

REVIEW FEATURE

**Shamanism, Totemism and Rock Art:  
*Les Chamanes de la Préhistoire* in the Context  
of Rock Art Research**

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*Les Chamanes de la Préhistoire: Transe et Magie dans les Grottes Ornées*, by Jean Clottes & David Lewis-Williams, 1996. Paris: Éditions Seuil; ISBN 2-02-028902-4 hardback 249FF, 119 pp., 114 colour ills.

*The Shamans of Prehistory: Trance and Magic in the Painted Caves*, by Jean Clottes & David Lewis-Williams, 1996. New York (NY): Harry N. Abrams; ISBN 0-8109-4182-1 hardback \$49.50, 120 pp., 116 colour ills.

Jean Clottes and David Lewis-Williams' recent book *Les Chamanes de la Préhistoire* builds on a body of rock art research which has come to dominate the field, marginalizing interest in other cultural themes such as totemism and records of everyday foraging. Shamanism and totemism are, however, two of the most pervasive indigenous theories of being to have been discussed in the anthropological literature. The word *totem* comes from the Ojibwa, a native North American people, while the word *shaman* comes from the Tungus of central Siberia. Their use cross-culturally to refer to types of religion (i.e. *shamanism* and *totemism*), is an artefact of anthropology. Shamanism can be applied to customs that are inferred to have arisen independently in different parts of the world (Lewis 1971); customs in a single circum-arctic culture area; or scattered survivals from an allegedly original human condition (Hultkrantz 1989, 47). The cross-cultural validity of *shamanism* has been considered by Eliade, Lewis, Hultkrantz and Vitebsky (Eliade 1972; Hultkrantz 1989; Lewis 1971; Vitebsky 1995). Shamanism refers to the use of spirits as guardians and helpers of *individuals*, contacted through *trance*. The validity of totemism as a cross-culturally-

valid category has been vigorously debated in anthropology (see Lévi-Strauss 1962 for an authoritative review). It is generally agreed to refer to the use of animals or plants as emblems or guardians of social groups celebrated in *ritual*. The rationale of totemism is that each group is identified with a different species; the significance of each species derives from its place in the cognitive structure. Group A is kangaroo because it is not emu or python (see Lévi-Strauss 1964, ch. 5). While Durkheim interpreted totemism as the original human religion (Durkheim 1915), Lévi-Strauss persuasively argued that totemism is a product of human cognition, which has developed independently in North America, Australia and Africa.

Ioan Lewis found a remarkable uniformity across cultures in the mystical experience and symbolism of shamanism. Shamanic trance can be induced by a variety of stimuli including alcohol, drugs, rapid overbreathing and, more slowly, by mortification such as fasting (Lewis 1971, 39). People in some cultures such as the Samburu and Abelam, however, experience trance without attaching mystical significance to it. Even the Tungus of Siberia, from whom the word shaman comes, consider that some 'hysterical' states are not caused by spirits. Lewis therefore defines shamanism as follows:

a shaman is a person of either sex who has mastered spirits and who can at will introduce them into his own body . . . by his power over the spirits which he incarnates the shaman is able to treat and control afflictions caused by pathogenic spirits in others (p. 51).

Hultkrantz's definition is very similar:

the shaman [is] a social functionary who attains ecstasy with the help of guardian or helping spirits, and who through his ecstasy creates a rapport

with the supernatural world — all this on behalf of members of his group. (Hultkrantz 1989, 46)

These definitions aptly characterize shamanism in the hypothetical circum-arctic culture area of Siberia and North America and, with the exception of spirit helpers personal to the shaman, also apply to the San of southern Africa: 'southern San shamans were believed to enter trance to cure the sick, undertake extracorporeal journeys, make rain and control animals' (Lewis-Williams & Dowson 1988, 205). Shamanism is, then, a psychosomatic state harnessed for specific social and political ends (curing and hunting success), interpreted within the idiom of specific cultures. Vitebsky is impressed by the similarities between shamanic ideas and practices in many parts of the world (Vitebsky 1995, 11), but emphasizes variation in the political role of shamans, especially where shamanism co-exists with other religions. He considers the idea of 'pure' shamanism proposed by Eliade (Eliade 1972) hard to sustain and argues that Eliade has built a composite picture drawn from diverse cases of shamanism, each shaped by their specific political and religious contexts (Vitebsky 1995, 116).

In an attempt to contextualize shamanism, I shall contrast the use of imagery in shamanism and totemism as two opposed ways of appropriating motifs from the vocabulary of a cultural tradition. In totemism, each social group appropriates animal or plant images as their exclusive emblems. In Australia, individuals may incarnate particular ancestors who become their personal totems. They do not usually function as spirit guides in the shamanic sense, although Berndt documents an apparent exception (1987, 16–17). In shamanism, certain species may be favoured vehicles for spiritual encounters, but they are generally available to anyone throughout the society. In her account of !Kung curers, for example, Marshall notes that the Gautscha community possessed the *n/um* of the medicine songs called *giraffe*, but not those called *honey*. This situation did not arise because *honey* was another group's emblem, but because no one who possessed the honey songs had given them to the Gautscha. It was an outcome of the vagaries of interpersonal exchange (Marshall 1969). Tsuru makes a similar point when he contrasts the fluid transfer of spirit guardianship among the Baka pygmies of central Africa with the anchoring of Australian Aboriginal rituals to clan countries (Tsuru 1998, 79).

This review looks at some well-documented recent examples of art linked to shamanism and

totemism, then considers how ethnographic material might be used in the interpretation of older art. The contrast between art as a record of everyday life and art as an expression of shamanism, totemism or hunting magic illustrates Quine's contrast between observation sentences and theoretical sentences (Quine 1960). An observation sentence such as 'Kangaroos lie in the shade at midday' is easy to verify. A theoretical sentence such as 'Eating kangaroo is eating my grandfather' is much harder to translate so as to render the statement rational. A theoretical sentence evokes a theory of being, of cause and effect, or of apt metaphors. A work of art which evokes a theory of being will be harder to translate than one which merely illustrates animals and people, and the researcher must look for clues to the appropriate ontology. Art as a record of everyday life can in principle be understood without the need to consider the indigenous theory of how the world works, whereas art which is the product of shamanism, totemism or magic can only be understood in terms of the theory of being that generates such customs. In practice it is virtually impossible to identify any purely 'observation' sentences. Even comments on game animals are underwritten by both detailed practical knowledge and a theory of being (Layton 1995a, 218–19; Layton 1997, 207–8). I argue that evidence for the deployment of art in different ways may nonetheless provide clues to its role in culture that do not depend on reconstructions of meaning.

Quine's concept of observation sentences is similar to the linguistic concept of reference. The American philosophers Peirce and Morris classified signs according to the way they denote, or refer to *objects*. An indexical sign, for example, points to the object it denotes ('kangaroos right here' indicated with a gesture or pursing of the lips). An iconic sign, such as a picture of a kangaroo, or an onomatopoeic sound (neigh, woof), looks or sounds like the thing it denotes. A symbol, such as the vast majority of words in any language, is arbitrarily associated with what it denotes (Peirce 1931; Morris 1938, esp. 24, 47). Eco uses 'reference' in a different sense. Eco argues that any text directs the reader toward particular readings, even if these are open-ended, because its style locates the statement in the context of a certain discourse (Eco 1990, 45). An authorized reading is one that can plausibly be supposed to have occurred to a member of the intended audience (Eco, 1990, 53). We can attempt to identify the objects denoted by iconic pictures, the physical contexts in which such pictures were appropriately produced, and characteristic stylistic conventions. We cannot engage in

dialogue with the Magdalenians or Solutrians who painted and engraved in the caves of France and Spain. The discourse about those objects to which the ancient text belonged is lost. Clues that might have enabled an authorized reading ten thousand years ago today merely delineate its outward shape.

