interprets Paleolithic art as an expression of a prereflexive stage, much attached to the concrete—as mere play with signifiers in which no further purposes, either practical or symbolic, were pursued. From Sieveking's statement, "It is very probable that we shall never know the meaning of Paleolithic art," he spins out his alternative hypothesis that Paleolithic art is meaningless, thus denying its referential possibilities and its adaptive or informational value and even asserting that it may have had no social use.

But if the problem with traditional interpretations was their untestability, the hypothesis developed in this article suffers the same fault. What is not clearly assumed is that their untestability has to do not with the different alternative interpretations but with "functionality" itself, making any attempt at explaining rock art's function inevitably conjectural. Taken as speculation about the *raison d'être* of Paleolithic art, Halverson's proposal has its attractions. It is rich in suggestions for reflection and occasionally for deeper analysis, but some methodological objections must be raised:

1. There is asymmetry between the extent of the empirical basis and the scope of the generalizations. For evidence he refers only to the Upper Paleolithic Cantabrian data, and of these he takes into consideration only the naturalistic representations. This amounts to an important trimming of the empirical basis, both geographical and chronological. The arguments supporting his thesis about the meaninglessness of Paleolithic art seem, however, rather general. The problem with generalizations based upon a small sample is that the appearance of disconfirming cases is very likely. Perhaps some of Halverson's arguments would weaken if rock art data from other parts of the world were considered.

2. A certain distortion of the arguments results from the use of exclusively "etic" conceptualizations. The presence of artistic "compositions," for example, is denied on the basis of what, according to our cultural patterns, is "coherent," "unified," and "meaningful." We should not refuse to consider the possibility that juxtapositions apparently chaotic to our eyes were not so for their creators. Besides, the difficulty of proving the alternative of a "symbolic composition" doesn't seem a strong enough argument to discard that alternative.

3. Evolutionist models are repeatedly used in describing the development of various processes, for example, engraving precedes painting, multidimensional representation precedes two-dimensional, naturalistic precedes abstract, percepts precede concepts, the empirical mentality precedes reflective thought. Without going into detail, I feel certain that adopting this kind of explanation involves a high risk of oversimplifying processes that are in reality rather more complex and less linear.

4. Finally, the terms "sign," "symbol," "symbolism," and "representation," so polysemic nowadays because of their extensive use, are not clearly defined, and this leads to a certain ambiguity. Halverson seems to distinguish the meanings of "sign" and "symbol," and although he considers the Upper Paleolithic representations signs he denies, in general, that they had symbolic or connotative character. This doesn't seem very clear. In some of the more recognized semiotic theories (Peirce 1974, Morris 1971) the attribution of meaning is a condition of existence of the sign, and the symbol is just one possible kind of sign.

In my view, identifying the signified in the archaeological record has two levels: (1) determining whether the archaeological remains had any meaning, that is, whether the object was a sign and therefore integrated into a semiotic system, and (2) if so, determining what

its meaning was. In the particular case of rock art, the impossibility of an answer on the second level seems intrinsic to the archaeological record (as Halverson points out), but why should we abandon the search for an answer on the first level in favor of pure speculation? To move beyond plausible hypotheses it is necessary to give up, in the first research stages, the aim of recovering the original signified and undertake the analysis of the internal organization of the present signifiers.

PATRICK MAYNARD

Department of Philosophy, University of Western Ontario, London, Ont., Canada N6A 3K7. 18 VIII 86

Some will be disconcerted at arriving in a land beyond Schiller *Spiel* and *Schein*, amongst "a free play of signifiers" boding "first attempts of consciousness to differentiate itself," via a theoretical route clearly marked "representation for its own sake." We had taken it precisely because others (e.g., of the magico-instrumental line) "tended to dissipate in conjecture," leaving us stranded, but where have we found ourselves instead? The advertising read, "Paleolithic art had no meaning," but left out the bit about "connotations."

Of course, one cannot get directly from the sensible suggestion that maybe Paleolithic painters made pictures because they, like us, enjoyed it to anything like Halverson's complex theses. That suggestion, by itself, is consistent with *any* mode of depiction which might be enjoyed for its own sake, and this rules out (and hence explains) little. How can we argue from there to naturalism, delight in appearances, and beyond? Halverson's road: Autonomous activity may be called "play," so a good theory of "play" would be good on Paleolithic depiction. But Schiller had a good theory of "play," as delight in appearances. We find corroborating evidence of such delight in Paleolithic remains. So we apply the rest of Schiller's theory . . .

Notable among the arbitrary stages of this route is Halverson's suggestion that Altamira's isolation of depicted animals from their natural environments and compositionally from each other confirms Schiller's ideas of the aesthetic eye, freed of the exigencies of environmental detection, actively enjoying visual appearances, eager to "join . . . what Nature has sundered . . . and sunder what Nature combined"—despite (I mischievously add) Schiller's own caution that this does not happen where we "hide" ourselves "troglodyte-fashion in caves" (p. 124).

But most research about *environmental seeing* stresses "abstraction" and isolation throughout and finds it active about, for example, separating individual animal forms from confusing fields. Thus, for much of the aesthetic tradition Halverson invokes, as appearances gain interest and the grip of "praxis" slips, ordinary things and events tend to *lose* individuation, merging in patterns of visual flux that stand out brightly for aesthetic eyes. Such vision twists, then binds, unrelated objects into common forms (composition) and shatters shapes of

men and bison by intrusive patterns, counter changes, light-and-shadow paths.

Whether cognitively "unmediated" vision would more likely see isolated floating figurations or instead override identifiable forms is, however, not so interesting, given the devastating cases we now possess against its existence. I therefore suggest another route connecting Halverson's points of autonomy, delight in appearance, and style characteristics: Treating marks as depictions is treating our acts of seeing them as, fictively, acts of seeing what they depict. But what we so often call "magical" practices with images is based upon evidence of other, not especially *visual*, activities with the marks, taken in turn as (fictively) the performances of not especially *visual* acts: sexual intercourse, worrying animal quarry, etc. ("Magical" usually implies *another*, causal, step which we should impute cautiously.) Increasing emphasis on rather *more perceptual* fictions will, very likely, produce different styles of marks from those that conduce to less perceptual (more "passionate-response") fictions. But will this get us to a theory about "development of human consciousness"? Not so fast, not so fast.

