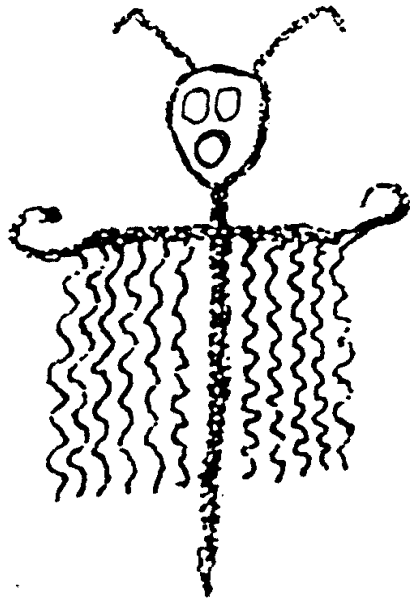

The Rake: A Polysemous Motif in the Shamanistic Rock Art Iconography of the Palavayu Anthropomorphic Style, Northeast Arizona

Ekkehart Malotki

The late Archaic rock art complex that is emerging in northeastern Arizona has been termed the Palavayu Anthropomorphic Style (PASTYLE). The nonfigurative component of its iconographic repertoire, consisting predominantly of entoptic-related phenomena, features, among others, an element that is commonly termed a "rake."

In the context of the shamanistic hypothesis, which is posited as the prime motivating force behind this parietal art style, petroglyphic rake motifs are seen as a significant piece of internal evidence supporting this assumption. Interpreted here as a polysemous symbol for rain and shamanic flight, the full range of PASTYLE rake occurrences, both in simple and anthropomorphized shape, is presented in textual and graphic form.

The ancient shaman, in his pivotal role as intermediary between the natural and supernatural realms, was essentially responsible for balancing out the physical and psychic needs of his hunter-gatherer group. In addition, he was expected to meet, among others, such variegated tasks as the curing of diseases, the invoking of hunting success, and the divining of the future. Most important perhaps, because crucial for the survival of his band, was the challenge of weather control (Eliade 1964:304). In the desert environment of northeastern Arizona, this primarily involved the responsibility for life-supporting moisture in the form of rain.

Since the shaman, as an artist, probably also created the rock art at certain power spots to which he retreated periodically, one can expect some of the trance-induced imagery received by him at these locations to represent specific "graphic responses" to the problems confronting his group. It is the objective of this paper to show that the rake motif encountered in the prehistoric PASTYLE rock art of northeastern Arizona is intimately connected with the shaman's obligation for securing rain. Multivocal in nature, the icon not only symbolizes falling rain, but also relates to the shaman's capability of magic flight, when his soul embarks on an ecsomatic voyage to the spirit world. I intend to establish this polysemy of the rake motif by drawing on multiple strands of evidence derived from human

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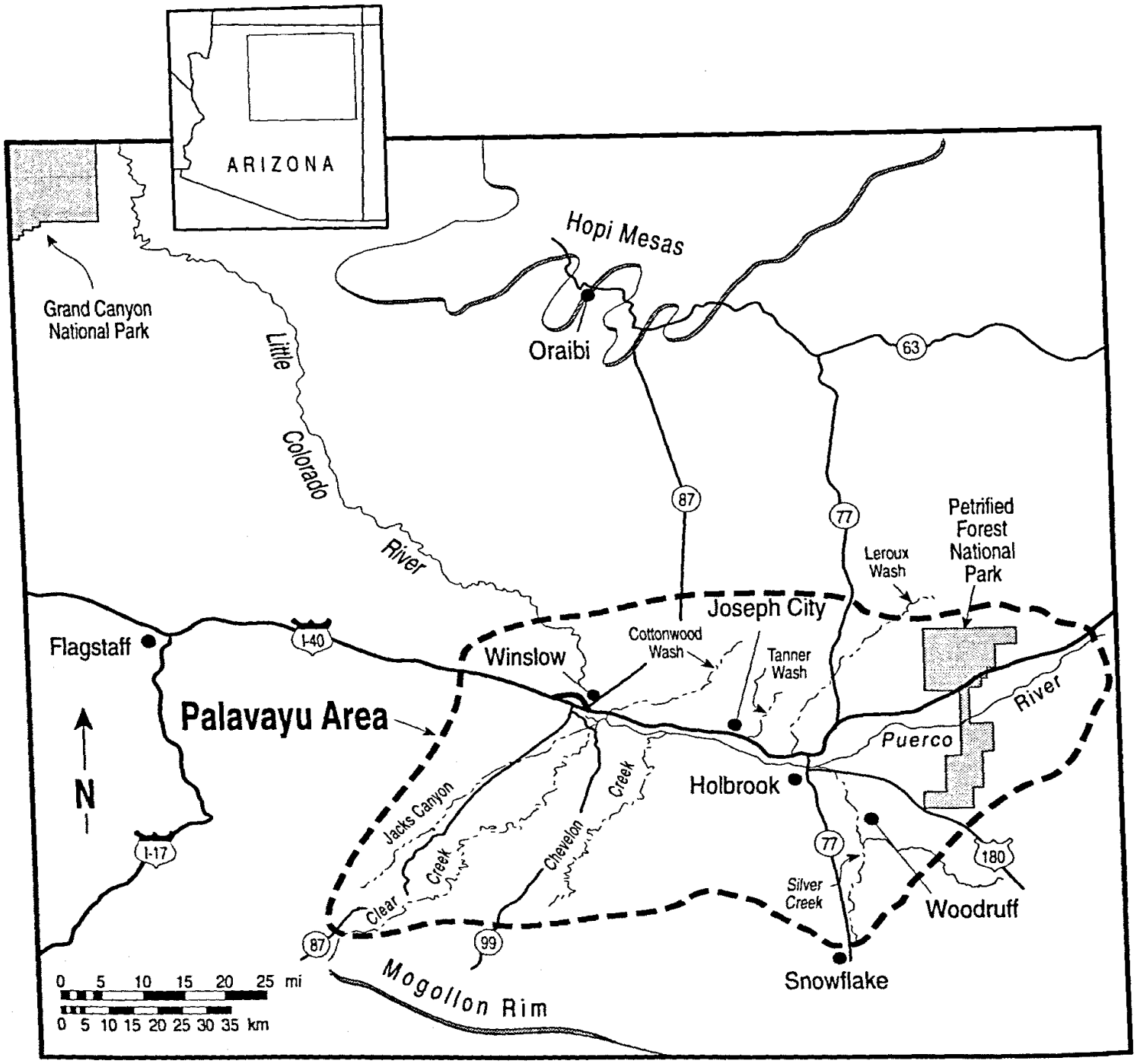