### Lewis-Williams' study of rock art in southern Africa

Rock art research was transformed by David Lewis-Williams' work on the rock art of Drakensberg Mountains of South Africa. Through the systematic analysis of available sources, Lewis-Williams was able to argue for a common cultural foundation for the living !Kung (Ju/'hoansi) culture of the Kalahari, the well-documented nineteenth-century culture of the /Xam of the Strandberg and Katkop regions, two hundred miles north of Cape Town, and the annihilated Maluti of the Drakensberg. Lewis-Williams' analysis culminated in the re-interpretation of the fragmentary, enigmatic statements of Qing, the only Maluti to have been interviewed by a White person. Lewis-Williams reconstructed a pan-San discourse on being and spirituality, concluding that the art of the Drakensberg was not just a record of everyday life among the San (Basarwa) but substantially, if not entirely, about trance experience and the curing rituals associated with shamanism (Lewis-Williams 1981). The art was not merely a series of observation sentences about eland and people dancing, but profoundly theoretical. Lewis-Williams supported his argument by showing that a more detailed reading of the art of the Drakensberg than any offered until then could be obtained by construing it as a discourse on ethnographically-attested rituals and altered states of consciousness (ASC). Many previously opaque details in the rock art suddenly revealed their significance.

A good example is the scene discussed by Lewis-Williams which seems to show a group of men running from a lion. Other figures appear to hang above the fleeing men. These had previously been interpreted as the men's spirits, hovering over them as death approached. Lewis-Williams points to details of iconography unaccounted for by this reading: some of the men have antelope hoofs; some of the 'spirits' have antelope heads. He argues that the scene depicts men in trance, 'becoming' eland. The lion is a shaman suffering the equivalent of a 'bad trip' (Lewis-Williams 1981, 95–7). Lewis-Williams' reading is more persuasive because more details of the composition are read in a way consistent with the available

ethnography for the region and no details contradict the preferred reading.<sup>1</sup>

While the principal aspects of Lewis-Williams' interpretation of southern San rock art are now widely accepted, a number of South African archaeologists have reassessed its details in the light of references the art makes to people and animal species. Parkington & Manhire (1997) report that many paintings in the Western Cape depict groups of people, either male or female, in procession, while others depict a group of seated men and women. They prefer Lewis-Williams' earlier view that the eland, the animal most frequently depicted in rock art, is a metaphor for social categories of person defined by age and gender, rather than for the lone figure of the shaman. Parkington & Manhire point out that the shift from reading paintings in the light of specific elements of San ethnography to the universals of altered states of consciousness diminishes the cultural meanings attributable to the art. Solomon has also argued that Lewis-Williams' preference for reading paintings as expressions of potency, initiation and trance (at least in his later work) rather than of southern San mythology misses the opportunity to propose a more detailed exegesis (most recently, Solomon 1998). Lewis-Williams has responded that Solomon's argument for reading painting as depiction of myth rather than trance fails to realize that the myths themselves are a cultural interpretation of the universals of trance experience (Lewis-Williams 1998). In my opinion this misses Solomon's point that the art may have a culturally-specific intellectual as well as a universal psychosomatic content, although Lewis-Williams is right to comment not only that he took this into account in his earlier work on the art of the Drakensberg, but also that since the intellectual content is specific to San culture it cannot be generalized to, for example, the Upper Palaeolithic of Europe. A very useful paper by Deacon examines rock art in the traditional country of the /Xam who worked during the late nineteenth century with Bleek and Lloyd to provide much of the southern San ethnography (Deacon 1994). Deacon found the animals most often mentioned in /Xam narratives are not, apart from the eland and ostrich, those most frequently depicted in rock art. Deacon concludes that while /Xam oral narratives often refer to inter-family relations and interpersonal conflict, the rock art refers primarily to the specific subset of rituals concerned with medicine men. Guenther, on the other hand, concludes from a wider survey of San rock art that just over half the total figures are game animals, many of them small, ge-

neric antelope, suggesting that the hunt is a major theme. Social scenes such as hunting, gathering, groups on the move and livestock raids, also suggest not all San art is religious and concerned with trance (Guenther 1994). Lewis-Williams interprets the argument that there may be many categories of San rock art serving 'an almost infinite number of functions' as an implicit, and unwarranted transposition of Western art theory to the art of hunter-gatherers (Lewis-Williams 1998, 88). The art of Australian hunter-gatherer societies can, nonetheless, express more than one core theme in the local culture (cf. Layton 1992b, ch. 2 & 3) and this possibility deserves consideration in the interpretation of prehistoric rock art.

### Generalizing the entoptic hypothesis

The success of Lewis-Williams' reanalysis of southern San (Basarwa) rock art led other researchers to look for clues in texts from other rock art traditions that would authorize a shamanic reading. It also led Lewis-Williams himself to explore ways of testing a shamanic reading of rock art from cultural traditions that had left no ethnographic record. Lewis-Williams' work on South African rock art assumed much greater cross-cultural significance after the publication of a joint paper with Thomas Dowson, in which it was argued that certain visual forms seen in San (Basarwa) rock art are universally experienced during altered states of consciousness, including the preliminary stage of trance experience (Lewis-Williams & Dowson 1988). The geometric forms perceived by someone undergoing the first stage of an altered state of consciousness had been independently described by several Western researchers. As a result of fieldwork with the Tukano of Colombia, the anthropologist Reichel-Dolmatoff concluded that the geometric shapes seen in the first stage of Tukano trance, and drawn for him by the Tukano, could be matched with the images induced in Western laboratory subjects. They were therefore valid cross-culturally (Reichel-Dolmatoff 1978, 292–5). Several neuropsychological researchers had independently established that these 'entoptic' forms include grids, zigzags, dots, spirals and 'catenary curves' (parallel arcs). Lewis-Williams and Dowson re-examined the paintings and engravings of the southern San (Basarwa), and found a range of figures, which could be matched with the entoptic forms derived from neuropsychological research.

David Whitley's analyses of rock art in southern California and the Coso Range of the North

American Great Basin gave further support to Lewis-Williams and Dowson's interpretation of southern San (Basarwa) culture (see, for example, Whitley 1988; 1992). Rock engravings in the Coso Range of south-west North America were frequently reported by early ethnographers to be the work of a spirit called 'rock baby', 'water baby' or 'mountain dwarf'. Whitley concluded that these were not, as the ethnographers often supposed, mere sprites, but powerful spirits encountered by shamans in trance (Whitley 1992, 97). A vision in which the shaman killed a mountain sheep indicated success in attracting rain. Whitley argues that 'the large proportion of Coso mountain sheep engravings, including killed sheep and "hunters" shooting sheep, thus, should not be interpreted in a literal sense . . . (but as) graphic expressions of the visions of rain shamans' (Whitley 1994, 363). Whitley reread the early ethnography as a record of spirit helpers, of trance experience akin to being pulled underwater or entering into underground caverns. All young men and women were initiated into the *chinigchinich* or jimsonweed cult. Initiation included both deprivation and stress, and taking hallucinogens, as well as instruction (for critical reviews of Whitley's interpretations see Gilreath 1999; Monteleone 1998; Monteleone & Woody 1999).

Lewis-Williams and Dowson drew on neuropsychological research, and the ethnographic studies by Reichel-Dolmatoff and Whitley, to re-interpret the 'signs' characteristic of Upper Palaeolithic art in France and Spain. They recognized the ambiguity of simple figures in Upper Palaeolithic rock art. A possible entoptic form might equally represent a weapon or simplified human silhouette. They argued that the extent to which the range of Palaeolithic 'signs' corresponded to entoptic forms nonetheless gave strong support to the validity of their hypothesis that 'a significant component' of Upper Palaeolithic rock art was trance-inspired (Lewis-Williams & Dowson 1988, 213). Taking up a point made by Reichel-Dolmatoff, they argued that aspects of Upper Palaeolithic art completely controlled by the human nervous system would be easier to study than the culturally-determined content of imagery (Lewis-Williams & Dowson 1988, 202, 210). They therefore disavowed the search for a Palaeolithic discourse, and concentrated on identifying references to forms seen during altered states of consciousness. Not all the geometric motifs found in Upper Palaeolithic art correspond to entoptic forms, but all six basic entoptic categories were represented.