DAVID STENHOUSE

Massey University, Palmerston North, New Zealand. 26 VIII 86

Halverson's general argument and conclusions seem excellent. They will be strengthened rather than weakened by the following considerations:

A too-close focus on human evolution neglects what is known from infrahuman studies and especially ethology. In the latter it is recognized that "play" is not functionless. Its functions are generalized rather than specific: exercising and developing the individual's behavioural capacities in relation to the environment, social, biotic, and inanimate (Lorenz 1965, Meyer-Holzappel 1955). This reinforces Halverson's point that art as play does not compete as "non-adaptive" with "adaptive activities"; also, most wild animals spend considerable time doing "nothing in particular" (Tinbergen 1953).

Halverson leaves the important complex of reflection, rationality, consciousness, intelligence, etc., only partially differentiated in relation to developing artistic capability. Crook (1980) argues for an evolutionary sequence with intelligence being evolved prior to consciousness and the use of language. He adopts the four-factor "evolutionary intelligence" of Stenhouse (1974) as offering a model for the first major step from the purely instinctual level. Three of the factors have long been recognized in one form or another, e.g., in IQ tests and by Piaget (1971). The P or power-of-abstention factor is new in this context and is seen as functioning to control the various instinctual drives/motivations which remain active in the very foundations of human behaviour. This factor, originally argued as necessary for breaking the programmed fixity of instinctual stimulus-and-response

(Stenhouse 1974: chap. 3), can now be seen as facilitating the transition which Halverson ascribes to the palaeo-artist, "to see an animal . . . without desire or fear, as neither food nor threat" and to control or break free from instinctive reactions sufficiently to draw or model the animal rather than hunt it or flee from it. This freedom from the rigidities of instinct is important indeed. The artist has it, and needs it, to a conspicuous degree even today; and we see its reduction, in modern humans, when under heavy stress and in extremes of mental illness people regress to stereotyped repetitive behaviour and "insect-like persistence." Thus we may ascribe to the P factor of intelligence our present ability to channel our continuing instinctual "interests," diverted and abstracted, into artistic activities. This in turn enables us to perceive and understand them better, thus enhances our self-perception and -consciousness, and, in turn, in a "cascading 'autocatalysis' of evolutionary development" (Crook 1980:130), leads to full consciousness including "reflection," the total being "rationality." (We must be aware and cautious of the metaphorical nature of language; cf. Stenhouse 1985.)

These considerations, if we imagine them transferred back into the Paleolithic, enable us to perceive "art for art's sake" as contributing an important dimension to human evolution.

Reply

JOHN HALVERSON
Santa Cruz, Calif., U.S.A. 5 x 86

Proof. In the nature of the case, no theory of what Paleolithic art meant to Paleolithic people can be proved or disproved. It is difficult enough to generalize about what art means to people even when we have a multitude of informants and written records. For example, the rich symbolism of Indian temple art is largely uninterpretable by the masses, though it is full of precise meaning to the expert; even its affective quality varies extremely. Even within a well-known and accessible culture, then, the best we can do is to delineate different meanings to different people and admit the lack of any meaning to some. Where there are no informants at all, proof is out of the question. Again, although the study of cave art can be pursued quite scientifically in many important ways, theories of meaning are not susceptible to any scientific canon of testability that does not also come into question. Predictability, another canon of experimental science and something of a last refuge for the theorist, is equally chimerical in this area; predictions after the fact are seldom convincing. We are left with plausibility: hypothesis and fit. The only test for a theory is how well the hypothesis fits the available data. Naturally, I think that my hypothesis shows a better fit than others, but at the very least it shows just as good a fit as any other. The latter alternative may sound pusil-

lanimous, but it is not valueless. It means that though Paleolithic depictions *may* have had symbolic meaning, the possibility is just as good that they did not. And this is something worth keeping in mind.

Meaning. Everyone knows how difficult it is to be clear and precise about "meaning," but perhaps some clarification is possible. In the first place, I have not denied that the figural images in question had referential meaning; on the contrary, I propose that they may have had *only* referential meaning. They were, in other words, (iconic) signs, signifying just the thing, the depicted animal, and nothing else. This referential meaning may necessarily have also included connotations insofar as the animals depicted were familiar. I do not doubt that. What I have doubted at some length is "symbolic meaning," by which I mean reference to mythical, religious, ideological, or metaphysical ideas or entities. This is a fair, untechnical use of the word "symbolic" in ordinary language; it is the sort of thing we usually mean when we say that the Christian cross is a "symbol." I hope this is reasonably clear so far; it is the most fundamental distinction I have in mind.

There are, of course, other meanings of "meaning." One of the most elusive is imbedded in the very vague word "meaningful," which seldom means "full of meaning"; in fact, it is seldom possible to extract any *specific* meaning from its use at all. It often expresses merely a suspicion, wish, or feeling that something might have specific meaning if only it could be discovered or articulated. I wonder if something like this is not the case in discussions of "meaningful patterns" in cave art. Whether there really are any patterns has been widely doubted. Often the attribution of patterning depends on what seems to be arbitrary sectioning of both murals and locations, so that the "pattern" is an artifact of a particular viewer rather than a plan of the makers. Even if there were some convincing patterns, it need not follow that they were planned ahead—they might represent no more than the whim of the artists, chance repetitions without any particular purpose. And even if planned, they need have no symbolic meaning. One wishes those researchers well who continue to search for meaning in patterns, but there seems little reason to be optimistic about the outcome because the search depends on the doubtful premise that cave art *must* have symbolic meaning. *Why* must it? The answer would seem to entail presuppositions about prehistoric minds and motives that derive from modern ethnography, and there seems to be a good deal of agreement that this is at best a shaky procedure.

Ethnographic analogy. Skepticism about ethnographic analogy does not imply total rejection: it can be heuristic, of course. But it can also be misleading, even in very subtle ways, as the previous paragraph suggests. Is it a contradiction, then, to generalize, as I occasionally do, about human behavior, for example in my remarks about the impulse to explore caves? In that instance, I noted the evidence for human penetration and mentioned the theory of an exploratory drive, so at least it was not an unhedged remark. But the question remains

whether it is fair to deny ethnographic analogy and yet suggest comparisons with ourselves. I think it is, because one is cultural, the other not. I make the unargued assumption that beneath cultural variation there are universal species-specific traits in human beings that are coeval with the species: there is not only general biological identity, including the same kind of brain, but common drives and emotions as well (though these may not be expressed in identical ways). I assume too that the species has shared the same cognitive capacities throughout time, but not the same cognitive achievements. The brain is the same, but what the brain does has a history of development.