Figure 1. *The rock art area of the Palavayu.*

neuropsychology, ethnographic analogy, and the similarity of the motif to real-world models. By drawing on this three-prong approach I believe I can demonstrate that the rake constitutes graphic proof for my *a priori* assumption that much of the rock art imagery of the Archaic PASTYLE tradition is anchored in shamanistic ideology and amenable to meaningful interpretation and insights.

THE ROCK ART THEATER OF THE PALAVAYU

The Palavayu, a relatively small geographic enclave of approximately 7,000 square kilometers in northeastern Arizona, is distinguished by a wealth of petroglyphs and pictographs that, together with the adjacent rock art regions in Utah and New Mexico, make it one of the world's

preeminent treasure houses of parietal art. Literally denoting "Red River," an ancient Hopi name for the Little Colorado River, this appellation is justified due to the fact that most of the washes and creeks along which the art occurs are part of the central drainage system of the Little Colorado River (Figure 1). Furthermore, the rock art in the area shows an entire series of idiosyncratic motifs and diagnostic elements that are absent in adjoining rock art territories.

The rock art of the Palavayu, an iconographic sampler of which has been compiled by McCreery and Malotki (1994), contains a number of stylistic traditions whose chronological order was established in accordance with the generally practiced methods of indirect dating: stylistic comparisons with other rock art sites and regions, superimposition of design features, and relative degree of revarnishing. For Puebloan-type rock art in the Palavayu, the availability of archaeologically-retrieved artifacts such as ceramics, mural frescoes, basketry, and textiles helped establish an initial time line for this art. The problem with such a dating approach, however, is that it is tarnished by subjectivity and ultimately leads to oversimplistic schemes of development (Bahn and Vertut 1988:60). However, in the light of the anomalies (Beck et al. 1998) found in conjunction with Dorn's AMS C-14 dating technique of weathering-rind organics—only recently hailed as a major breakthrough in the scientific determination of petroglyphic ages (Whitley and Loendorf 1994:XIII)—comparative methods appear to be the only methodological approach currently available in the American Southwest.

The Palavayu Anthropomorphic Style (PASTYLE)

Among the various rock art traditions that are encountered in the rock art theater of the Palavayu, one stands out that I have termed the Palavayu Anthropomorphic Style (PASTYLE). Exclusively attested in the form of engravings, the unique iconography of this style, in its animate branch, is dominated by the leitmotif of the anthropomorph that runs the full gamut from solidly-pecked to patterned-body figures. The recorded headcount of this anthropomorphic component from over 200 sites presently exceeds 1,800. In addition, the PASTYLE exhibits a large theriomorphic repertoire. Consisting primarily of horned ungulates (elk, bighorn sheep, pronghorn antelope, deer), the imagery also features birds, represented almost entirely by owls (Malotki 1998), serpents (Malotki 1994), dragonflies (Malotki 1997), several centipedes, a single turtle, and one arachnid strongly resembling a spider.

A third branch in the animate division comprises hybrids or composites, generally of the therianthropic type, chimerical and fantastical monsters, as well as other unrealistic or unidentifiable creatures that will here be collectively referred to as "phantasmomorphs."