There is a growing literature which attempts to identify references to shamanism in rock art, based

on the pioneering work of Lewis-Williams and Dowson, Whitley and Reichel-Dolmatoff. The search for a Palaeolithic discourse, disavowed by Lewis-Williams, has been re-introduced through the construction of a quasi-universal hunter-gatherer worldview. Although writers admit that not all forager rock art is shamanistic (e.g. Sales 1992, 22; Ouzman 1998, 34), an orthodoxy has developed which makes rather sweeping statements appear unproblematic:

One consequence of forager cognition is that it tends to be associated with a shamanistic form of belief . . . As its defining characteristic shamanism has institutionalised altered states of consciousness in which the religious specialist, or shaman, experiences visual and somatic hallucinations which are said to constitute the central truths of forager religion . . . Shamanism is enormously variable as regards content and expression . . . [but the remarkable correspondences] are most adequately explained as the product of a shared, human universal — the central nervous system. (Ouzman 1998, 33)

Clottes and Lewis-Williams write similarly of:

the irresistible need among hunter-gatherer societies to rationalise a universal tendency of the human nervous system: to attain altered states of consciousness. (Clottes & Lewis-Williams 1996, 81; compare Chippindale *et al.* this volume)

The presumption that altered states of consciousness have universal properties and are widely associated with shamanism encourages writers to combine fragments of ethnography on different communities to produce a composite picture. Clottes and Lewis-Williams use phrases such as 'North American shamans', or 'in Australia, it is said . . .' (Clottes & Lewis-Williams 1996, 20, 27). Kim Sales has published an interesting attempt to identify shamanic rock art in Australia, which highlights the problems of this method. Sales argues that, since the shamanistic interpretation is a universalistic model, based on neuropsychological factors, it *could* be applicable to Australian Aboriginal rock art, if *aspects* of the art derive from altered states of consciousness (Sales 1992, 22). Sales reviews the literature on Australian 'clever men' or, in Elkin's term (Elkin 1945), 'men of high degree'. There is no doubt that such men exist(ed) in a number of Aboriginal societies. In some communities they used familiar spirits to help them divine the cause of illness (Warner 1958; Von Brandenstein 1970); in some they appear to have experienced out-of-body travel (Tonkinson 1970). Lommel argued that a Worora *banman* ('medicine man') from the Kimberley could be identified as a

shaman, since he could travel to the spirit world (Lommel 1989). Shamanic-like experiences during heightened states of consciousness have been described in Australia (see the experiences of Wulagudja and Alaron, described in Layton 1992b, 84–5, 123). While people can encounter the ancestral, totemic spirits in dreams, however, such dreams supply new or, rather, lost songs, dances or designs for existing totemic complexes (the most detailed study of this phenomenon is Poirier 1996). No one has demonstrated that such men perceived entoptic forms in the course of their shamanic-like activities.

Sales' test case is a panel of engravings on the Burrup Peninsula in the north of Western Australia. She accepts that the nearest detailed ethnographies come from regions at least 600 kilometres away, but (following Lewis-Williams' original method) argues that a pan-Australian picture emerges which overcomes this problem. Figures from the rock art of various parts of Australia are collated to demonstrate the widespread occurrence of entoptic forms. Despite the formal similarity with entoptics there is no support for an entoptic interpretation from the ethnography. Amongst her figures from Western Australia is the head of a Wandjina ancestral being (cf. Crawford 1968), amongst those from South Australia the *yarida* magical object from Panaramitee described by Berndt (Berndt 1987). Three examples of the concentric circles which represent sacred sites in central Australian art are given (cf. Layton 1992b, 56–8). There is simply no ethnographic justification for describing the figures Gould saw being carved and painted in central Australia as 'entoptics' (Sales 1992, 29; cf. Gould 1969), nor did Queen Gooseberry's statement about Sydney-Hawkesbury rock art make any reference to shamanic belief or the practice of engraving entoptic forms (Sales 1992, 29; cf. Clegg 1985, 5–6; Layton 1992b, 137–8). Sales' argument appears to rely on the inference that, because aspects of shamanism have been documented in these societies, the art motifs must be entoptic in origin. Ouzman writes in a similar vein that hammer marks on a South African rock surface point to shamanic ritual since, 'cross-culturally, the use of percussion is especially marked at rituals at which an altered state of consciousness is induced' (Ouzman 1998, 38).

Such writers give a variety of reasons for interpreting rock art as an expression of shamanism. They usually fail, however, to provide corresponding criteria for determining when rock art is not shamanic. Francfort's study of central Asian rock art is an important exception (see also Dronfield 1996). Francfort carefully assesses alternative readings of Central

Asian rock art as expressions of shamanic or Indo-Iranian religion. He concludes that the shamanic interpretation fits the iconography of Central Asian art better and 'gives better insights into the understanding of Central Asian petroglyphs; but it explains less, in being less specific than the Indo-Iranian interpretation' (Francfort 1998, 313). Unlike the Indo-Iranian reading, the shamanic interpretation cannot, in many cases, be linked to a specific cultural discourse. In Central Asia 'there is actually no petroglyph representation that fully contradicts shamanistic theory, but only if one considers a broad Eurasian spectrum of shamanism, not the exact illustration of present-day shamanism (also depicted on rock with recent drums and *ongon* images)' (Francfort 1998, 313, his parenthesis).

What evidence is the entoptic hypothesis based on? There is no direct ethnographic evidence that even southern San (Basarwa) artists depicted forms seen in the first stage of altered states of consciousness. The evidence reviewed in Lewis-Williams' earlier work leaves little doubt that some southern San (Basarwa) rock art depicts people in trance. The posture of certain figures, sometimes apparently bleeding from the nose, the composite eland-human forms and associated artefacts, combined with the statements of San (Basarwa) interviewed in the nineteenth century, all support Lewis-Williams' interpretation. /Xam medicine men suffered nasal haemorrhages while drawing 'sickness objects' from patients. Numerous Drakensberg paintings show people with lines issuing from their noses. Some paintings show dancers fallen to their knees. One apparently depicts two dancers assisting a third in a manner similar to the way Ju/'hoansi today support each other during trance (Lewis-Williams 1981, 76–81, 88, fig. 21; cf. Marshall 1969). Lewis-Williams and Dowson were, however, unable to quote any ethnographic statements concerning entoptic forms. Their argument relied on demonstrating the occurrence of such forms in a tradition persuasively shown by other means to be associated with shamanism.

The best ethnographic evidence for the presence of entoptic forms in rock art comes from Reichel-Dolmatoff's study of shamanic art among the Tukano and their neighbours of the Vaupes region of Colombia (Reichel-Dolmatoff 1967). The Tucanoan peoples believe game animals to be under the protection of a being called the 'Master of Animals'. A shaman in trance can enter the hills and negotiate the release of animals for his group to hunt, in exchange for the souls of those who have broken the rules of good conduct while alive. Although hunters avoid these

hills, shamans visit them to paint in red the animals they have asked the Master of Animals to release. Geometric motifs painted adjacent to the animal figures represent fecundity. Rows of dots depict drops of semen and zigzag lines the succession of generations. Geometric shapes inside the bodies of animal paintings denote the animals' fertility.

Whitley has limited ethnographic evidence that a Californian rock shelter containing geometric paintings was a girls' initiation site. Ethnographic evidence for the girls' initiation site indicates that rock art associated with the cult included zigzag lines and grids. The general literature on altered states of consciousness suggests these depict entoptic forms and such motifs are painted in the shelter. More tenuous evidence suggests cult experiences were also represented through parallel lines, circles and curvilinear motifs, together with simple silhouettes of humans and animals (Whitley 1992, 93–5, 98–107). While some of these may be ambiguous, they are not recognizably composite human-animals (see Layton 1991, 35). Some earlier twentieth-century ethnographic accounts from southern California and the Great Basin recorded that the ritual equipment of rain-making shamans included hats and bullroarers made from the skin and horns of mountain sheep. Whitley illustrates one engraving of a bird-footed human wearing a head-dress (Whitley 1994, 363). Although 1.3 per cent of Coso engravings have been interpreted as 'medicine bags' (p. 360), shamans' equipment does not appear to be commonly represented.

It therefore seems useful to review other well-documented cases of shamanism among hunter-gatherer peoples and examine its relation to art, and specifically (where information is available) rock art. In order to put some limit on the shamanic hypothesis, I will also look at the place of non-shamanic art in such cultures.

### Shamanic art in northern North America

Inuit who became shamans often had their first encounter with their spirit guardian during a period of deprivation, for example while drifting out to sea on an ice-flow (and see Lewis 1971, 69 citing Rasmussen 1929). After encountering a spirit, the shaman, or someone he commissioned, carved a mask of the spirit for the shaman to wear. Shamans' spirits were often the spirits of animal species but masks depicting spirits encountered by shamans had human-like, yet distorted features, unlike most entertainment masks (see Ray 1967, 16, 22).