Chronology. Some people seem to be uncomfortable with the idea of cognitive development at the species level. But such development is perceptible even in historical times. Anyone reading this is used to thinking in abstract, hypothetico-deductive ways and may take it for granted, but formal-operational thought not only has emerged fairly recently (in classical Greece) but remains the attainment of a small minority of the world's population. It is not unreasonable to suppose that other developments occurred during the previous 40 millennia. The Upper Paleolithic is a long period of time, in which the archeological record is hardly uniform. It does not seem to me either daring or innovative to discern in the record a "slow and sporadic building up to a take-off point around 15,000 B.C." If the archeological record reflects the human mind, then we should be able to assume a corresponding cognitive development. It may seem bold to suggest that conceptual thought only began to crystallize in the later Upper Paleolithic, but it would be even bolder to assume that it was always already there from the beginning in full operation. The assumption of sophisticated, or even unsophisticated, ideologies in the earlier Upper Paleolithic is quite unjustified, and I can see no good evidence for it even in the later part.

Representations and thought. The chief symptom of a cultural "explosion" in the Magdalenian (though not the only one: the expansion of technological innovation is also much in evidence) is depictive activity. I hypothesize a constructive interplay between depictive activity and cognitive development, the critical factor being abstraction. Paleolithic images are signs, in the basic sense that they call to mind the absent things they represent. Because they resemble their objects, they are specifically iconic signs. It is true that within the visual field itself, that is, in the actual seeing of animals, figure-ground distinction is inherent in human perception, as it is for most higher organisms, and is therefore of no great moment in itself. But whereas vision *distinguishes* figure and ground, the iconic sign *abstracts* figure from ground by obliterating the latter altogether. The representation stands by itself, and a cognitive distinction is made between signifier and signified; the sign is consciously recognized *as* a sign, divested of context, action, and (perhaps to a great extent) affect. Conceptual thinking is an operation on and with internal signs. Depiction is an operation on and with external signs. The Magdalenian appears to have been a time of reciprocal facilita-

tion of such operations and of acceleration of the transition from schemata of action and perception to concepts.

Genesis of abstractions. In the absence of absolute dating, the chronology of media and techniques cannot be established absolutely. There does seem to be some consensus that the earliest known representations are three-dimensional. If there are a few instances of painting before the Magdalenian, still the *general* development seems to be from three- to two-dimensional representation and therefore to increasing abstraction. In the context of abstraction the difference between engraving and painting may be too slight to matter very much; both techniques really "took off" only in the Magdalenian and may be more or less equally implicated in the growth of abstraction postulated.

My use of the word "momentous" for the ability to make and recognize two-dimensional figures may be overdramatic as far as recognition is concerned. Though the evidence is not very conclusive—the ability of other primates to recognize two-dimensional images as referential is in some doubt (Winner and Ettliger 1979), and some nonliterate peoples have been reported to have difficulties in making sense of photographs—on the whole it suggests that this recognitional ability may be largely innate (Jones and Hagen 1980, Cabe 1980).

The question of representation in perishable media is intractable, though intuitively I find it hard to doubt that such depictions once existed, even proliferated. But it would only make a difference to the argument if they preceded, in a substantial way, three-dimensional representations, a possibility much easier to doubt.

When all is said, however, I do not wish to make too much of the proposed sequence, which is in any case not vital to my general argument. I should not want to claim that it is inevitable, predictable, or the only possible genesis of representational form. Though it fits the European material fairly well, it may not obtain universally.

Play. Perhaps, to forestall the image of Paleolithic people gamboling in caves, I should have chosen a more solemn expression for play, say, "the ludic modality of behavior." Play can be serious, as no one needs reminding. It is characterized not by frivolity but by two related things especially: it is autotelic and it is set off from the world of practical reality. As Huizinga (1950:8–9) puts it:

Here, then, we have the first main characteristic of play: that it is free, is in fact freedom. A second characteristic is closely connected with this, namely, that play is not "ordinary" or "real" life. It is rather a stepping out of "real" life into a temporary sphere of activity with a disposition of its own. . . . Not being "ordinary" life it stands outside the immediate satisfaction of wants and appetites, indeed it interrupts the appetitive process.

Vygotsky (1976 [1933]) has a valuable analysis of play in relation to thought. For him it is basic that play creates an imaginary situation in which the ties of affect and perception are loosened and it is possible to act indepen-

dently of what one sees: "in play activity thought is separated from objects, and action arises from ideas rather than from things" (p. 546). In play meaning can be separated from objects; it is an "emancipation from situational restraints" (p. 548). Hence in play one "learns to recognize consciously his own actions, and becomes aware that every object has a meaning. From the point of view of development, the fact of creating an imaginary situation can be regarded as a means of developing abstract thought" (p. 553). Vygotsky's subject is children's play, of course, but his analysis is general (and as such Schillerian) and need not be restricted to ontogenesis. If Paleolithic depictive activity was in the ludic mode of behavior, it may well have had such cognitive implications as Vygotsky points out. That it was in such a mode seems to me a reasonable assumption. If, however, a higher operational level of cognition had already been widely attained earlier in the Paleolithic, as many seem to suppose, these implications would be irrelevant. As already stated, I think it is a reasonable inference from the archeological record that this is not the case.

Play, especially mimetic play, is no doubt an innate tendency, but the theory that depictive activity is a form of play (or that art originates in play) is by no means "reductive" (and therefore jejune); it is merely a point of beginning. And if the theory "directs explanation inward to mental states," surely it is a common and respectable goal of archeology to try to recover the thoughts, feelings, attitudes, and beliefs of earlier peoples—it is what makes archeology a "human science." Nor is it the case that we can "know nothing" about such mental states—unless the standard of knowing is so absolute as to be sterile—for a great deal can be inferred about these states from the things people leave behind them.

