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TESTING THE TRANCE EXPLANATION OF SOUTHERN AFRICAN ROCK ART: DEPICTIONS OF FELINES

J.D. Lewis-Williams, Johannesburg, South Africa

Rock art research world-wide suffers from a great deal of confusion, much of which arises from doubt about how the meaning of the art should be established. In regions such as western Europe, where there is no ethnography on the art or its makers, workers tend to adopt an empiricist stance, arguing that all explanation must be induced from the painted data alone. In other parts of the world, such as Australia or southern Africa, where there is some ethnography, researchers have increasingly tried to work from the artists' world view to the art. Nonetheless, even when relevant ethnography is readily available, there is frequent insistence on empirical work to discover patterns, "themes" and associations before any explanation is attempted. Researchers who pursue this method do so in the erroneous belief that their work combats tendentious argument by collecting "theory-free" data. Because I have discussed the flaws in this approach elsewhere (Lewis-Williams 1983b, 1984; Lewis-Williams & Loubser in press), I confine myself in this paper to a single aspect of contemporary southern African rock art research which derives from, first, insistence on collecting supposedly "theory-free data" and, secondly, the associated misconception that such data are virtually self-explanatory.

In southern Africa, the use of San (Bushman) ethnography in interpreting individual paintings and in explaining the art as a whole has been very largely ignored in favour of particularist inductions which are supposed to be "scientific" or "theory-free" but are in fact Eurocentric (e.g., Willcox 1984, Woodhouse 1984). Because the initial data-collecting and classifying stages of research have been governed by Eurocentric notions about "art", the painted data appear to speak for themselves, unambiguously informing workers of their (essentially Eurocentric) meanings. As a result, two opposed schools of explanatory thought have developed. The older school, paying scant attention to San ethnography, sees most paintings as aesthetic exercises, while other depictions are declared to be didactic or commemorative. In contrast, the newer view focuses on San ethnography (for an account of the nineteenth and twentieth century ethnography see Lewis-Williams 1981, pp. 25-37; Lewis-Williams & Biesele 1978) and proposes the art was essentially associated with the activities of medicine men, or shamans (Lewis-Williams 1980, 1981, 1982, 1983a; Huffman 1983; Maggs & Sealey 1983). True, some representatives of the traditional school allow that a small percentage of the art may have been the work of medicine men, but they argue it is grossly overstating the case to claim, as I do, that the art is "essentially", "predominantly" or very possibly "entirely" of this kind.

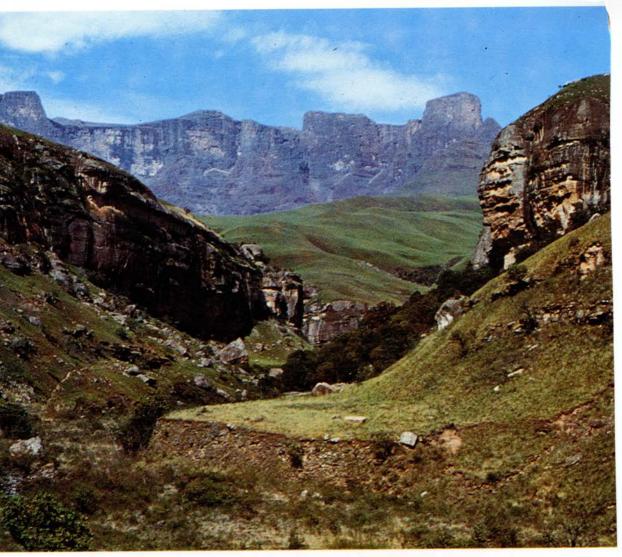


Fig. 24
Natal Drakensberg. There is a large site under the cliff to the left.
Fig. 25
Complex panel of painted antelopes. Note

the two eland painted as seen from the rear and the leaping elan. Drakensberg. Fig. 26 Medicine man dances with two sticks while women clap rhythm. Site 2.