As among the Inuit, native people of the north-

west coast of North America often became shamans after suffering injury or deprivation (see Boas 1966, 121 & 129 for examples). Among the Kwakiutl, shamanic experiences were associated with the winter secret societies, when everyone lived in a recreation of the shaman's 'exaggerated and distorted world'. Although summer potlatches celebrated the descent group's totemic ancestors, living Kwakiutl were no longer in contact with them. In winter, on the other hand, the spirits that inspired the founders of the secret societies were still present, and devoured initiates (Rosman & Ruebel 1990, 636). Like the Inuit, the Kwakiutl signify the shaman's experiences through a distinctive style. The Kwakiutl shaman's 'vision of the world is conveyed in the art used during *tsetsequa* (the winter season) through grotesqueness and exaggeration' (Rosman & Ruebel 1990, 632). Among the Tlingit, most northerly of the Northwest Coast peoples, shamanic art was similarly distinguished from other art by its surreal intensity (Jonaitis 1988, 102).

The Tsimshian (located to the north of the Kwakiutl) considered all free individuals needed to acquire spiritual help and protection. Some spirit encounters were minor, others pushed the young person into a coma, or an epileptic-like fit, leaving a permanent mark. It was these people who became shamans. Unlike the Inuit, who do not have descent groups, the ancestors of Tsimshian lineages had encounters with spirits who became the guardians of the lineage, depicted on its totem poles, and on carved masks. Unlike the Kwakiutl, Tsimshian could readily remain in contact with lineage ancestors. To maintain links with lineage guardians, subsequent generations of a lineage only had to put on the masks and costumes and re-enact the original encounter. 'Each generation added new material from the ordinary and marvellous experiences of its members. Thus each lineage accumulated a rich store of memories preserved in story, song, dance drama and crests' (Garfield & Wingert 1966, 43). The Northwest Coast and Inuit cultures show how shamanic art had a distinctive, diagnostic style. Shamanic art existed in tension, or even in contest with, other cultural discourses. It would be unwise to infer from ethnographic evidence of shamanism that all their art was shamanistic.

Lewis pointed out that shamanism is sometimes the central religion of a culture, but that it elsewhere co-exists with a dominant state religion where spirit possession often becomes the refuge of the marginalized such as oppressed women or poor men (Lewis 1971, 175–7). Northwest Coast cultures reveal a tension between the 'capture' of animal spirit guardians by shamans, and their control by lineages

or secret societies. This tension is also probably the outcome of cultural processes over many centuries. The first human settlers on the Northwest coast of North America arrived before 13,000 BP, at least one thousand years before the now familiar forest cover re-established itself after the last glaciation. Rising post-glacial sea levels rendered the estuarine environments along the coast unstable, preventing the accumulation of shellfish beds and making rivers and lakes unsuitable for spawning runs by fish. The earliest inhabitants of the northwest coast therefore probably lived in small, nomadic, relatively egalitarian bands. Cultures resembling those recorded in the eighteenth and nineteenth centuries emerged after the sea level stabilized at about 3500 BC, while the familiar art style developed after AD 500 (Jonaitis 1988, 17–18). The spirit figures associated with Australian 'clever men' are often capricious beings marginal to the totemic religion (Chaloupka 1984, 13; Layton 1992b, 123, 128, 136–7; and see Chippindale *et al.* this volume). There seems to be no evidence of a contemporary political contest between 'clever men' and the controllers of totemic cults, but the contemporary situation can again be interpreted as the outcome of culture change. In my assessment, Australian clan totemism developed around five thousand years ago. Its emergence was expressed in new distribution patterns in the production of rock art (Layton 1992b, 235–45).

### Shamanic and totemic rock art

The best recorded case of shamanistic rock art in North America is that of the Columbia Plateau (inland from the northwest coast). One ethnographer was given *nameeta*, or 'power' as the word for pigment (Barbeau 1960, 207–9 cited in Hann *et al.* forthcoming). Every known animal, together with artefacts, mythological figures and heavenly bodies, figure in the spirit quest on the Columbia Plateau. People went to existing paintings either because the paintings had been put there by someone who later received good power, or because the spirits themselves were thought to have created the paintings. Visions were induced by the fasting and strenuous activities undertaken by those questing. Sometimes the very act of painting or engraving rock art induced a vision although, more frequently, the art was a record of a vision already achieved. Some rock art appears to have been created by professional shamans as an advertisement for their powers but, since all adults with any social standing had succeeded in the vision quest, rock art is widespread on

the plateau. Walker considers that there are thousands of vision quest sites in the northern Rocky Mountain region (Walker 1991, cited in Hann *et al.* forthcoming).

The vision quest, however, was not the only motive for rock art on the Columbia Plateau. There is also ethnographic evidence that elaborate scenes of corralling, snaring and spearing are the product of hunting magic (Teit 1906, cited in Hann *et al.* forthcoming). Annie York, a contemporary native expert, comments: 'The things that the hunter wants . . . that's the way you write it. It shows he has caught them in his mind'. Annie York further explained a composite human-animal figure as the dream of a hunter visualizing his power (York *et al.* 1993, cited in Hann *et al.* forthcoming). Since one expected to succeed in hunting the species associated with one's guardian spirit, the spirit quest and hunting magic can be related, but they are not the same thing. In Australia, each clan performs 'increase' rituals for the species associated with its totemic guardians, but cannot freely hunt them. The power of totemic ancestors may also be used to inflict sorcery (Layton 1992b, 85). Several distinct cultural institutions can be included under the umbrella of a particular cosmology. Totemic rock art in Australia frequently co-exists with rock art relating to other cultural themes such as sorcery or the everyday practice of hunting and gathering (see Layton 1992b, 72–88; Layton 1995b). Where this is so, indigenous people competent in the tradition can point to stylistic or iconographic traits, or the art's location in the landscape, that make it possible to differentiate to which class a particular figure belongs, and hence deduce an authorized reading. A similar lesson emerges from shamanism in northwestern North America.

### Totemic art

One of the best documented traditions of totemic rock art is that of the Worora and Ngarinyin in the Kimberley region of Northwest Australia (see Layton 1992b, 33–47). In the Kimberley each clan is associated with an ancestral being or *Wandjina*. Various artefacts and animals which the Wandjina used or encountered during the creation period became the minor totems of the clan. Eventually each Wandjina chose a territory (*dambina* or *dambun*), which he or she bestowed upon the clan. The Wandjina painted his or her image upon the wall of a rock shelter within the territory, sometimes in quasi-human form, sometimes in an animal transformation. The minor totems are often painted in the same shelter (Utemara

& Vinnicombe 1992, 25; Vinnicombe & Mowaljarlai 1995, 234). Gould and Gunn have recorded a similar pattern in Central Australia (Gould 1969; Gunn 1997).

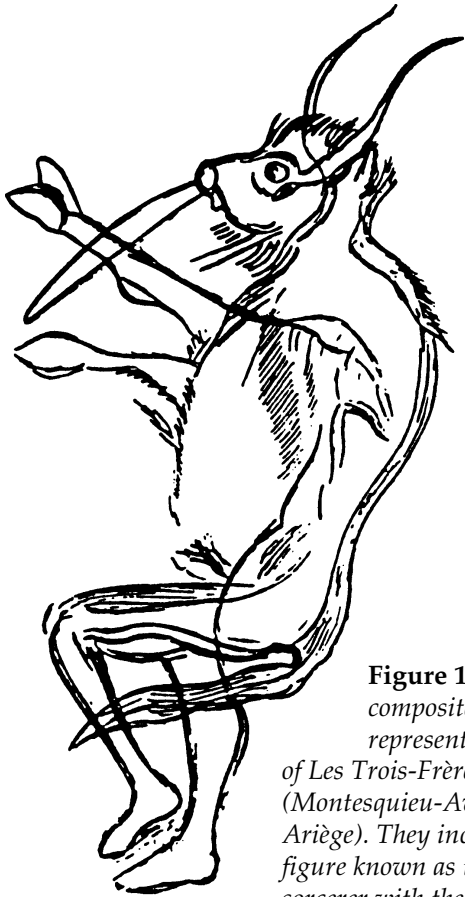
The best known case of 'totemic' rock art in North America is that of the Hopi. Olsen drew upon the extensive ethnographic record of Hopi and Zuni culture, including indigenous autobiographies, to demonstrate the durability of the contemporary system of matrilineal clans. Animal representations frequently figured among clan symbols. Sixty per cent of contemporary rock art motifs are clan symbols (Olsen 1989, 429). Olsen carried out statistical tests to see whether known clan emblems tended to occur in certain types of location, such as *kiva* walls, house room walls or field boundaries and therefore, by inference, functioned as markers of site ownership which might leave an identifiable archaeological trace. She could only demonstrate a statistically significant association in the case of *kiva* walls.