A fourth branch, finally, contains plantlike elements or phytomorphs. While none of the plants is identifiable, several depictions appear strongly reminiscent of the thorn apple seedpods of the extremely poisonous and hallucinogenic Datura.

The inanimate branch of the PASTYLE motif inventory is divided into both representational and nonrepresentational glyphs. The latter category, here termed "geomorphs" because of the multitude of its geometric designs, is filled with dots, grids, spirals and concentric circles, meanders, chevrons, nested U-shapes, and other nonfigurative elements. This class of elements constitutes the well-established panoply of phosphenes or entoptic phenomena (Kellogg et al. 1965; Lewis-Williams and Dowson 1988). Among the inanimate representational forms, labeled "reomorphs" here because they suggest "real," identifiable objects, is encountered an array of handheld items including wands, rings, S-shaped sticks, projectile-tipped darts, etc. Also found in this category are occasional bear tracks as well as human hand- and footprints. Figure 2 provides a summary of the PASTYLE motif index in the form of a tree diagram.

Little definitive chronometric information is available on this rock art tradition. Still, a number of estimates are found in the literature. Pilles (1975:5–6), based on data from three sites fitting into this tradition, classifies it as Basketmaker. Pointing out a stylistic conformity with Turner's

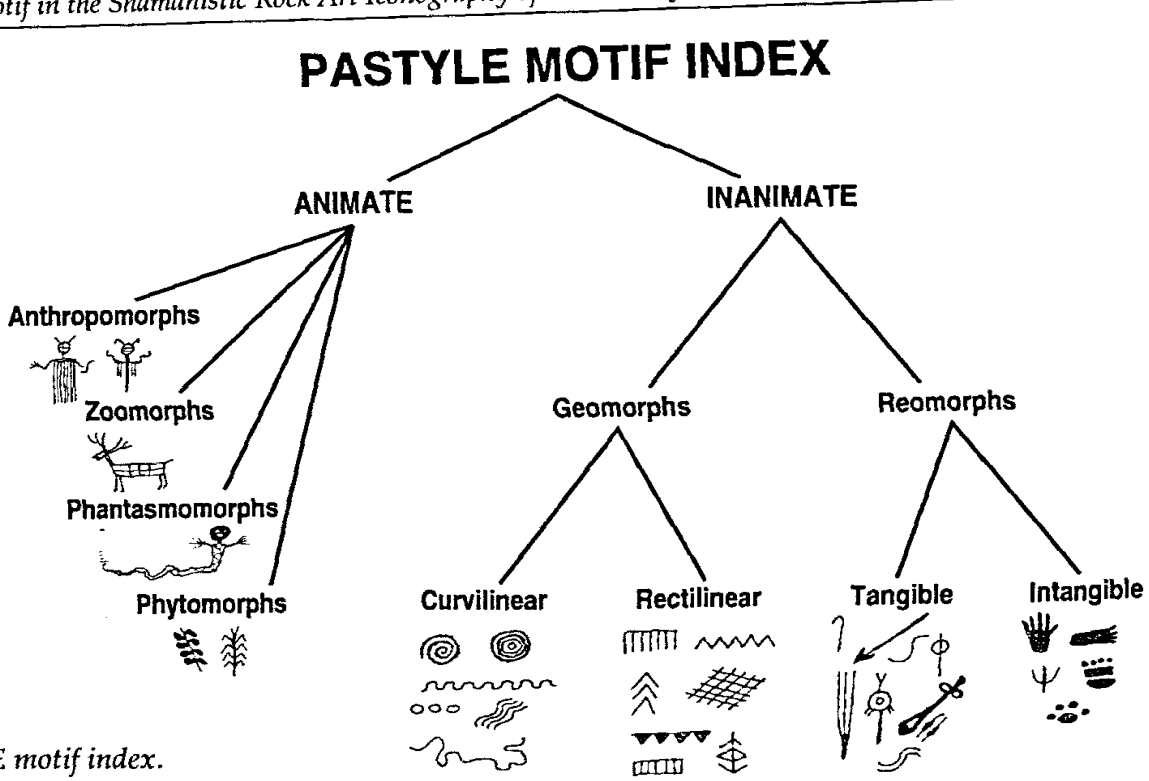

Figure 2. PASTYLE motif index.

Style 5—later renamed by Schaafsma (1980:72) as the Glen Canyon Linear Petroglyph Style—Pilles uses Turner's (1963:12) "beginning date of 100 B.C." and rejects Turner's (1971:469) later revised suggestion that the initial phase of Style 5 might be more comfortably placed 4,000 to 8,000 years ago. Ferg (1974:14) integrates this art into the context of later Puebloan-type art produced by "people living in the approximate time period of A.D. 1050–1350." Martynec (1985:71) ascribes PASTYLE petroglyphs to the Basketmaker Period with a temporal span of 0(?)–A.D. 650. Christensen (1992:41), describing five PASTYLE-type sites, was the first investigator to propose that the Linear Style sites, as he referred to them, were "late archaic in age" and, in his opinion, predated "the development of a definable Basketmaker culture in the area."