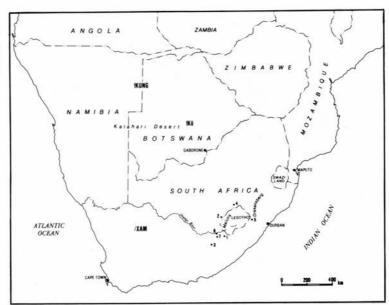
I have presented this short introduction to the southern African debate in theoretical terms to show that the distinction between the two approaches is not, as some suppose, simply a matter of degree — how much of the art is ritual and how much is not — but one of fundamental divergences in theory and method. The only way out of the impasse lies in a better understanding of scientific method. Following many philosophers of science, I argue that the source of a hypothesis is of no consequence because explana-





tion cannot be logically induced from data: what matters is how a hypothesis is tested or evaluated. To adjudicate between rival hypotheses, a commonly agreed upon set of procedures whereby we may test their relative merits is required. Again drawing on the philosophy of science, I have suggested a series of canons for judging hypotheses about the meaning of rock art (Lewis-Williams 1983b, 1984): 1. verifiability; 2. compatibility with well-established anthropological theory; 3. internal consistency; 4. compatibility

Fig. 27
Map of southern
Africa showing
San groups and
sites mentioned
in text.



with relevant ethnography; 5. diversity of data explained; 6. quantity of data explained; 7. heuristic potential.

In practice, the superiority of an explanation will be demonstrated by the number of details in a painting or set of paintings which the hypothesis explains by specific San beliefs, rituals and customs - not by vague, Eurocentric notions of "art" or what "artists" are supposed to do. Such testing procedures lead to radical reconsiderations of a great many paintings, the meanings of which have long been inductively deemed patent and incontrovertible. To illustrate the way in which discrimination between hypotheses should proceed and, at the same time, to consider a series of paintings from among many not hitherto regarded as a unity, I turn to those which depict felines in various contexts. Empiricists induce a different explanation for each context: some paintings of felines, they believe, record memorable or tragic events, others are amusing caricatures, others depict "mythical" episodes, while still others are merely art pour l'art. In contrast to this approach, I try to identify the underlying conceptual principles which show these seemingly diverse contexts to have arisen from a single experience. Important as it is, the explanation of selected paintings, such as I give in this paper, must be subservient to the ultimate discovery of the principles which inform the art as a whole; to avoid the danger of restricting myself to what some may see as particularist explanations, I attempt to place paintings of felines within the total conceptual framework of San art.

The exact species of feline is frequently hard to determine. Pager (1971, pp. 16-17) points out that characteristic features, such as the lion's mane or the leopard's spots, are often omitted, but adds that the same is sometimes true for other genera as well. Inventories of rock art therefore frequently place all felines in a single category, but, even when thus grouped, they are not as commonly painted as many other animals (Pager 1971, p. 321; Smits 1971, p. 15; Vinnicombe 1976, p. 364; Lewis-Williams 1981, p. 135). Nevertheless,

Vinnicombe (1976, p. 364) correctly notes that, though few, felines are "consistently repeated at shelters" in the southern Drakensberg, and this seems to be true of most of southern Africa.

The numerical data treat felines as if they were all individual paintings, but in many cases they are grouped in "scenes", the most common of which depict human figures fleeing from or threatened by felines (Lee & Woodhouse 1970, p. 44; Vinnicombe 1976, p. 219). My first example of such a scene has been previously interpreted thus: "A ferocious-looking lion is shown chasing a number of men. Immediately above them are... flying buck (which are) joined to the men by a series of lines. Perhaps in this case the men are not dead but are calling desperately upon their spirit guides to aid them in their flight" (Lee & Woodhouse 1970, p. 128).

In contrast to this speculative, inductivist explanation, the trance hypothesis is verifiable, compatible with San ethnography, and draws attention to and explains more details. In the first place, two of the fleeing men have lines falling from the nose. When southern San medicine men entered trance, they frequently suffered a nasal haemorrhage (Bleek 1935, pp. 20, 34; for modern accounts of the trance dance see Lee 1968; Marshall 1969; Katz 1982). Arbousset (1846, pp. 246-247) described San dancers falling into trance "covered with blood, which pours from the nostrils". Orpen's (1874, p. 10) San informant provided a similar description: "It is a circular dance of men and women, following each other, and it is danced all night. Some fall down; some become as if mad and sick; blood runs from the nose of others whose charms are weak." Nasal bleeding is indeed one of the clearest diagnostic features of painted medicine men, and it often occurs in paintings of trance dances (e.g., Lewis-Williams 1981, figs. 19, 20, 21, 23; 1983a, figs. 8, 16). This feature alone therefore suggests that the painting concerns trance performance rather than a narrow escape on the hunting ground. Further features confirm this interpretation.