Although clan emblems have also been used to signal ownership of farm field boundaries, this practice appeared to have originated during the twentieth century. Olsen's study of art produced by the Anasazi farming culture after AD 500 showed an older link between totemism and rock art. Portable objects tended to carry geometric designs, while fixed locations such as rock walls, boulders and *kiva* walls bore animal and human representations. Thirty-eight per cent of the Anasazi vocabulary of animal motifs were identical in form to modern clan emblems. Since they were non-randomly distributed, Anasazi art provides good evidence for the antiquity of the clan system and its expression in rock art (Olsen 1989, 430). Hartley has extended this approach to the Colorado Plateau, settled by Anasazi between AD 500–1300 (Hartley 1992). Rock shelters were likely to have been reoccupied on many occasions by generations of the same or related groups, and display many repetitions of a more limited set of motifs than do isolated boulders. Hartley compares his findings with Richard Gould's work in the Western Desert of Australia. Here there is a relatively limited range of repeated rock art motifs close to water sources where art announces restrictions on access by advertising the rights of the local group bestowed on them by the totemic ancestors (Gould 1969, 270–72; see also Layton 1992b, 25–59; and Hartley's more recent work described in Hartley & Wolley Vawser 1998).

### Implications for archaeology

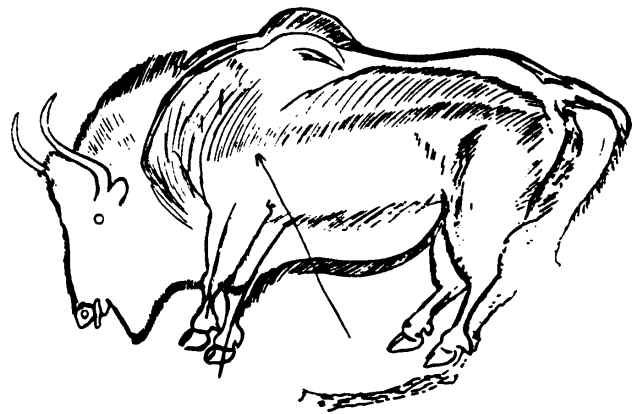
In *Les Chamanes de la Préhistoire* Clottes and Lewis-Williams point out that ethnographic parallels have





**Figure 1.** Several composite creatures are represented in the cave of Les Trois-Frères (Montesquieu-Avantes, Ariège). They include this figure known as the 'Small sorcerer with the musical bow' (from the object it appears to be holding in front of its face), which displays both human and animal (bison) features.

been used from the start to interpret Upper Palaeolithic art (Clottes & Lewis-Williams 1996, 61). They note some earlier uses of ethnography to derive a shamanic interpretation of Upper Palaeolithic art, but not how persistently the practice has resurfaced. As de Beaune puts it, the history of shamanic interpretation in Upper Palaeolithic art studies is 'a serial in episodes' (de Beaune 1998; cf. Bahn 1997, 62). De Beaune points out that as early as 1906 Cartailhac and Breuil relied on a parallel with the Inuit to interpret the composite bison-human figure of Les Trois Frères as a shaman (Fig. 1; Cartailhac & Breuil 1906), while Kirchner (1952) and his followers (including Kuhn 1956) later compared the same figure to an eighteenth-century engraving of a Siberian shaman which is also reproduced by Clottes and Lewis-Williams (Clottes & Lewis-Williams 1996, 11). In 1963, Makkay wrote that Yakut and Ostyak shamans wore costumes depicting the human skeleton and claimed the same was true of the figure from Les Trois Frères.



**Figure 2.** In some instances — but not always — the projectile hitting an animal is placed in the position on the body where it would be most effective, as in this dying bison engraved in the cave of Les Trois-Frères (Ariège).

Lommel picked up this argument and asserted that X-ray art was the best evidence for shamanism in Australia (Lommel 1967, 70). Ironically, the realistic depiction of skeleton and internal organs is construed by Aboriginal people in western Arnhem Land (the locus of 'X-ray' art) as indicating that the figure is 'just meat', i.e. merely a picture of the species people hunt or gather for food (Layton 1992b, 74).

Lewis-Williams recognized the weakness of the early method of taking *ad hoc* ethnographic parallels from individual societies. He argued the method he and Dowson relied on was stronger, because it depended on a 'relational analogy', that is, one in which there is a necessary relationship linking the observed parallels between an ethnographic and a prehistoric culture with the inferred mechanism causing them (Lewis-Williams 1991, 152–3). The sympathetic magic interpretation can, however, be characterized in a similar way (and I am here following Clottes & Lewis-Williams 1996, 66–9). Sympathetic magic was seen as a manifestation of the 'primitive mentality' of people in contemporary small-scale societies (see for example Kuhn 1956, 16). *A priori*, the same mentality existed among Upper Palaeolithic cultures. The use of deep caves was taken to be a symptom of magical intent. Some, but not all projectile points represented in Upper Palaeolithic art are placed against a vulnerable part of the animal (Clottes & Lewis-Williams 1996 illustrate two particularly convincing examples in their figs. 61 & 62: Fig. 2). The theory could explain many figures. Incomplete animals were interpreted as attempts to weaken prey, pictures of game animals were vehicles for hunting magic, while those of dangerous animals were destructive magic. Paired



**Figure 3.** Engraved horse overlain by a whole series of club-shaped signs in the cave of Les Trois-Frères.

animals of opposite sex were evidence of fertility magic; composite human–animals were either sorcerers wearing animal skins in an attempt to capture their essence, or gods of the animals. Some tectiforms were interpreted as traps.

The objections to the theory of sympathetic magic are also enumerated by Clottes and Lewis-Williams. It is based on a false notion that all primitive people are at the same stage in evolution, justifying the indiscriminate use of ethnographic analogies. The frequency with which animals were depicted does not correspond to their frequency in the diet, horse and bison in the caves, reindeer or red deer in the diet. The theory depends on subjective readings of ambiguous figures (including many supposed weapons and allegedly wounded animals), and it cannot explain all the art, as it should if it were truly a global explanation.

Is Clottes and Lewis-Williams' shamanic interpretation vulnerable to the same criticisms? The answer depends on how one reads their argument. On the one hand, they argue that shamanism is not a universal phenomenon. All cultures have faced the problem of altered states of consciousness but not all have developed shamanism. Composite human–animal figures, although characteristic of shamanic vision, are not exclusive to it. Many Palaeolithic 'signs' such as punctuations, zigzags, grids and undulating

lines, resemble forms seen in first stage of 'altered states of consciousness'; others do not, particularly shapes known as tectiforms and claviforms (Fig. 3). They regard this as a strength of the theory, since it invalidates the potential criticism that any geometric form can be interpreted as 'altered states of consciousness' experiences. Finally, they insist that 'in particular, we are not proposing a monolithic explanation for all forms of Palaeolithic art through the period' (Clottes & Lewis-Williams 1996, 112).

On the other hand, they offer a parallel argument for the theory's universal validity. Ethnographic reports of shaman-

ism came first from Siberia, then South America, North America and South Africa. These areas are widely dispersed: 'as we have seen these societies, throughout the world and on all continents, have among them practitioners who, in a religious framework, seek out altered states of consciousness to accomplish a variety of tasks' (Clottes & Lewis-Williams 1996, 12). The ubiquity of shamanism is not the result of diffusion but 'a measure of the irresistible need among hunter-gatherer societies to rationalise a universal tendency of the human nervous system, to attain altered states of consciousness' (Clottes & Lewis-Williams 1996, 81). If it were as simple as this, would there be any need to look for further evidence in the art? Clottes and Lewis-Williams have come close to talking about a 'stage' of humanity.

They further argue that the strength of the shamanic hypothesis is that it provides a unitary explanation for a complex set of related activities (Clottes & Lewis-Williams 1996, 99). Objects repeatedly poked into soft clay, and finger traces from which animals emerge, show the cave wall was a highly significant membrane between the world of people and world of spirits. The use of natural features, whose animal-like forms were brought out by engraving or painting, is almost ubiquitous. Animals are represented independently or, if associated, not as in nature. All of these features are characteristic of the

third stage of trance, when images appear to float before the eyes like slide projections. Composite human–animal figures are not necessarily ‘sorcerers’; the general context of shamanic art suggests other possibilities such as a god who was ‘master of animals’.