On the basis of the shamanistic hypothesis and the recognition of a newly-extended chronology for Basketmaker II that has pushed back the beginning of this period "to sometime between 1500 and 1000 B.C." (Schaafsma 1994:45), I argue that PASTYLE rock art is firmly anchored in an Archaic-Basketmaker stage (McCreery and Malotki 1994:13–31). Occurring exclusively within the geographic perimeter of the Palavayu, its closest stylistic "relatives" are the Glen Canyon Linear and the San Juan Anthropomorphic styles (Schaafsma 1994:57), whose iconographic epicenters lie some 150 and 180 miles away, respectively, from the major PASTYLE type sites.

I share the consensus among a number of rock art specialists today that there is an ever-growing corpus of evidence for a primarily shamanistic origin of much of western North America's hunter-gatherer rock art creations (Hedges 1994, Loendorf 1994, Schaafsma 1994, Turpin 1994, Whitley 1992, 1994). Much of its iconography—a plethora of geometric designs, patterned-body anthropomorphs with associated animals, staffs, fending sticks and other hand-held objects, composites with human and animal features, and other fantastic depictions—matches the paradigm of entoptic and iconic trance imagery. It consistently mirrors the visionary hallucinations that typically originate from altered states of consciousness, as demonstrated by the neuropsychological model that underlies the shamanistic theory (Lewis-Williams and Dowson 1988).

It is my theory that the shamanistic origin hypothesis also applies to the PASTYLE horizon of the Palavayu. To prove this theory, I have begun to inventory all of the sites that I consider compatible with this tradition within the Palavayu and to analyze them according to the

shamanistic model. Initial findings concerning the shamanistic interpretation of the serpent, owl, and dragonfly motifs, key elements within the zoomorphic component of the PASTYLE motif index, have been presented at three prior ARARA conferences (Malotki 1994, 1997, and 1998). The results of these three motif analyses are to be supplemented and reinforced here by a close look at one of the paramount icons in the geometric component of the PASTYLE corpus, the so-called "rake."

The Rake Motif: Terminological Remarks and Antiquity of the Design

Within the repertoire of basic phosphene motifs that dominate the world's prefigurative art (Bednarik 1994) are sequences of parallel lines. When contained by a horizontal bar on one side, such sets of verticals are variously referred to as "brush" or "comb" (Gimbutas 1989:298), "fringed line" (Turner 1963:3), or "rake" (Heizer and Baumhoff 1962:83). French sign taxonomy (Abelanet 1986:340) offers "signes pectiniformes," which yields the English metaterm "pectiniform," i.e., "in the shape of a comb." In its application this term is somewhat wider, though, since in addition to rakes it also subsumes unbound series of marks as well as one-pole ladders. As a synonym for "pectiniforme," Abelanet also offers the term "semiarboriforme," i.e., "in the form of half a tree."

The antiquity of the rake motif is well affirmed. Marshack (1991:96–97), in a chronological culture chart of the European Upper Palaeolithic, presents a selection of Upper Palaeolithic and later Mesolithic notional or marking examples, nearly all of which contain rakelike features. Classic examples of rakes can be found in Gimbutas (1989:298–301), who contends that "the brush appears in the Upper Palaeolithic . . . and continues throughout prehistory and history" (Figure 3).

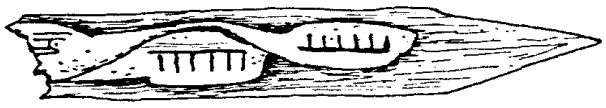

Figure 3. Rake motif on Magdalenian bone object. After Gimbutas 1989:Figure 474.1.A.

Rake Typology in PASTYLE Art

Typologically, the PASTYLE rake motif can be analyzed according to its morphology, that is, the various shapes it is attested in, and its syntax, that is, its characteristic relation to other rock art images. Keeping in mind that the basic blueprint of the rake consists of a linear set of parallel lines, generally called tines, and a flanking horizontal, here referred to as a bar, rake designs can be differentiated with respect to their overall type, arrangement, and the graphic configurations that their bars and tines display. Figure 4 presents a detailed summary of these morphological parameters, regardless of whether the rake occurs in isolation or in combination with other rock art elements.

Syntactically, PASTYLE rake occurrences can be grouped in three major categories: isolated or disembodied, attached, and integrated or embodied. The class of attached rakes is the one with the lowest numerical frequency. To date, it includes two anthropomorphs whose hands are directly connected to a rake and three that are depicted with one arm replaced by the design. Figure 5 presents graphic renditions of these examples.