Issuing from the tops of the heads of all the figures are long lines (Lewis-Williams 1981, figs. 22, 24, 38; 1983a, figs. 20, 21). The lines do not connect the men to the so-called flying buck, as Lee and Woodhouse claim: both men and flying buck have these lines, though in some cases the lines from the men cross a flying buck and so give a false impression of a connection. The meaning of these lines is to be found in San beliefs about trance experience. When a medicine man enters trance his spirit is thought to leave on out-of-body travel through a hole in the top of his head (Katz 1982, p. 100), a belief which may have originated in a peculiar sensation experienced by some trancers in this part of the body (Katz 1982, p. 165). It therefore seems likely that in all cases, both men and flying buck, these lines depict the departing spirit.

The flying buck themselves, or "trance-buck" as I prefer to call them (Lewis-Williams 1981, p. 100), represent men transformed by a supernatural power (Lewis-Williams 1981, pp. 75-100). In the San trance dance the women sing and clap the rhythm of medicine songs believed to contain n/um (supernatural potency). These songs are named after certain "strong" animals. The "strongest" of all animals is said to be the eland, and it is also the most frequently depicted antelope in the southeastern mountains (Pager 1971, p. 321; Smits 1971, p. 15; Vinnicombe 1976, p. 364; Lewis-Williams





Fig. 28
File of elongated walking figures. Attenuation of limbs is a sensation often experience in trance. Near Site 4.
Fig. 29
Elephant and human figures. South-western Cape.

Fig. 30 Pair of running figures, near Site 4.



1972, p. 51; 1974, p. 96), in the western Cape (Maggs 1967, p. 101) and at some rock engraving sites (Fock 1979). In the art, man and animal, though not always eland, are often blended therianthropically. One !Kung medicine man who "possessed" giraffe potency described his entrance into trance thus: "Just yesterday, friend, the giraffe came and took me again ..." (Biesele 1978, p. 933; 1979, p. 55). Another was more explicit and said he actually saw himself as the duiker antelope he had tried to kill when the first received his power (Wiessner pers. comm.; Wiessner & Larson, 1979, p. 30).

Some of the fleeing men are also examples of this fusion; they have antelope hoofs and hocks rather than feet, and this, like lines from their heads and

the nasal blood of some, suggests that they are medicine men. The trance-buck are further transformed by having antelope heads in addition to hoofs. Moreover, hair was said to grow on a trancer's back (Bleek 1935, pp. 2, 23), and both the trance-buck and the fleeing men here and in many other paintings are hirsute (Lewis-Williams 1981, figs. 28, 29, 30, 33). Another feature which clearly associates trance-buck with trance performance is their arms-back posture. This distinctive posture is still adopted by modern San trance dancers when, as one put it to me, potency "is going into your body, when you are asking god for power" (Lewis-Williams 1981, p. 88). When a medicine man receives this power and crosses the threshold of trance, he frequently falls to his knees, adopting the kneeling position in which the trance-buck and two human beings are painted (Pager 1971, p. 342; Lewis-Williams 1981, figs. 24, 29, 32, 33, 38; 1983a, fig. 24).

Yet another feature shared by therianthropes and trance-buck which similarly points to trance is lines, or streamers, emanating from the nape of the neck or from between the shoulder blades (Pager 1971, p. 342; Lewis-Williams 1981, figs. 25, 33, 37; 1983a, figs. 16, 21, 24). The modern !Kung call this area of the body the n/au, and it plays an important role in trance performance (Biesele 1978, p. 929). When an experienced medicine man has learned to control his level of trance, he is able to move among the people, drawing known and unknown sickness from them by laying hands on them. Then, with a convulsive shriek, he expels the sickness from his n/au. In addition to the lines from the n/au, some figures have similar lines apparently emanating from the chest. These may represent the tingling or pricking sensation which !Kung medicine men feel in this area and which they associate with the "boiling" of their potency (Katz 1982, p. 46).

There are thus a large number of diverse yet distinctive details, all explicable by San beliefs about trance performance, which the empiricist position does not and cannot explain. We now have to see how the depiction of trancers accords with San concepts about felines.