It is consistent with their quite proper rejection of parallels based on the content of belief in other cultures that Clottes and Lewis-Williams do not try to reconstruct what bison, horse or other species signified during the Upper Palaeolithic. The discourse remains unknown to us. While they do claim that ‘the underground world, simultaneously real (with the caves) and hallucinatory, was *undoubtedly* one element of the tiered cosmos in the Upper Palaeolithic’ (Clottes & Williams 1996, 29; their brackets, my italics), Clottes and Lewis-Williams are more concerned with the political role of shamans as ritual experts. Shamanism ‘consists of curing techniques, the control of animals, rites to influence the elements, prophesy, the vision quest, sorcery, out-of-body travel and other activities’ and one or more of these aspects may have predominated at any period during the Upper Palaeolithic (Clottes & Lewis-Williams 1996, 112). Their approach is complementary to the search for regularities in the style and distribution of motifs that might express political strategies in the artists’ culture and comes close to the one I have advocated in this review. My reservations concern the method Clottes and Lewis-Williams use to construe shamanism through the art.

### Variability in Upper Palaeolithic art

Showing that many hunter-gatherer cultures have ‘shamanistic’ beliefs does not prove they all do. It does not prove that all the art produced by those who *do* believe in shamanism is about shamanic experiences. Nor does it prove that the motifs associated with shamanism in one or more ethnographic cases invariably signify shamanic experiences, any more than hunting scenes or food animals necessarily signify sympathetic magic. Both composite human–animal figures and simple geometric shapes resembling entoptics have been claimed as general indicators of shamanic art, but neither is unique to shamanic art. Totemic ancestors are intrinsically composite human–animal figures and simple geometric forms are used to depict the bodies, artefacts and travels of totemic ancestors in central Australia. It is also clear that each documented shamanic art tradition has culturally-specific components.

Clottes and Lewis-Williams’ argument that the successful identification of entoptic motifs in a pre-

historic art tradition will not help us reconstruct the intellectual aspects of that tradition is well taken. Each culture interprets entoptics in its own idiom. There is, however, another lesson from the ethnography which has not been taken up by other writers. Any ethnographic case of shamanic, totemic, magical or secular rock art embodies specific clues in its style, iconography and distribution, which allow those competent in the cultural tradition to arrive at authorized readings by identifying the appropriate discourse (see Layton 1992b, 86–8). Although we cannot construe those meanings ourselves, we can still be alert to variation in style, distribution and preferred subjects which arise from the use of art in practical contexts which may once have enabled an authorized reading.

Clottes and Lewis-Williams note some interesting and important aspects of variability in Upper Palaeolithic art, but tend to construe these as signalling different aspects of shamanism rather than distinct aspects of culture. Some of the geometric forms known as ‘signs’ are localized and some widespread, but Clottes and Lewis-Williams reject Leroi-Gourhan’s hypothesis that ‘signs’ which only occur in one area may have been ‘ethnic markers’ (see Leroi-Gourhan 1981). While horse and bison predominate in most caves; rhino, felines and mammoth together contribute more than 60 per cent in the early cave of Chauvet, and a similar preponderance is found in other Aurignacian sites. The frequency with which species are depicted on portable art differs from the frequency with which they appear in caves.

### A comparative survey

The universalizing tendency of shamanic interpretations tends to minimize variability in rock art traditions. I propose a method that will throw variability into relief. At the start of the review I contrasted the use of imagery in shamanism and totemism as two opposed ways of appropriating motifs from the vocabulary of a cultural tradition. In totemism, each social group appropriates animal or plant images as their exclusive emblems. In shamanism, certain species may be favoured vehicles for spiritual encounters for shamans, but they are generally available to anyone throughout the society. I argued that evidence for the deployment of art in different ways may provide clues to its role in culture that do not depend on reconstructions of meaning.

The hypothesis is as follows: totemic, shamanic and secular rock art offer different ways of using motifs drawn from the vocabulary of a cultural tradition. They therefore have different but characteris-

tic distributions within and between sites, and may utilize different styles. Each is symptomatic of a political strategy in which motifs are deployed in appropriate contexts. More than one theme can co-exist in any cultural tradition.

Two axes of variation, each having two states, are sufficient to differentiate between four possible cultural configurations (Fig. 4), but only three are distinguished here: totemic, secular and shamanic rock art. If a third axis were required, the distribution of rock art in the landscape would be appropriate (e.g. all available sites used vs selective use of a

few of the potential sites). Totemic art will tend to be concentrated at sites which mark significant points in the group's territory, while the art of secular foraging will occur indiscriminately in any suitable habitation site (Layton 1992b, 37–46, 66–74; cf. Gunn 1997). Upper Palaeolithic rock art sites in northern Spain also seem to be clustered in a non-random fashion (Layton 1987; Strauss 1987).

There is anecdotal evidence that certain sites are preferred in the shamanic spirit quest (e.g. Hann *et al.* forthcoming; Whitley 1998, 21–2) but, as far as I am aware, the effect of the spirit quest on site distri-

	Each motif concentrated at a few sites	Motifs equally distributed between all sites
All motifs produced with relatively equal frequency	<b>totemic</b>	<b>secular</b>
Some motifs appear at least 2× as frequently as mean for remaining motifs		<b>shamanic*</b>

\* Not all cases! See text.

Figure 4. Differentiation of rock art traditions by motif frequency.

**Table 1.** Distribution of motifs between sites (listed in rank order; N = number of sites at which motif appears).

Kimberleys (totemic)	N	%	Laura (secular)	N	%	Karoo (shamanic)	N	%	Upper Palaeolithic	N	%
1 snake spp.	7	44%	kangaroo	15	83%	eland	6	100%	horse	15	83%
2 yam spp.	4	25%	catfish	14	78%	other antelope	6	100%	bison	15	83%
3 wallaby	4	25%	tortoise	12	67%	ostrich	6	100%	ibex	14	78%
4 tortoise, long-neck	4	25%	emu	11	61%	wildebeest	6	100%	uroch	12	67%
5 fruit spp.	3	19%	snake spp.	11	61%	bird	6	100%	deer	12	67%
6 bats	3	19%	fish spp.	10	56%	equid	6	100%	bear	7	39%
7 kangaroo	3	19%	scrub turkey	9	50%	rhino	5	83%	mammoth	5	28%
8 fish spp.	2	13%	echidna	7	39%	giraffe	5	83%	reindeer	5	28%
9 crocodile	2	13%	crocodile	7	39%	monkey	5	83%	lion	5	28%
10 brolga	2	13%	sawshark	7	39%	lion	5	83%	fish	5	28%
11 bird spp.	2	13%	wallaby	6	33%	zebra/quagga	4	67%	rhino	3	17%
12 frill-neck lizard	1	6%	flying fox	5	28%	elephant	4	67%	wolf	3	17%
13 eaglehawk	1	6%	bird spp.	5	28%	suid	4	67%	bird	3	17%
14 bees' nest	1	6%	dingo	5	28%	buffalo	4	67%	wild boar	3	17%
15 cockatoo	1	6%	lizard spp.	3	17%	mythical	4	67%	megaceros	3	17%
16 porcupine	1	6%	stingray	2	11%	plant	4	67%	caprid	2	11%
17 dingo	1	6%	ibis	2	11%	gemsbok	4	67%			
18 eel	1	6%	jabiru	1	6%	hartebeest	4	67%			
19 ibis	1	6%	springbok	3	6%						
20 lizard, unident.	1	6%									
21 marsupial mouse	1	6%									
22 owl	1	6%									
23 rock pigeon	1	6%									
24 tortoise, short-neck	1	6%									
<i>av. frequency</i>		2/16 shelters			7/18 shelters			5/6 shelters			7/18 shelters

bution has not been tested through extensive site mapping, and variability on this axis cannot be tested.

I have argued in earlier publications that a case can be made for the expression of three themes in Upper Palaeolithic art: one through the animal art; one through the rectangular signs known as tectiforms, whose distribution is often restricted to particular areas; and one through portable art (Layton 1987, 221ff; 1992a, 217–19; cf. Bahn 1997, 66). Vialou has also defended Leroi-Gourhan’s hypothesis that some geometric motifs were territorial markers (Vialou 1986). When I first argued this case, I took the rock art of Laura, North Queensland, as representative of a totemic tradition (Layton 1987, 21–6). Since then I have concluded that much of the art at Laura is secular (Layton 1995), but have also located a useful survey of the undoubtedly totemic rock art of the Western Kimberley (Schulz 1956). My original survey of portable art from the Upper Palaeolithic was based on illustrations published by Marshack (Marshack 1972) but further data is included in Clottes and Lewis-Williams’ recent book. I will therefore conclude by reconsidering some of this evidence.