Of the two remaining categories, in the class of all embodied rakes, the current headcount stands at 164. The total of all isolated or disembodied rakes is quite a bit smaller and presently stands at 126. Embodied rakes, in their overwhelming majority, are topped by human-like heads. Their anthropomorphization is further enhanced by the occasional appendage of arms and digitated hands that emanate from the rake bars. Termed "anthrocephalic" here, they become "glaucocephalic" when topped by owl-like heads. Among the humanized rakes—my personal designation is "rake-bods"—one particular subgroup is distinguished by a center pole or spine. Starting from the head, the spine traverses the rake lengthwise and differs from the rest of the tines in that it is longer and often also more heavily pecked. In selecting "T-rake" as an appellation for this group, the "T" is meant to allude not only to the basic T-shape formed by the bar of the rake and the pole, but also to the shamanic transformation into a bird that the

A. Rake types:

1. single
2. twinned
3. clustered

B. Bar types:

1. straight line
2. multiple lines
3. zig-zag line
4. double zig-zag lines
5. wavy line
6. multiple rows of wavy lines
7. wiggly line
8. angled line
9. arched (convex) line
10. bowed (concave) line
11. double concave lines
12. row of circles
13. multiple rows of circles
14. row of squares
15. multiple rows of squares
16. row of rectangles
17. combinations
    a. straight line and zig-zag line
    b. straight line and wiggly line
    c. straight line and row of ellipses

C. Tine positions:

1. perpendicular
2. oblique
3. flared
4. irregular

D. Tine types:

1. straight line
2. zig-zag line
3. wavy line
4. wiggly line
5. dotted/dinted line
6. circle chain
7. straight-wavy line ("corkscrew" type)

E. Tine combinations:

1. Pure: homogeneous tines of type D (1-7)
2. Mixed: heterogeneous tine type
    a. alternating straight and wavy tines
    b. alternating straight and dotted tines
    c. wavy tines flanked by straight tines
    d. straight tines flanked by wavy tines
    e. irregular mix of tine types

Figure 4. Morphology of PASTYLE rakes.

overall image conveys. Figure 6 is an attempt to list the various syntactic manifestations of the PASTYLE rake motif in the form of a tree diagram.

INTERPRETATION OF THE PASTYLE RAKE MOTIF

Without the availability of ethnographic information, preferably obtained from the artists themselves or direct lineal descendants, all assignation of a specific semantic content to a given rock art element is essentially untestable and must ultimately remain speculative. This, at least, is the prevailing assessment held by many researchers who do not believe in a non-processual system of rock art research. Considering the probable Archaic provenience of PASTYLE imagery, this assessment would, of course, rule out any attribution of meaning to the rake motif under investigation here. After all, the hunter-gatherer artists responsible for its manufacture have been extinct for several millennia and can no longer be debriefed as to the intended function and significance of their creations.

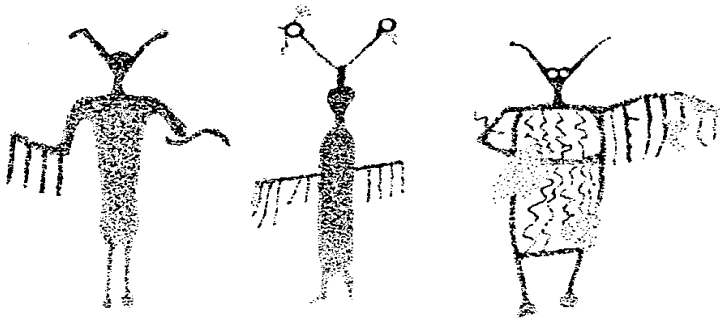

Figure 5. Examples of PASTYLE "attached rakes."

Lewis-Williams, as one who espouses cognitive archaeology, has demonstrated, most recently in his work on European Paleolithic art (Clottes and Lewis-Williams 1998) that this interpretative despair in regard to the interpretation of Paleoart can be overcome. In approaching the interpretative question by means of a "cable-like argument" rather than a "chain-like" one (Lewis-Williams 1995:4), he weaves together "three mutually constraining and reinforcing, yet distinct, strands of evidence." Thus, by intertwining evidence from psychobiology, ethnographic sources, and the rock art itself, he can make "an attempt to understand at least some of the 'meaning(s)'" of a given rock art motif and thereby reduce the "archaeological pessimism" (1995:19) alluded to above.