In San thought, carnivores, especially felines, are opposed to another taxon, herbivores (Bisele 1978, pp. 927-928). Amongst the !Ko San these categories are called "large biting animals" and "large non-biting animals" (Vinnicombe 1976, p. 216). The binary opposition of felines and herbivores is used in San thought in a number of ways; it is a vehicle for various ideas.

In some contexts the opposition is a symbolic representation of the male/female dichotomy (Biesele 1978, p. 934). Men are seen as felines and women as their prey. Nineteenth century /Xam women, for example, addressed their husbands as "O beast of Prey" (Bleek 1933, pp. 303, 388). For our present purposes, however, it is more important to note that felines are associated with unknown or threatening people, while herbivores are associated with well-known, friendly people, in fact, with the San themselves (Thomas 1969, p. 34). For instance, a man who eats alone and does not share food is said to be a "lion" (Marshall 1966, p. 334), and a lion is frequently referred to as "angry" and associated with darkness.

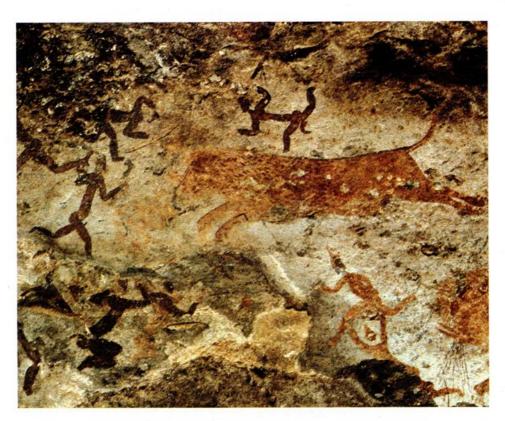
The San attitude to felines, especially lions, was, and in the Kalahari still is, expressed in certain beliefs and avoidance customs, some of which, significantly, also apply to medicine men. For example, the !Kung consider it

unwise to use the everyday word for lion, //ka, at night, and they substitute the avoidance word n/e (Marshall 1969, p. 352). The nineteenth century /Xam San substituted such words as 'hair', 'darkness' and 'lighting in' for 'lion' (Bleek 1932, pp. 53, 57, 61; Bleek & Lloyd 1911, p. 183; see also Mackenzie 1871 I, p. 151; Currlé 1913, p. 117). Similarly, southern San were reluctant to use a medicine man's name at night and children were warned not to 'play with' such a name (Bleek 1936, p. 143). Lions are also said to possess powers similar to a medicine man's: they can change into a person (Bleek 1932, p. 61) or a hartebeest (Bleek 1932, p. 62); they can cause the sun to set (Bleek 1932, p. 58), cause a hunter to become sleepy (Bleek & Lloyd 1911, p. 175), and make rain (Bleek & Lloyd 1911, p. 261). Furthermore, they can learn otherwise unknowable things by 'dreaming' (Bleek 1932, p. 55), just as a medicine man can. Indeed, it appears that sometimes no clear distinction was drawn between lions and medicine men.

It is therefore not surprising that San ethnography speaks of medicine men changing into felines. One Kalshari medicine man claimed that a man in feline form is able to "mix with" a pride of lions without fear (Heinz 1975, p. 29). A !Kung medicine man described such people as "lions of god" and added that "they were real lions, different from normal lions, but no less real" (Katz 1982, p. 115). Indeed, the !Kung go so far as to use the word for "pawed-creature" (jum) to mean 'to go on out-of-body travel in the form of a lion' (Biesele, pers. comm.). Some !Kung medicine men obtain lionpower by eating a lion's gall wich is believed to be the seat of its potency (Wilmsen, pers. comm.). So powerful was a man in the form of a lion that the nineteenth century /Xam San believed that a lion which did not die when it had been shot was in fact a medicine man (Bleek & Lloyd 1911, p. 187). In this form, a medicine man is believed to be able to drive off threatening lions and thus protect people at night, and Kalahari San still say hostile medicine men maraud in leonine form; they can be 'seen' only by other medicine men (Katz 1982, p. 227). Lions do not usually kill people, but, when one does, the !Kung identify it as a medicine man turned lion (Lee 1967, p. 35; Katz 1982, p. 101). Furthermore, when a southern San man became very violent in trance, lion's hair was said to grow on him; to counteract this transformation into a lion he was rubbed with fat (Bleek 1935, p. 2). Because antelope, especially eland, were the chief source of fat, we may assume that antelope fat was used. In this context, the lion was a symbol of the anti-social possibilities of trance, while the antelope was a symbol of the socially beneficial medicine man. This opposition may be expressed in a painting where a threatening medicine man in feline form is attacking benevolent medicine men who have antelope characteristics. A !Kung informant described such an incident: "There is the case of a man from XaiXai who was bitten by a lion. He was bitten by one of our healers prowling as a lion, who came from west of XaiXai. I do not know who from the west is playing the game of changing into a lion" (Katz 1982, p. 227).