It is hardly arguable that play "has no extrinsic goals. Its motivations are intrinsic and serve no other objectives" (Garvey 1977:4). The lack of extrinsic motivation does not mean no motivation at all. Obviously one can *intend* to play. Likewise someone could enter a cave with the conscious intention of making images without abrogating the ludic mode; the only condition is that the activity be undertaken for its own sake. On the other hand, a spontaneous desire to draw an image (perhaps triggered by natural configurations) hardly strains credulity. But why, it is asked, would anyone be carrying around "painting equipment"? We must ask in turn, what equipment? A little piece of ocher or a burin? Why not? It's not a matter of lugging around easels and paintboxes, after all, and often the necessary material might be lying at hand. On the matter of impulse, it may be well to remember the eternal and ubiquitous graffitist (if that's a word), leaving his mark in the most unlikely and even dangerous places—including the depths of Paleolithic caves—a mark, incidentally, that more often than not means nothing to anyone but himself, and one that he may or may not have premeditated.

As I am sure I have emphasized enough already, what seems to me most important and interesting about the ludic mode of Paleolithic depictive activity is not just that it was play but that it was a play with signs. To say

it was "free" refers first of all to the supposition that all play, as Huizinga says, "is freedom," freedom of action from practical purpose and freedom of the imagination from the constraints and demands of the "ordinary" world. On the other hand, imagination itself is not unconstrained. As Vygotsky says, "Play is more nearly recollection than imagination—that is, it is more memory in action than a novel imaginary situation" (p. 552). Elsewhere (Vygotsky 1978:38–39) he makes it clear that the kind of memory he is speaking of is what he calls "natural" memory. This, "dominating in the behavior of nonliterate peoples, is characterized by the nonmediated impression of materials, by the retention of actual experiences as the basis of mnemonic (memory) traces." He goes on to say that this natural memory "is clearly illustrated in E. R. Jaensch's studies of eidetic imagery." Recently Kubler (1985) has suggested that persons with this peculiar faculty of eidetic imagery may have figured prominently in the beginnings of the graphic tradition. Without entering into this controversial subject, I would at least suppose that the images produced in the Upper Paleolithic were constrained by vivid and concrete memory. They were obviously not random marks and could not therefore be "varied in an infinity of directions." Indeed, markings (Davis 1986a) or "psychograms" (Anati 1981, Bednarik 1984b) are not, *as such*, signifiers at all.

Composition. If the form representations could take was limited by the requirement of resemblance to their objects, the same cannot be said for their disposition, which appears to be quite free. But of course appearances can be deceptive. Perhaps, by different and unknown criteria, there is more composition than meets the eye—but I note that those who take exception to the assertion that composition is at best rare are eager to cite examples of what *they* see as compositions, obviously using the same kind of subjective standards that I use. And still the most generous estimate of possible instances would add up to extremely few in proportion to the total number of known depictions, which is all I have claimed. Australian counterexamples—murals and designs that do not look like compositions but really are, as known from informants—I do not find very compelling for the simple reason that in fact they often *do* give a sense that some arrangement is intended, even that something is "going on," though we may have no idea what. This is a sense, I submit, that we do *not* have from the overwhelming majority of cave depictions. A large number of images are individually isolated; sometimes there is only one in a cave. In such cases, the question of composition does not even arise. In some famous aggregates, as at Altamira and Rouffignac, the whole pattern, if there is one, cannot be seen at one time (though admittedly this does not exclude the possibility of serial composition, as in music). If Paleolithic compositions were based on radically different standards from our own, the self-evident compositional quality of Mesolithic painting would oblige us to assume that they were abandoned, leaving us with the question why, a question even more puzzling than whether they were composi-

tions in the first place. It seems likely to me that what the Mesolithic drawings show is a shift of interest from figure to narrative, from the animals themselves to scenes of action. Thus the figures become schematized as they are subordinated to composition; "naturalistic" depiction does not matter when the purpose is to portray an event. In other words, the meaning of Mesolithic depictions lies in the composition; the meaning of Paleolithic depictions lies in individual figures. Hence the radical difference of styles. In support of this distinction I might point out too that animals in Paleolithic depictions are seldom *doing* anything. Sometimes they are shown running or leaping, almost never fighting, mating, eating, sleeping, being hunted, or "fleeing in terror." For by far the greater part, they seem to be merely standing for their portraits. This suggests that the por-trayer was interested in the animals less as living crea-tures than as quasi-abstract entities.

Naturalism. Such interest may also be implied by the "naturalism" of Paleolithic depictions. That there are "varieties of realism" is true but beside the point as long as it is agreed that Paleolithic art is one of them and that the *aim* of naturalism is accurate representation of things seen. Since neither of these assumptions seems to be in dispute, we can infer that one aim of Paleolithic depiction was accurate representation. This would not, of course, necessarily exclude additional goals, such as symbolism (as defined above). But when other goals are *primary*, it is often the case (as in the Mesolithic and in the historical Middle Ages) that representational accu-racy suffers accordingly. I do not claim that this correla-tion is some kind of "law," but it would seem to be real enough to suggest the very good possibility, once again, that the Paleolithic depictions were not motivated by aims other than representational.

Conclusions. I fear that for some readers, my essay has only vindicated the common dismissal of outworn art-for-art's-sake theories. One reader seems to think all the issues had already been raised and settled in the 19th century (and that, to my mind, is *really* being stuck in the 19th century). Actually I have made only the most fleeting references to 19th century art-for-art's-sake theorists, and that was hardly positive. I have recalled rather that "second wave" of theorists writing in this century—Verworn, Luquet, Van Gennep—who do not deserve to be lumped with the first. One reason I gave them some attention is out of the strong suspicion that they are seldom read anymore but tossed sight-unseen into the art-for-art's-sake dustbin. That is too bad, for they were sophisticated, often brilliant investigators. But be that as it may, I am not so much trying to revive them or their theories as recalling a point of view or theoretical approach of potential value. What has im-pressed me particularly is that they could think in terms of beginnings. But evidently I have not succeeded very well in conveying a sense of the importance of this ap-proach. I am told that I am not to equate early cultures with inchoate cultural or psychological states, though to do so is virtually tautologous, since "inchoate" *means* "in an early state, just beginning." Of course I am not

talking about just *any* early cultures, but specifically about European culture of the Upper Paleolithic, for which the term "inchoate" seems fully appropriate. Of-ten referred to en bloc as though it were a homogeneous and static unity, the Upper Paleolithic was a period of immense change and growth. But at its inception and for perhaps 10,000 years, its culture was only minimally distinguishable from that of the Middle Paleolithic, and indeed most of the really new things did not come fully into evidence for another 10,000 years or more. I mean not only depictive activity, but also inventions such as the sewing needle, cord, the harpoon, the spear-thrower, and pressure-flaking and indications of increasing social complexity. "This mass of innovation was made in the last ten to fifteen thousand years of the Palaeolithic and constitutes a veritable Age of Inventions—the more ob-vious because of its contrast with the sparsity of inven-tion in the previous million years," and it took "some ten to fifteen thousand years to come to fruition" (Col-lins 1976:194). If the old-fashioned metaphor is not in-tolerable, the Solutreo-Magdalenian appears to be the time of a great awakening, very much a time of begin-ning for the human race, and an awakening, I should like to urge, of human consciousness.