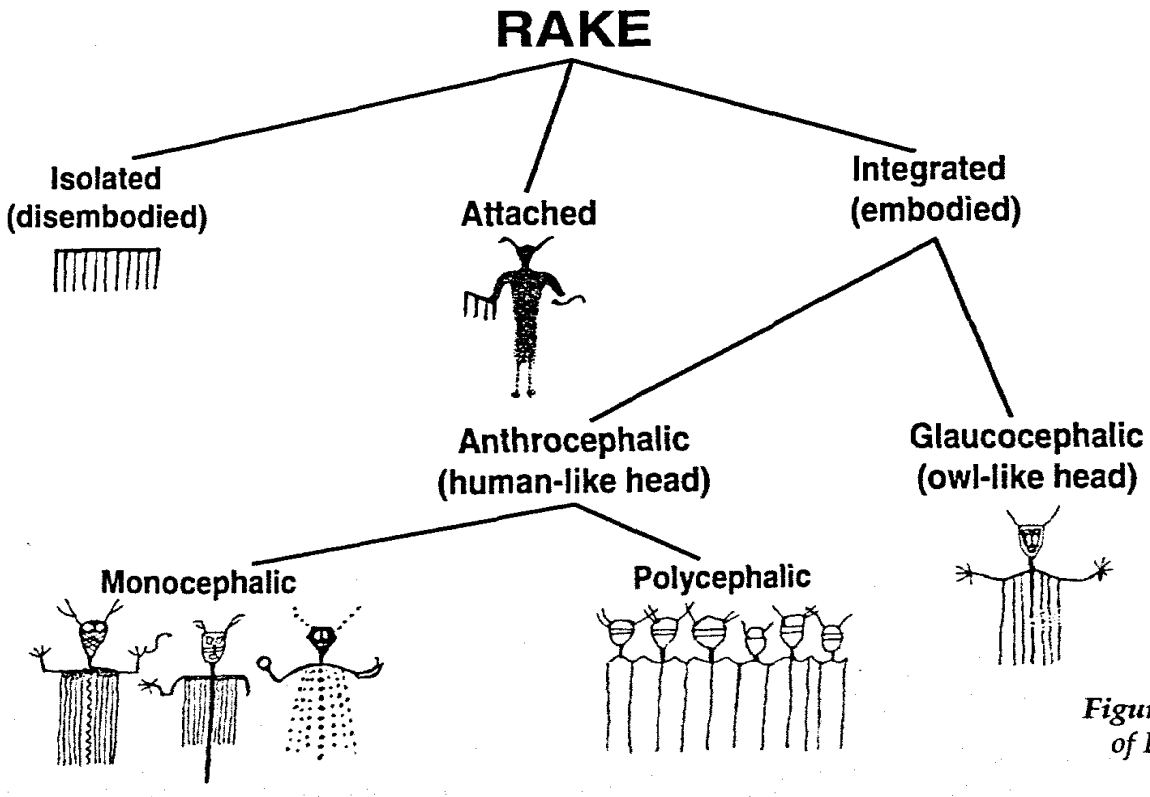

Figure 6. Syntactic realizations of PASTYLE rakes.

I, too, will draw on this threefold hermeneutic methodology to offer some insights into the PASTYLE rake emblem. Before I do so, however, a brief sampler of the wide-ranging meanings attributed to the icon by other researchers of paleoart may prove useful.

Abelanet (1986:340), in considering the significance of pectiniform elements, debates whether the rake, in vertical form, might represent stylized humans, and animals when portrayed horizontally.

In Leroi-Gourhan's typology of the principal signs of Palaeolithic art (1988:974), the rake is grouped in a class of elements whose connotations, according to him, are essentially feminine.

Marshack (1991), in his analysis of Paleolithic art, does not single out the rake terminologically. Nonetheless, he includes graphic representations of it in his series of pectiniform ticks and marks. Several of these pectiniforms are bound by crossbars and hence are identifiable as rake designs. To most of them he attributes a notificational function, especially of the calendrical-lunar kind, within his grand scheme of human time-factored thought.

Gimbutas (1989:298–300), who speaks of the brush or comb rather than the rake, determines her interpretations of the motif according to the associative contexts in which it occurs. Thus, in the vicinity of whirls, swastikas, wings, and hands, she identifies the rake as an energy symbol. In other environments, especially when depicted above or instead of a pubic triangle, she suggests that it denotes the regenerative powers of the "Goddess." In passing she also notes an obvious morphological similarity between the bird wing and the brush.

Noteworthy is the interpretation that Steinbring and Granzberg (1986:212–214) offer within the framework of their hypothesis of *rites-de-passage* marking. Specifically, they advance the theory that the rake, like other "edge" phenomena in rupestrian art, may constitute a boundary marker and consequently, as the graphic portrayal of a terminal event, may possibly represent death itself.

Although intriguing, none of the interpretations mentioned above is considered here as a semantically realistic and viable option for the various manifestations of PASTYLE rakes. Rather, in the context of the trance imagery that distinguishes PASTYLE rock art, I submit a symbolic linkage of the icon with the domain of moisture and the notion of shamanic flight.

Most of the PASTYLE rock art is located in a landscape with scarce precipitation. For this reason, one can expect that a good portion of the art created in such an environment will relate symbolically to the sphere of water and moisture. Thus, in my analysis of the iconography of the Biface site (Malotki 1994), which I view as one of the type sites of the PASTYLE tradition, I argued that many of the graven images were obviously rain- and moisture-directed. This observation that much of the site's imagery shows a strong, if not overwhelming, symbolic affinity to the life force of water, also holds for the majority of the remaining PASTYLE sites.