Indeed, part of San hallucinatory experience includes battles between men and lions: "The great healers went hunting as lions, searching for people to kill. Then someone would shoot an arrow or throw a spear into these healers who were prowling around as lions" (Katz 1982, p. 227).

Such a clash seems to be depicted in another painting which shows men, not



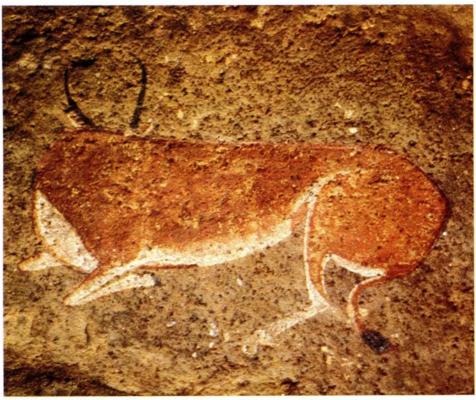
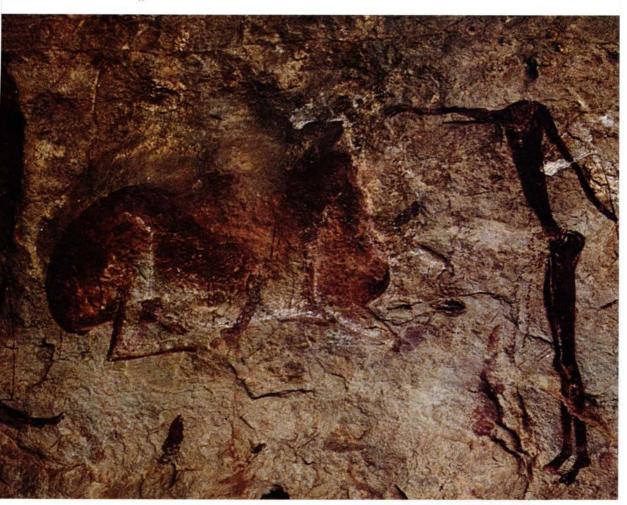


Fig. 31 Combat between men and feline medicine men, Site 4.

Fig. 32
Recumbent eland with head turned away from viewer so that ears and horns show above back. Near Site 1.

Fig. 33

A man extends his hand to a recumbent eland which bleeds from the nose. Southern Drakensberg.



merely running away from, but shooting at two lions. The lions have curious 'tusks' which also occur on medicine men (Lewis-Williams 1983a, p. 58), and one has red lines on its face, a feature of many medicine men (Lewis-Williams 1981, figs. 19,20, 28) and even of some eland (Vinnicombe 1976, figures, similar to those which appear in paintings of dances (Lewis-Williams 1981, fig. 20) and rain-making scenes (Lewis-Williams 1981, fig. 9; Vinnicombe 1976, fig. 240), another activity performed in trance (Lewis-Williams 1981, pp. 103-116). Vinnicombe (1976, fig. 133) also illustrates a clash between men and lions interspersed with flecks. These marks may represent

the potency seen and harnessed by medicine men in such circumstances.

Features like these flecks, 'tusks', red lines on faces and nasal blood are easily overlooked if one is not familiar with San beliefs about trance performance, and a literal or narrative interpretation often results. An example of a painting which has been misread in this way is in the Natal Drakensberg. Willcox (1960, caption to Pl. 52; see Woodhouse 1979, fig. 56 for a similar interpretation) describes it as "an amusing caricature, probably of an actual happening. A charging leopard has knocked two figures head over heels while others (top) run for their lives and two figures, at left, cling together in terror".