It is understandable that anthropologists and art histo-rians, for whom the study of tradition is the bedrock of their professions, should resist the notion of a culture with little or no tradition behind it. Of course there is a sense of the word in which we can carry "tradition" back to Oldowan culture, but if tradition means anything more than mere continuity, the distinctively *human* tradition—the tradition of our own species—appears to have had a real beginning some 15–20,000 years ago.¹

References Cited

- ABRAHAMIAN, LEVON H. 1983. *Pervobytnyj prazdnik i mifologija* (Primitive ritual and mythology). Yere-van: Izdatel'stvo AN Arm. SSR.
- ALLAND, ALEXANDER, JR. 1983. *Playing with form: Children draw in six cultures*. New York: Columbia University Press.
- ALLEN, GRANT. 1877. *Physiological aesthetics*. New York. [LTB]
- ALTUNA, JESÚS. 1983. "On the relationship between archaeo-faunas and parietal art in the caves of the Cantabrian region," in *Animals and archaeology*, vol. 1, *Hunters and their prey*. Edited by J. Clutton-Brock and C. Grigson, pp. 227–38. British Archaeological Reports International Series 163. [PGB]
- ANATI, E. 1981. The origins of art. *Museum* 23:200–210.
- APELLAÑÍZ, JUAN MARÍA. 1981. "El método de deter-

1. I should like to thank Whitney Davis for useful comments on an earlier draft of my essay and for bibliographical references (though obviously we agree on hardly anything).

- minación de autor en el Cantábrico: Los grabados de Llonin." *Altamira Symposium 1980*, pp. 73–84. [PGB]
- BAHN, PAUL G. 1978. Water mythology and the distribution of Palaeolithic parietal art. *Proceedings of the Prehistoric Society* 44:125–34. [PGB]
- . 1985a. Review of: *La contribution de la zoologie et de l'éthologie à l'interprétation de l'art des peuples chasseurs préhistoriques*, edited by H-G. Bandi et al. (Fribourg: Editions Universitaires, 1984). *Antiquity* 59:57–58. [PGB]
- . 1985b. Ice Age drawings on open rock-faces in the Pyrenees. *Nature* 313:530–31. [PGB]
- . 1986. No sex, please, we're Aurignacians. *Rock Art Research* 3(2). In press. [PGB]
- BATAILLE, GEORGES. 1955. *Prehistoric painting: Lascaux, or The birth of art*. Translated by A. Wainhouse. London: Macmillan.
- BEDNARIK, ROBERT G. 1984a. Die Bedeutung der paläolithischen Fingerlinientradition. *Anthropologie* 33:135–42. [WD]
- . 1984b. On the nature of psychograms. *The Artefact* 8:27–32.
- . 1986. Parietal finger markings in Europe and Australia. *Rock Art Research* 3:30–51. [WD]
- BELTRÁN, ANTONIO. 1982. *Rock art of the Spanish Levant*. Translated by M. Brown. Cambridge: Cambridge University Press.
- BERENQUER, MAGIN. 1973. *Prehistoric man and his art: The caves of Ribadesella*. Translated by M. Heron. London: Souvenir Press.
- BERGER, PETER L., AND THOMAS LUCKMANN. 1967. *The social construction of reality*. Garden City: Doubleday Anchor Books. [LTB]
- BOAS, FRANZ. 1955 (1927). *Primitive art*. New York: Dover. [LTB]
- BOHANNAN, PAUL, AND MARK GLAZER. 1973. *High points in anthropology*. New York: Knopf. [LTB]
- BORGES, JORGE LUIS. 1964. *Labyrinths: Selected stories and other writings*. New York: New Directions. [WD]
- CABE, P. A. 1980. "Picture perception in nonhuman subjects," in *The perception of pictures*. Edited by Margaret A. Hagen, vol. 2, pp. 305–43. New York: Academic Press.
- CASSIRER, ERNST. 1953. *The philosophy of symbolic forms*. Vol. 1. Translated by R. Manheim. New Haven: Yale University Press.
- CLOTTES, JEAN. n.d. *La grotte de Niaux*. Monuments historiques, Extrait 118. Paris: Editions de la Caisse Nationale des Monuments Historiques et des Sites.
- COLLINS, D. 1976. *The human revolution*. Oxford: Phaidon.
- COLLINS, DESMOND, AND JOHN ONIANS. 1978. The origins of art. *Art History* 1:1–22.
- CONKEY, MARGARET W. 1978. "Style and information in cultural evolution: Toward a predictive model for the Paleolithic," in *Social archeology*. Edited by C. L. Redman et al. New York: Academic Press.
- . 1980. "Context, structure, and efficacy in Paleolithic art and design," in *Symbol as sense*. Edited by M. L. Foster and S. Brandes. New York: Academic Press.
- . 1983. "On the origins of Paleolithic art: A review and some critical thoughts," in *The Mousterian legacy: Human biocultural change in the Upper Pleistocene*. Edited by E. Trinkaus. British Archeological Reports International Series 164.
- CROOK, J. H. 1980. *The evolution of human consciousness*. Oxford and New York: Oxford University Press. [DS]
- DAVIS, WHITNEY. 1986a. The origins of image making. *CURRENT ANTHROPOLOGY* 27:193–215. [WD]
- . 1986b. Reply [to Delluc and Delluc]. *CURRENT ANTHROPOLOGY* 27:515–16. [WD]
- . 1986c. Reply [to Bednarik]. *Rock Art Research* 3:51–54. [WD]
- DELLUC, B., AND G. DELLUC. 1978. Les manifestations graphiques aurignaciennes sur support rocheux des environs des Eyzies (Dordogne). *Gallia Préhistoire* 21:213–438. [WD, RF]
- . 1986. On the origins of image making. *CURRENT ANTHROPOLOGY* 27:371 [WD]
- DELPORTE, HENRI. 1984. "L'art mobilier et ses rapports avec la faune paléolithique," in *La contribution de la zoologie et de l'éthologie à l'interprétation de l'art des peuples chasseurs préhistoriques*. (3e colloque de la Société suisse des Sciences Humaines, 1979.) Edited by H-G. Bandi et al., pp. 111–42. Fribourg: Editions Universitaires. [PGB]
- ELGIN, CATHERINE. 1986. *With reference to reference*. Indianapolis: Bobbs-Merrill. [WD]
- FORTEA PÉREZ, F. JAVIER. 1981. Investigaciones en la cuenca media del Nalón: Noticias y primeros resultados. *Zephyrus* 32/33:5–16. [PGB]
- FREEMAN, L. G., AND J. GONZÁLEZ ECHEGARAY. 1983. A 14,000-year-old sanctuary from northern Spain. *History of Religion* 21:1–19.
- GAMBLE, CLIVE. 1982. Interaction and alliance in Paleolithic society. *Man* 17:92–107.
- GARDNER, R. A., AND B. T. GARDNER. 1978. Comparative psychology and language acquisition. *Annals of the New York Academy of Sciences* 309:37–76.
- GARVEY, CATHERINE. 1977. *Play*. Cambridge: Harvard University Press.
- GOMBRICH, E. 1960. *Art and illusion*. London: Phaidon. [RL]
- GONZÁLEZ GARCÍA, REYNALDO. 1985. Aproximació al desenvolupament i situació de les manifestacions artístiques quaternaries: A les cavitats del Monte del Castillo. Tesi de Llicenciatura, Universitat de Barcelona. [PGB]
- GOODMAN, NELSON. 1971. 2d edition. *Languages of art*. Indianapolis: Bobbs-Merrill. [WD]
- GRAZIOSI, PAOLO. 1960. *Palaeolithic art*. New York: McGraw-Hill.
- GROSSE, ERNST. 1893. *Die Anfänge der Kunst*. Leipzig. [LTB]
- GROOS, KARL. 1898. *The play of animals*. Translated by E. L. Baldwin. London: Chapman and Hall. [LTB]