Among the nonfigurative entoptic phenomena, the motif of the rake ranks prominent in this regard. I submit that the icon, conceptual rather than perceptual, in its pendant parallel lines, simulates rain descending from the clouds. Similar interpretations have been tendered for other rock art locales by Steward (1929), Ewing (1985), Hedges (1985), and Ritter (1993). Thus, while straight- and dotted-tined rakes may represent schematized rain drops, showers, or torrents of rain, the wavy-pronged version may have been an attempt on the part of the shaman-artists to conventionalize the flowing or streaming water rivulets.

One major strand of evidence for this interpretation may be derived from the shamanistic hypothesis that I posit *a priori* for the origin of much of PASTYLE iconography. Central to this hypothesis is the neuropsychological model (Lewis-Williams and Dowson 1988), which operates with a set of six basic entoptic forms that subjects who are undergoing altered states of consciousness (ASCs) are found to experience through seven principles of perception across three major progressive stages of trance. Within the framework of this model the simple, isolated rake is generally listed as derived from the category II entoptic phenomenon, a set of parallel lines, during the first stage of trance. While

Lewis-Williams and Dowson (1988:206–207) do not indicate through what principle of perception the rake is generated, Whitley (1994:10–11) attributes its existence to the principle of replication, that is, a mode of reproduction or duplication of the original fundamental phosphene. Ritter (1993:96), alternatively, proposes the rake as a likely derivation from the "basic grid-lattice-hexagon" phosphene class that is set up as category I in the Lewis-Williams and Dowson (1988) scheme.

I personally do not share Ritter's belief that the rake motif is derived from the grid phosphene. Nor do I see it as a copy of the set of parallel lines as Whitley contends. The double crossbar to which the lines attach in his example, speaks against the process implied by replication. It is exactly this additional crossbar element that leads me to suspect that the rake actually constitutes a mental image from the second or construal stage of the ASC (Figure 7).

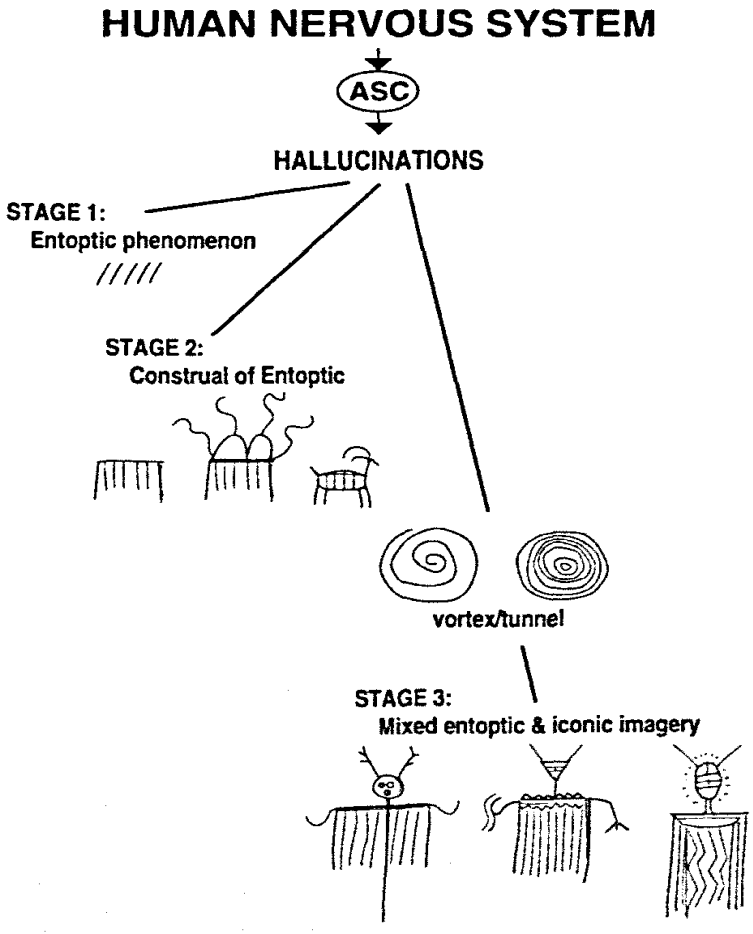

Figure 7. The rake motif and the three stages of an ASC according to the neuropsychological model.

During this stage trancing subjects essentially attempt to make sense of the entoptics by relating them to objects or experiences familiar to them from their normal state of consciousness. I therefore tentatively submit that the PASTYLE shaman-artist construed the endogenous parallel lines as rain, with the crossbar denoting the clouds. Rafter's (1987:29–30) interpretation of the horizontal rake bar as "skyline" from which the rain is falling, fits well into this natural model.

This interpretation is further strengthened by the fact that auditory hallucinations usually accompany the visual ones. Commonly characterized as buzzing or humming sounds, the auditory phenomena too are subject to a variety of construals, as Lewis-Williams (1995:10) has pointed out. In the context of the hypothesized rain construal, then, aural hallucinations could have been decoded by the brain as the rushing noise created by the falling rain, or perhaps also, in the case of dotted-line rakes, as the pitter-patter created by the rain drops while striking the ground.