This literal, story-spinning interpretation is called into question by a number of points. First, the two figures at the left are not clinging together; one, which slightly overlaps the other, is in a frequently painted clapping posture in which the fingers are individually drawn. Clapping, as I have explained, is closely associated with the activation of potency. The great strength of the potency on this occasion is suggested, as it is in other paintings (Lewis-Williams & Loubser, in press), by somersaulting figures. Some men, not skilled in controlling potency, enter trance so violently that they actually somersault or leap up before crashing down to the ground (Katz 1982, p. 99). Moreover, in addition to what may be two arrows, there are a number of black flecks like those I have described. It seems, therefore, that what we have here is not a realistic "actual happening" but another trance hallucination. A man has changed into a feline, or a hostile medicine man has approached the people; the potency of the situation is so strong that some trancers are somersaulting. The elongated necks of three of the human figures are probably not "caricature" but depict the sensation of attenuation often experienced by people in trance and depicted in numerous paintings. Even the arrows may not be 'real' because malevolent medicine men were believed to shoot mystical 'arrows of sickness' into people; these arrows were visible only to people in trance (Lewis-Williams 1981, p. 78). The clapping figures may therefore be activating potency to protect others from the threat posed by the arrows and the feline. Whilst it is possible that a medicine man may have communicated this hallucinatory experience to an artist, the details of this and so many similar paintings suggest rather that the medicine man was himself the artist.

All the paintings I have so far described have some features which San ethnography shows to be associated in one way or another with trance performance (see also Vinnicombe 1976, p. 218). I now turn to two categories of paintings which have no such features at present recognisable. The first category shows felines in apparently natural circumstances. One of these paintings depicts a leopard leaping at a fleeing buck (Lee & Woodhouse 1970, fig. 14). Although there are no lines from the head, nasal haemorrhages or trance postures, this sort of painting can still be interpreted by the trance hypothesis because, in addition to threatening people, feline medicine men were believed to hunt animals. A nineteenth century informant spoke of a medicine man who had gone on a "magical journey ... while he was a lion" and had killed a farmer's ox. The incident had a tragic sequel, for the enraged farmer shot him (Bleek 1936, pp. 132-133). If such paintings are seen in the whole context of San shamanistic art rather than with

Eurocentric preconception, it seems very probable that they too depict trance beliefs or hallucinations. It is therefore incorrect to maintain, as Woodhouse (1983, p. 97) does, that "one could only proffer a literal explanation" for such paintings.

The second category comprises depictions of felines apparently not related to other paintings. In considering these examples we must remember that 'scenes' are but one way of linking depictions, the one most familiar to Westerners and the one on which they consequently focus their attention (Lewis-Williams 1972, 1974, 1981, pp. 10-13; Lewis-Williams & al. 1979). It is therefore often difficult to be sure if a painting is indeed isolated; there are no frames to guide the viewer. Nor can one argue that later additions are unrelated to earlier ones: San art was 'participatory', generations of artists adding to and elaborating earlier work (Lewis-Williams 1983a, pp. 44-64). But, even if we were to grant that a particular depiction is isolated, we should still have to see it in the comprehensive context of San rock art. The isolation of a painting, or for that matter the discovery of any unusual or unique subject, does not justify reversion to now discredited Eurocentric interpretations. More specifically, we should have to see if the isolated paintings can be interpreted in terms of San beliefs about trance because research shows increasingly that the art was essentially shamanistic. In the case of felines there is no difficulty because the ethnography shows that felines were indissolubly linked in San thought with medicine men.

Animals assume symbolic associations in human thought, and it is impossible to divest depictions of animals of those associations. Artists depict animals precisely because they have meaning or connotations, and it is imperative to approach all depictions from 'foreign' cultures from those cultures' belief systems.

The fundamental San beliefs I have given in this paper explain all the various depictions of felines, whether they are attacking men, being shot at by men, approaching dead animals, leaping at other animals or simply in isolation. What on the surface appears as diversity is, in the last analysis, unity. The trance explanation of San rock art therefore not only explains more details of depictions featuring felines by specific San beliefs than any other explanation; it also allows them all to be placed within the San cognitive system. The art was a product of that system and was consequently informed by the system. This realization opens up wide-ranging discussion of the place of rock painting in San society and permits formulation of still further questions. In other words, it has greater heuristic potential than any other explanation and so fulfils the seventh and final requirement of a successful hypothesis.