- . 1901. *The play of man*. Translated by E. L. Baldwin. New York: D. Appleton. [LTB]
- GUTHRIE, R. DALE. 1984. "Ethological observations from Palaeolithic art," in *La contribution de la zoologie et de l'éthologie à l'interprétation de l'art des peuples chasseurs préhistoriques*. (3e colloque de la Société suisse des Sciences Humaines, 1979.) Edited by H-G. Bandi et al., pp. 35–74. Fribourg: Editions Universitaires. [PGB]
- GUYAU, JEAN-MARIE. 1884. *Les problèmes de l'esthétique contemporaine*. Paris: Bibliothèque de Philosophie Contemporaine. [LTB]
- . 1889. *L'art au point de vue sociologique*. Paris. [LTB]
- HADDON, ALFRED. 1895. *Evolution of art*. London. [LTB]
- HAGEN, MARGARET A. 1986. *Varieties of realism: Geometries of representational art*. Cambridge: Cambridge University Press. [WD]
- HEBB, D. O. 1955. Drives and the c.n.s. (conceptual nervous system). *Psychological Review* 62:243–54.
- HORNBLOWER, G. D. 1951. The origin of pictorial art. *Man* 51:2–3.
- HUIZINGA, J. 1950. *Homo ludens*. Boston: Beacon Press.
- IVANOV, SERGEI V. 1954. *Materialy po izobrazitel'nomu iskusstvu narodov Sibiri XXX-nachala XX v.* Trudy Instituta Etnografii, n.s., 22. [LTB]
- . 1963. *Ornament narodov Sibiri kak istoricheskie istochniki (po materialam XIX-nachala XX v.)*. Moscow/Leningrad: Akademiia Nauk SSSR. [LTB]
- IVANOV, V. V. 1972. "On a type of archaic signs in art and pictography" (in Russian), in *Rannie formy iskusstva* (Early forms of art). Compiled by S. Yu. Nekliudov, edited by E. M. Meletinski, pp. 77–103. Moscow: Iskusstvo. [LHA]
- JOCHIM, MICHAEL A. 1983. "Palaeolithic cave art in ecological perspective," in *Hunter-gatherer economy in prehistory*. Edited by G. Bailey. Cambridge: Cambridge University Press.
- JONES, R. K., AND M. A. HAGEN. 1980. "A perspective on cross-cultural picture perception," in *The perception of pictures*. Edited by Margaret A. Hagen, vol. 2, pp. 193–226. New York: Academic Press.
- JORGE, SUSANA O., et al. 1981. Gravuras rupestres de Mazouco (Freixo de Espada à Cinta). *Arqueología* 3:3–11. [PGB]
- KABO, V. R. 1969. *Proisxoždenie i ranjaja istorija aborigenov Avstralii* (Genesis and early history of the Aborigines of Australia). Moscow: Nauka. [LHA]
- KANT, IMMANUEL. 1892. *Critique of judgment*. Translated by J. H. Bernard. London: Macmillan. [LTB]
- KRIPKE, SAUL. 1980. 2d edition. *Naming and necessity*. Princeton: Princeton University Press. [WD]
- KUBLER, G. 1985. Eidetic imagery and Paleolithic art. *Journal of Psychology* 119:557–65.
- LAMING-EMPERAIRE, A. 1962. *La signification de l'art rupestre paléolithique*. Paris: Picard.
- . 1970. "Système de pensée et organisation sociale dans l'art rupestre paléolithique," in *L'homme de Cro-Magnon*. Edited by G. Camps and G. Olivier. Paris: Arts et Métiers Graphiques.
- LAYTON, R. 1977. "Naturalism and cultural relativity in art," in *Form in indigenous art*. Edited by P. J. Ucko, pp. 33–43. Canberra: Australian Institute of Aboriginal Studies. [RL]
- LEROI-GOURHAN, A. 1964. *Les religions de la préhistoire (Paléolithique)*. Paris. [LHA]
- . 1967. *Treasures of prehistoric art*. Translated by N. Guterman. New York: Abrams.
- . 1982. *The dawn of European art*. Translated by S. Champion. Cambridge: Cambridge University Press.
- LEWIS, DAVID. *Convention: A philosophical study*. Cambridge: Harvard University Press. [WD]
- LEWIS-WILLIAMS, J. D. 1981. *Believing and seeing: Symbolic meanings in southern San rock art*. London: Academic Press. [KMA, PGB, DL]
- . 1982. The economic and social context of southern San rock art. *CURRENT ANTHROPOLOGY* 23:429–49. [PGB, DL]
- . 1986. Cognitive and optical illusions in San rock art research. *CURRENT ANTHROPOLOGY* 27:171–78. [DL]
- LEWIS-WILLIAMS, J. D., AND T. A. DOWSON. n.d. *Signs of all times*. MS. [DL]
- LISTOWEL, WILLIAM F. H. 1933. *A critical history of modern aesthetics*. London: G. Allen and Unwin. [LTB]
- . 1967. *Modern aesthetics: An historical introduction*. New York: Teachers College Press. [LTB]
- LORBLANCHET, MICHEL. 1974. *L'art préhistorique en Quercy: La grotte des Escabasses (Thémines-Lot)*. Morlaas, Spain: Editions P.G.P. [LHA]
- . 1977. "From naturalism to abstraction in European prehistoric rock art," in *Form in indigenous art*. Edited by P. J. Ucko. Atlantic Highlands, N.J.: Humanities Press.
- . 1980. Peindre sur les parois des grottes. *Dossiers de l'Archéologie* 46:33–39. [PGB]
- . n.d. *Pech Merle*. Cabrerets: Régie Municipale d'Exploitation du Pech Merle.
- LORENZ, K. 1965. *Evolution and modification of behavior*. Chicago: University of Chicago Press. [DS]
- LUCKMANN, THOMAS. 1967. *The invisible religion: The problem of religion in modern society*. New York: Macmillan. [LTB]
- LUQUET, G-H. 1913. *Les dessins d'un enfant*. Paris: Alcan.
- . 1927. *Le dessin enfantin*. Paris: Alcan.
- . 1930. *The art and religion of fossil man*. Translated by J. T. Russell, Jr. New Haven: Yale University Press.
- . 1931. La magie dans l'art paléolithique. *Journal de Psychologie Normale et Pathologie* 28:390–427.
- MCCARTHY, F. D. 1964. "The art of the rock-faces," in *Australian Aboriginal art*. Edited by R. M. Berndt, pp. 33–43. Sydney: Ure Smith. [LHA]
- MARSHACK, ALEXANDER. 1972. *The roots of civilization*. New York: McGraw-Hill. [PGB]