**Distribution of motifs between sites**

In totemic art, each animal species will be preferentially depicted at sites within the territory of the group for whom it is the totemic emblem. In shamanic

rock art, the species favoured as guardians or vehicles for spiritual encounters will be depicted throughout the community’s area because they are available to people in many local groups. The same distribution will be characteristic of secular rock art: the species hunted and gathered during everyday foraging activities will be depicted with equal frequency at all sites. There is no data from the Drakensberg on motif distribution by site, but Deacon has published data on /Xam rock art from the Upper Karoo which gives both global frequencies and distribution between six sites (Deacon 1994, 254). In Table 1 and Figure 5 (distribution of motifs between sites), the Karoo (shamanic) and Kimberley (totemic) samples are clearly differentiated. Motifs in the totemic tradition occur at an average of two out of 16 sites, while motifs in the shamanic tradition occur at five out of six sites. The Laura (secular) sample, which the hypothesis predicts should resemble the profile of the shamanic curve, lies about half-way between the two. The profile of the Upper Palaeolithic curve is very similar to that from Laura. In both these samples, motifs occur on average at 7 out of 18 sites.

**Frequency of motifs in the whole sample**

In totemic art, a large number of species are represented, but each occurs with about the same frequency because each functions as the emblem of one

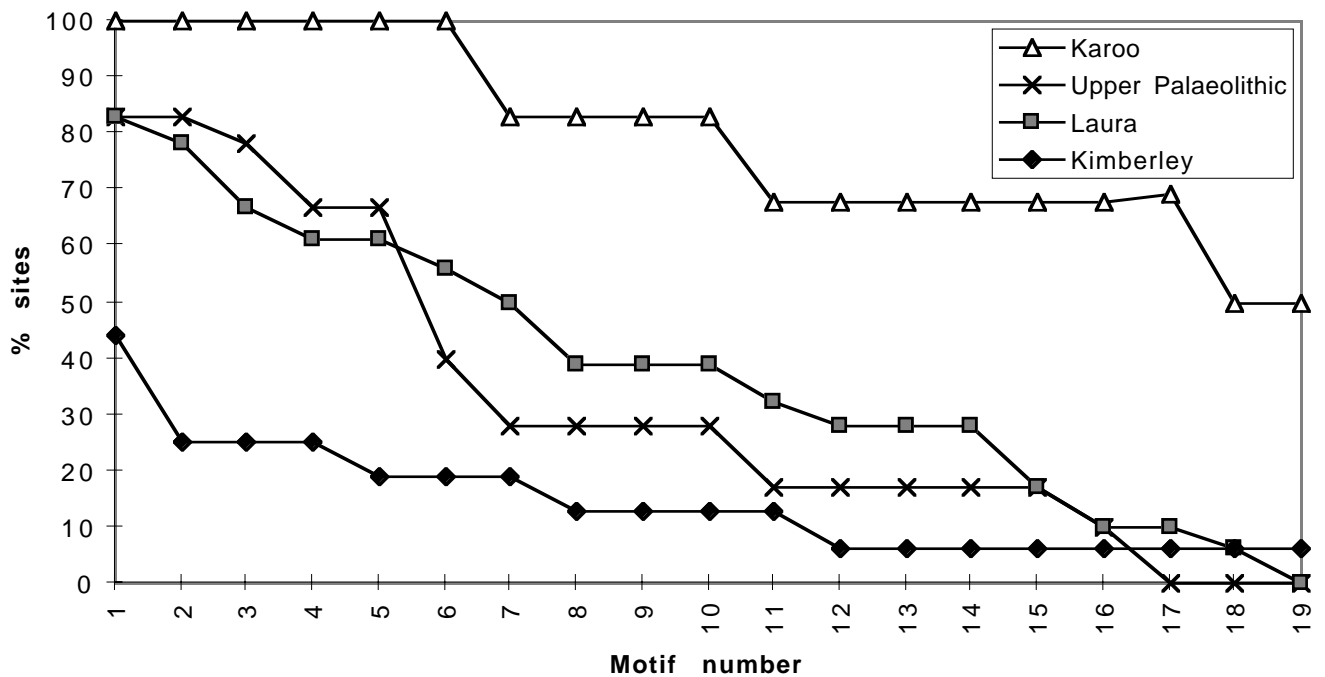


Figure 5. Percentage of sites at which motifs appear.

**Table 2.** Frequency of motifs in whole region, Drakensberg and Coso.

Frequency of most common motifs (excluding humans and introduced animals) Drakensberg (Vinnicombe 1975, 364)			Frequency of motifs in Coso rock art, following Grant 1968 (Whitley 1994, 360)	
1 eland	585	60%	mountain sheep	51%
2 rhebok	246	25%	geometric patterns	29%
3 indet. antelope spp.	97	10%	male anthropomorphs	13%
4 hartebeest	19	2%	canids / felines	1.6%
5 feline	10	1%	'medicine bags'	1.3%
6 bushpig	6	0.5%	snakes	1.0%

**Table 3.** Frequency of motifs in whole region, continued.

Kimberleys (totemic)			Laura (secular)			Karoo (shamanic)			Upper Palaeolithic			
	N	%		N	%		N	%		N	%	
1 yam spp.	33	24%	catfish	64	14%	other antelope	297	21%	horse	383	42%	
2 snake spp.	18	13%	kangaroo	58	13%	eland	288	20%	bison	186	22%	
3 fruit spp.	16	11.5%	fish spp.	51	11%	rhino	152	11%	auroch	66	12%	
4 frill-necked lizard	13	9%	flying fox	34	8%	ostrich	95	7%	reindeer	57	6%	
5 bats	10	7%	bird spp.	31	7%	giraffe	90	7%	mammoth	54	6%	
6 eaglehawk	7	5%	tortoise	29	7%	wildebeest	72	5%	ibex	51	6%	
7 wallaby	7	5%	emu	29	7%	zebra / quagga	59	5%	deer	42	5%	
8 kangaroo	6	4%	snake spp.	25	6%	elephant	57	4%	bear	26	3%	
9 fish	4	3%	echidna	23	5%	bird	45	3%	lion	12	1%	
10 tortoise, long-neck	4	3%	crocodile	19	4%	equid	40	3%	fish	5	.5%	
11 crocodile	3	2%	scrub turkey	18	4%	suid	27	2%	megaceros	5	.5%	
12 bees' nest	2	1.5%	dingo	16	4%	buffalo	27	2%	wolf	4	.5%	
13 brolga	2	1.5%	shark	15	3%	monkey	23	2%	rhino	3	.5%	
14 bird, unident.	2	1.5%	wallaby	13	3%	mythical	22	2%	bird	3		
15 cockatoo	2	1.5%	lizard spp.	8	2%	hartebeest	19	1%	boar	3		
16 porcupine	2	1.5%	stingray	3	.5%	lion	15	1%	caprid	2		
17 dingo	1	.75%	jabiru	3	.5%	plant	14	1%	compound / imaginary	1		
18 eel	1	.75%	ibis	2	.5%	springbok	13	1%				
19 ibis	1	.75%	gemsbok	13	1%							
20 lizard, unident.	1	.75%										
21 marsupial mouse	1	.75%										
22 owl	1	.75%										
23 rock pigeon	1	.75%										
24 tortoise, short-neck	1	.75%										
	(139 figures)			(441 figures)			(1379 figures)			(903 figures)		

clan among many. The art of secular foraging activities will also depict a large number of species with approximately equal frequency. In shamanic cultures, however, certain species are often particularly charged with power: giraffe among the !Kung (Marshall 1969) anaconda and jaguar among the Wayapi (Campbell 1989), monkey among the Sora (Vitebsky 1993) and bear among the Khanty (Peter Jordan pers. comm.). Shamanic art should therefore be characterized by the predominance of the limited number of species commonly functioning as guardians or vehicles for spiritual encounters, setting it apart from both secular and totemic art. This is the case in the Drakensberg (see Table 2), but the ethnography outlined earlier implies there that are no particularly favoured species in northern North

America. If the Drakensberg data are more typical, shamanic rock art will be differentiated by the high frequency of certain motifs. Figure 6 shows that the Kimberley (totemic) and Laura (secular) patterns are indeed similar, and sharply distinguished from the much steeper slope of the Drakensberg curve, but this trend is not repeated in the Karoo sample, which resembles the Kimberley and Laura pattern. The slope of the Upper Palaeolithic curve is closest to that for the Drakensberg.