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Résumé: Les animaux ont des connotations symboliques dans la pensée humaines et il est impossible de dissocier les représentations de félins de ces connotations. Les artistes représentent des animaux précisément parce qu'ils ont pour eux une signification, ou des connotations symboliques, et il est donc indispensable d'examiner toutes les repré-





Fig. 34
Trance-buck. Central figure holds two fly-switches which are used in medicine dance.
They are in the typical armsback trancing posture. Near Site 4.
Fig. 35

Grey and dark white bull eland and bird. Southern Drakensberg. sentations appartenant à des cultures "étrangères" à la lumière des systèmes de croyance propres à ces cultures.

Les croyances fondamentales des San, que j'ai exposées dans cet article, apportent une explication à chacune des diverses images que les artistes donnent des félins, qu'ils soient représentés en train de s'attaquer aux hommes ou de succomber sous leurs coups, de s'approcher d'animaux morts ou de bondir sur une proie, ou qu'ils soient simplement représentés seuls. Ce qui, à première vue, paraît être diversité est, en dernière analyse, unité. En conséquence, l'explication par la transe de l'art rupestre des San permet non seulment de comprendre davantage de détails de ces représentations par le système de croyances propres aux San que toute autre explication; elle permet aussi d'intégrer tous ces détails dans le système cognitif des San. L'art était un produit de ce système et était donc modelé par lui. Cette prise de conscience ouvre des perspectives d'un large débat sur la place qu'occupait la peinture rupestre dans la société San. Elle amène aussi à poser encore d'autres questions. En d'autres termes, l'explication par la transe a un plus grand potential heuristique que toute autre explication, et elle satisfait ainsi à la septième et dernière condition d'une hypothèse féconde.

Resumen: El autor describe conceptos y creencias de la cultura San que explica varias reperesentaciones de felinos, ya sea que estos estén atacando a los hombres, que los hombres les estén disparando, que estén próximos a cadaveres de animales, o simplemente estén en aislamiento. Lo que superficialmente parece diversidad, en último análisis resulta como unidad. La explicación del arte rupestre San, dada entrance, no solo explica numerosos detalles de las representaciones felinas por medio de creencias San, también permite que sean colocadas dentro del sistema cognitivo San. El arte fué un producto de este sistema y por conseguiente estuvo informado por el mismo. Esta realización abre las puertas a mucha discusión sobre la cultura San, como también permite formular preguntas adicionales. En otras palabras, tiene un potencial investigativo y de esta manera cumple con el séptimo y último requisito de una hipótesis exitosa.

Los animales asumen asociaciones simbólicas en el pensamiento humano y es imposible despojar las representaciones de animales de estas asociaciones. Los artistas representan animales precisamente porque estos tienen significados o conotaciones, y es imperativo dirigirse a todas las rapresentaciones de culturas "extranjeras" tomando en cuenta los sistemas de creencia de estas.

Riassunto: L'autore descrive i concetti e le credenze con le quali il popolo San spiega rappresentazioni di felini ritratti sia isolati, sia mentre assalgono l'uomo, vengono uccisi, si avvicinano ad animali morti, afferrano altri animali. Ciò che apparentemente manifesta diversità, si riconduce in ultima analisi a unità. La spiegazione dell'arte rupestre San in base al fenomeno del trance non solo chiarisce numerosi dettagli delle reppresentazioni di felini alla luce delle credenze dei San, ma consente anche di collocare quelle rappresentazioni all'interno del loro sistema cognitivo.

L'arte era effetto del sistema e di conseguenza trova la propria matrice nel sistema stesso. Questa considerazione apre un dibattito di ampia portata sul ruolo della pittura rupestre nella società San e consente la formulazione di ulteriori quesiti, rispondendo ai requisiti di una ipotesi fondata. Nel sistema concettuale gli animali entrano a far parte di associazioni simboliche, ed è impossibile separare queste rappresentazioni da tali associazioni. Gli artisti rappresentano gli animali proprio per il significato che loro attribuiscono. Occorre quindi conoscere la matrice concettuale per comprendere le motivazioni della creatività artistica. REFERENCES

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