- . 1976. Some implications of the Paleolithic symbolic evidence for the origin of language. *CURRENT ANTHROPOLOGY* 17:274–81. [WD]
- MEYER-HOLZAPFEL, M. 1955. Das Spiel bei Säugtieren. *Handbuch der Zoologie* 8 (10):1–36. [DS]
- MORRIS, CHARLES. 1971. "Foundations of the theory of signs," in *Writings on the general theory of signs*. Pt. 2. The Hague: Mouton. [AML]
- MULVANEY, D. J., AND E. B. JOYCE. 1965. *Archaeological and geomorphological investigations on Mt. Moffatt Station, Queensland, Australia*. Proceedings of the Prehistoric Society 31(8).
- MUNN, N. D. 1973. *Walbiri iconography: Graphic representation and cultural symbolism in a central Australian society*. Ithaca: Cornell University Press. [KMA]
- MUNRO, THOMAS. n.d. *Evolution in the arts and other theories of culture history*. Cleveland: Cleveland Museum of Art. [LTB]
- NOUGIER, LOUIS-RÉNÉ. 1978. *Rouffignac*. Périgueux: Ed. du Périgord Noir.
- PALES, LEON, AND MARIE TASSIN DE SAINT PÉREUSE. 1976. *Les gravures de La Marche, II: Les humains*. Paris: Ophrys. [PGB]
- PANOFSKY, ERWIN. 1939. *Studies in iconology*. Oxford: Oxford University Press. [WD]
- . 1955. "The history of the theory of human proportions as a reflection of the history of styles," in *Meaning in the visual arts*. New York: Doubleday. [RL]
- . 1970 (1955). "Iconography and iconology," in *Meaning in the visual arts*. Harmondsworth: Penguin Books. [RL]
- PARKINGTON, JOHN. 1969. Symbolism in Paleolithic cave art. *South African Archaeological Bulletin* 24:3–13.
- PEIRCE, CHARLES. 1974. *La ciencia de la semiótica*. Buenos Aires: Ediciones Nueva Visión. [AML]
- PFEIFFER, JOHN E. 1982. *The creative explosion*. New York: Harper and Row.
- PIAGET, JEAN. 1962. *Play, dreams, and imitation in childhood*. Translated by C. Gattegno and F. M. Hodgson. New York: Norton.
- . 1971. *Biology and knowledge: An essay on the relations between organic regulations and cognitive processes*. Edinburgh: Edinburgh University Press. [DS]
- PIETTE, E. 1904. Etudes d'ethnographie préhistorique VII. *L'Anthropologie* 15:139–40.
- PRASLOV, NICOLAS D. 1985. L'art du paléolithique supérieur à l'est de l'Europe. *L'Anthropologie* 89:181–92. [PGB]
- QUINE, W. V. O. 1960. *Word and object*. Cambridge: M.I.T. Press. [WD]
- RIEGL, ALOIS. 1893. *Stilfragen*. Berlin. [LTB]
- ROWE, P. W. 1930. The origin of prehistoric art. *Man* 30:6–9.
- SANDARS, N. K. 1968. *Prehistoric art in Europe*. Harmondsworth: Penguin.
- SCHILLER, FRIEDRICH. 1954 (1793). *On the aesthetic education of man*. Translated by R. Snell. New York: Ungar.
- SHAPIRO, M. 1953. "Style," in *Anthropology today*. Edited by A. L. Kroeber, pp. 283–311. Chicago: University of Chicago Press. [RL]
- SIEVEKING, ANN. 1979. *The cave artists*. London: Thames and Hudson.
- SPENCER, HERBERT. 1896. *The principles of psychology*. Vol. 2-2. New York: D. Appleton. [LTB]
- STENHOUSE, D. 1974. *The evolution of intelligence: A general theory and some of its implications*. London: Allen and Unwin. [DS]
- . 1985. *Active philosophy in education and science: Paradigms and language-games*. London and Boston: Allen and Unwin. [DS]
- STEVENS, ANTONY. 1975. Animals in Palaeolithic cave art. *Antiquity* 49:54–57.
- STOLIAR, A. D. 1976. "On the 'hand hypothesis' as a traditional explanation of the origin of art" (in Russian), in *Pervobytnoe iskusstvo* (Primitive art). Edited by R. S. Vasil'evski, pp. 8–24. Novosibirsk: Nauka. [LHA]
- . 1977–78. On the genesis of depictive activity and its role in the formation of consciousness (toward a formulation of the problem). Pts. 1 and 2. *Soviet Anthropology and Archaeology* 16:3–42; 17:3–33.
- . 1985. *Proisxoždenie izobrazitel'nogo iskusstva* (The origin of figurative art). Moscow: Iskusstvo. [LHA, PGB]
- TINBERGEN, N. 1953. *The herring-gull's world*. London: Collins. [DS]
- TOPOROV, V. N. 1972. "On the origin of certain poetic symbols (Palaeolithic era)" (in Russian), in *Rannie formy iskusstva* (Early forms of art). Compiled by S. Yu. Nekliudov, edited by E. M. Meletinski, pp. 77–103. Moscow: Iskusstvo. [LHA]
- UCKO, P. J. 1977. "Opening remarks," in *Form in indigenous art*. Edited by P. J. Ucko, pp. 7–10. Canberra: Australian Institute of Aboriginal Studies. [RL]
- UCKO, PETER J., AND ANDRÉE ROSENFELD. 1967. *Palaeolithic cave art*. New York: McGraw-Hill.
- . 1971. "Critical analysis of interpretations and conclusions and problems from Palaeolithic cave art," in *Anthropology and art: Readings in cross-cultural aesthetics*. Edited by Charlotte M. Otten. Austin and London: University of Texas Press. [LTB]
- VAN GENNEP, M. 1925. "A propos du totémisme préhistorique." *Actes du Congrès International d'Histoire des Religions 1923*, pp. 323–38. Paris: Champion.
- VERWORN, MAX. 1908. *Zur Psychologie der primitiven Kunst*. Jena: Fischer.
- . 1909. *Die Anfänge der Kunst*. Jena: Fischer.
- VIALOU, DENIS. 1981. L'art préhistorique: Questions d'interprétations. *Monuments Historiques* 118:75–82. [RF]
- VON LANGE, KONRAD. 1895. Die bewusste Selbsttäuschung als Kern des künstlerischen Genusses. *Zeitschrift für Aesthetik und allgemeine Kunstwissenschaft* 3. [LTB]