The distribution of animal motifs in Upper Palaeolithic caves therefore tends toward the shamanic pattern on both axes (a limited number of species favoured, but all found at a high proportion of sites). It is easier to conclude from this that Upper Palaeolithic animal art was not totemic, or a record

of everyday foraging, than that it was shamanic. There may be further cultural configurations which I have not considered, that would provide a better overall match (see Layton 1992a, 218).<sup>2</sup> On balance, however, this test tends to support Clottes and Lewis-Williams' interpretation of the animal art.

A different situation seems to emerge with regard to mobile art in the Upper Palaeolithic (see Table 4). The two species pre-eminent in the cave art, horse and bison, are only one-third and one-sixth as common in the mobile art of La Vache as at the cave of Niaux. Deer and humans on the other hand, are far more frequent, increasing by six and seven times respectively. In my two samples, horse and bison diminish by one third and one half, while deer and humans both increase three-fold (Layton 1987, 221–4, 228). Portable art also contains scenes of a kind unknown in cave art apart from the Lascaux 'pit scene': people standing around a bison carcass (Raymonden: Marshack 1972, 207); stags and salmon crossing a river (Lorthet: Marshack 1972, 261); a man creeping behind an animal (Laurerie-Basse: Mithen 1990, 231). Together, these features suggest to me that mobile art is, on the balance of probabilities, most likely to have been preponderantly an art of everyday hunting and gathering activities.

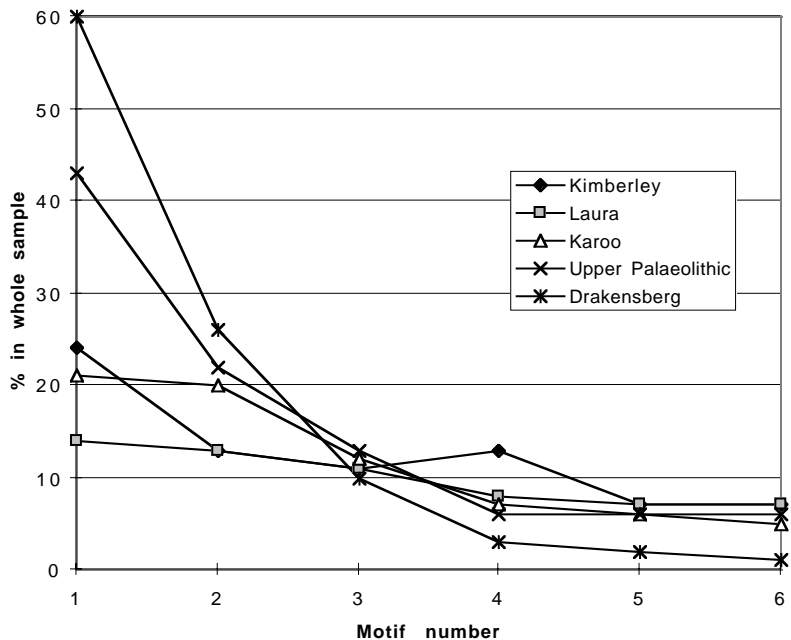
Finally, the early cave of Chauvet, whose paintings yielded dates of 32,000 to 30,000 bp, shows an unusual pattern. Rhino, felines and mammoth paintings together contribute more than 60 per cent, while horse and bison constitute only 14 per cent and 10 per cent respectively of the animal figures (Clottes *et al.* 1999, 22). Clottes points out that the preponderance of dangerous animals at Chauvet is consistent with the pattern from other Aurignacian sites (Clottes 1998, 122). Even more interestingly, from the perspective of my argument, no single species predominates in Chauvet. The three most common motifs each contribute 19–20 per cent of the total. Although caves and rock shelters were used together throughout the Upper

**Table 4.** Comparison of species frequency in the cave of Niaux (c. 13,000 BP) and on portable objects from the Upper Palaeolithic.

Species represented %	Niaux rock art	La Vache site portable art	Other portable objects <sup>1</sup>
bison	49 (i)	8 (vi)	10 (iv)
horse	26 (ii)	10 (iii)	14 (iii)
ibex	14 (iii)	20 (i)	
fish	4 (iv)	5	9 (v)
other bovids	3 (v)	2	4
cervids	2	12 (ii)	28 (i)
bear	0	5	
felines	0	2	4
birds	0	4	
others	0	5	
indeterminate	3	20*	
humans	1?	7 (v)	19 (ii)
eel (or snake?)	8 (vi)		
seal	2.5		
rhino	1.5		

(Columns 1 and 2 from Clottes and Lewis-Williams 1996, 110; column 3 from Marshack 1972, chapters 11 & 12.)

<sup>1</sup> From the following sites: Montgaudier, Fontarnaud à Lugasson, Laurerie Basse, Le Morin, Les Trois Frères, Les Hoteaux, Limeuil, La Bastide, La Colobière 1 et 2, La marche, Les Eyzies, La Madeleine, Raymondén 1 et 2, Cueto de la Mina, Brunuquel, Abri Mège, Lorthet, El Pendo and six of the artefacts from la Vache (total: 78 figures). See Marshack 1972 chapters 11 and 12 for illustrations. The Upper Palaeolithic cave art sample is derived from the following sites: Lascaux, Ekain, Peche-Merle, Fontanet, Ste. Eulalie, Gabillou, Font de Gaume, Combarelles, Hornos de la Peña, Mas d'Azil, La Bastide, Portel, Bedeilhac, Pair-non-Pair, Le Greze, Gorge d'Enfer, Villars, Cognac (see Layton 1987, 237).



**Figure 6.** Frequency of motifs in whole sample.

Palaeolithic, deep caves were intensively used during a shorter period in the Middle to Late Magdalenian, between 14–10,000 bp (Clottes & Lewis-Williams 1996, 53). It is possible that during the course of the Upper Palaeolithic we can trace the outcome of a contest (or, more prosaically, an unreflective shift in habitus) concerning the culturally appropriate way of deploying animal images as expressions of religious and political organization, leading to the emergence of the classic, perhaps shamanic animal art tradition during the Magdalenian and culminating in its movement into deep caves.

### Conclusion

Clottes and Lewis-Williams accept that the context in which motifs were produced during the Upper Palaeolithic may have highlighted one meaning among several but argue that each motif's other meanings remained implicit. They prefer the conclusion that each species' meaning was ultimately coherent within a shamanistic world view, although they accept unrelated meanings as a less likely hypothesis (Clottes & Lewis-Williams 1996, 112). I prefer to place the emphasis on people's ability to use context as a means of highlighting one among several possible interpretations. Sauvet has put forward a similar argument (Sauvet 1988). The criterion for judging the appropriateness of alternative interpretations of Upper Palaeolithic art should be not be which hypothesis works best as a blanket explanation, but which hypotheses together most closely match the variability of the art. The approach proposed here undoubtedly needs further testing against ethnographically well-documented samples such as the secular rock art of western Arnhem Land, the shamanic art of the Columbia Plateau and the totemic art of the Anasazi-Hopi before it can be said to have much predictive value. The shamanistic hypothesis is a voracious beast which can all too easily devour the world's hunter-gatherer rock art. Clottes and Lewis-Williams have tried to restrain it; I have, I hope, further tightened the leash by arguing for a methodology that can begin to discriminate between cultural contexts of use without attempting to reconstruct meaning.

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### Notes

1. An alternative interpretation of this scene is suggested by Marshall's study of modern Ju/'hoansi spirit possession in the Kalahari. Marshall was told of an occasion when a small band had been threatened all night by a lion. Toward morning one man went into trance, apparently in response to the prolonged stress (Marshall 1969, 374). Perhaps it is a real lion in the Drakensberg painting after all. Unlike the running men, the lion has none of the iconographic traits signifying trance.
2. If the two variables in Figures 2 and 3 are plotted against each other, the Upper Palaeolithic cave art occupies a similar space to the secular art of Laura. More samples are needed to explore consistency between different cases of totemic, shamanic and secular rock art.

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