- . 1907. 2d edition. *Das Wesen der Kunst: Grundzüge einer illusionistischen Kunstlehre*. Berlin. [LTB]
- VYGOTSKY, L. S. 1976 (1933). "Play and its role in the mental development of the child," in *Play*. Edited by J. S. Bruner, A. Jolly, and K. Sylva, pp. 537–54. Harmondsworth: Penguin.
- . 1978. *Mind in society*. Cambridge: Harvard University Press.
- WELTE, ANNE CATHERINE. 1975–76. L'affrontement dans l'art préhistorique. *Travaux de l'Institut d'Art Préhistorique de Toulouse* 17:207–305; 18:187–330.
- WERNER, HEINZ, AND BERNARD KAPLAN. 1963. *Symbol formation*. New York: John Wiley.
- WHITE, RANDALL K. 1982. Rethinking the Middle/Upper Paleolithic transition. *CURRENT ANTHROPOLOGY* 23:169–92. [RF]
- WINNER, E., AND G. ETTLINGER. 1979. Do chimpanzees recognize photographs as representations of objects? *Neuropsychologia* 17:413–20.
- ZHUROV, R. IA. 1977–78. On one hypothesis relating to the origin of art. *Soviet Anthropology and Archeology* 16:43–63.

Calendar

1987

- March 5–8*. Society of Ethnobiology, 10th Annual Conference, Gainesville, Fla., U.S.A. Topics: cultural ecology, plant and animal domestication, ethnozoology, zooarchaeology, ethnobotany, archeobotany, palynology, ethnopharmacology, human diet and nutrition, folk taxonomy. Write: Elizabeth S. Wing, Florida State Museum, Gainesville, Fla. 32611, U.S.A.
- April 5–8*. Society for Applied Anthropology, Oaxaca, Mexico. Theme: Applied Anthropology as an International Resource. Write: Demitri B. Shimkin, Department of Anthropology, University of Illinois at Urbana-Champaign, Urbana, Ill. 61801, U.S.A.
- July 3–6*. International Conference on Thai Studies, Canberra, Australia. Sections: Development of the Thai Economy, Language and Literature, History, Minorities and Politics, Politics and International Politics, Prehistory and Archaeology, Change in Rural Thailand, Modern Laos, Urban and Regional Development, Religion and Belief Systems. Write: Convenor, Organizing Committee, International Conference on Thai Studies, The Australian National

- University, Box 4, GPO, Canberra, A.C.T. 2601, Australia.
- August 10–20*. 16th Pacific Science Congress, Seoul, Republic of Korea. Theme: New Dimensions of Science, Manpower, and Resources in the Pacific. Write: Tai Whan Shin, National Academy of Sciences, 1 Sejongro, Jongro Gu, Seoul 110, Korea.
- September*. International Union of Pre- and Protohistoric Sciences, Mainz, Federal Republic of Germany.

1988

- July 24–31*. 12th International Congress of Anthropological and Ethnological Sciences, Zagreb, Yugoslavia. Write: Anita Sujoldzic, general secretary, Organizational Committee, c/o Laboratory of Anthropology, Institute for Medical Research and Occupational Health, Mose Pijade 158, P.O. Box 291, 41,000 Zagreb, Yugoslavia, or Linda A. Bennett (American coordinator), George Washington Medical Center, 613 Ross Hall, 2300 Eye St., N.W., Washington, D.C. 20037, U.S.A.