Ethnographic evidence for the rain interpretation of the rake symbol is found in the Pueblo world of the Southwest, even though rake occurrences in the Pueblo period rock art traditions of the Palavayu are surprisingly rare. Hundreds of sites with thousands of geometric glyphs yield only a handful of rakes. Still, the fascination with rain as embodied in the rake motif shows an impressive iconographic continuity in the American Southwest. This continuity is even more remarkable when the archaic PASTYLE glyph in Figure 8 is compared to a design element that figures prominently in the symbol system of the Hopi Indians of northeastern

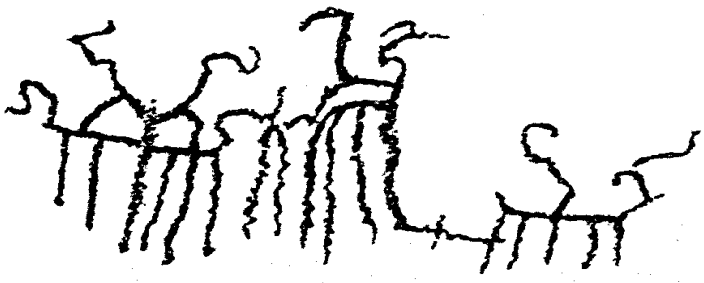

Figure 8. Rain-cloud-lightning image from the Archaic PASTYLE.

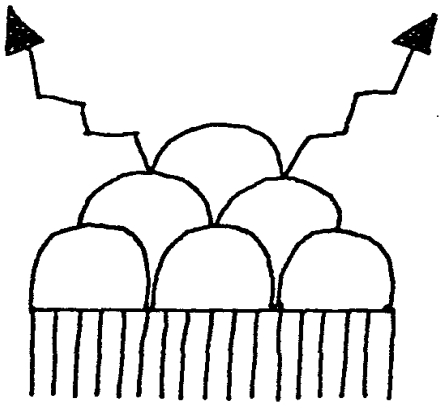

Figure 9. *The classic Hopi* yoyleki *or "falling rain" emblem.*

Arizona. Typically consisting of a layer of hemispheric clouds from which schematized lighting bolts rise skyward and parallel rain streaks fall earthward (Figure 9), it is the quintessential Hopi hydrological emblem.

Known as *yoyleki* or "falling rain," the noun is analyzable into the combining form *yoy-* for *yooyangw*, "rain," and the etymologically obscure *-leki*. As is evident from its gloss, the *yoyleki* solely addresses the rain streaks that are hanging from the clouds. No linguistic reference is made to the conventionalized clouds and lightning bolts that are part of the icon.

During the summer rains in the Southwest, localized *virgas* or rainshafts can be observed along the horizon, streaming from a bank of clouds but evaporating before reaching the ground. Anyone familiar with these *virgas* will readily admit that the Hopi *yoyleki* captures the essence of this meteorological phenomenon. In fact, the Hopi language contains several idiomatic locutions that refer to it. Thus, while verbalized *yoylekiwta* denotes "the state of falling rain streaks," the phrase *yooyangw haahawi* translates as "the rain is climbing down." *Yooyangw wunu*, finally, envisages "rain as standing hard and solid" in a place. In Hopi ritual language, which is often rather poetic, one can even say *yoywunuto*, "the rain goes to stand." Though misspelled, this ritual usage is attested in a Wuwtsim song recorded by Burlin (1907:479). In the accompanying text, she explains that "rain that stands" to the Hopis signifies "rain seen to fall from a distant cloud, giving an appearance of upright lines."

If, from a Eurocentric perspective, these metaphors in conjunction with rain strike one as slightly unusual, it may be helpful to know that in the Hopi view of the world rain is regarded as an animate entity. Thus *yooyoyangwt*, the plural shape of *yooyangw*, features the plural marker *-t* which is allowed to attach only to nouns classified as animate in their grammatical gender.

Yoyleki icons, with or without lightning signs, not only occur in Hopi rock art (Fewkes 1892:19; Mallery 1972:701; Malotki 1996), but also in a number of Hopi ritual contexts. These include, among others, kachina masks (Wright 1973:70, 195), screen curtains employed in effigy puppet dramas staged during kachina night dances (Stephen 1936:Plate X), and sand paintings from kiva societal altars (Stephen 1936:Plate XVII). The same symbol, referred to as *omowuh*, "raincloud" [correctly *oomaw*, "cloud"] by Fewkes (1897:3), was used by members of the Hopi Patki, Snow, Corn, and Cloud clans in their totemic signatures before they learned to write their names.

In the light of this ethnographically well-established meaning, a recent Hopi interpretation of the rake symbol from a Basketmaker panel in Grand Gulch, Utah, strikes one as rather curious. Couched in jargon strongly influenced by new-age ideology, the rake, situated under "a symbol of music required to maintain harmony with the environment," is said to symbolize "the earth," while its teeth are claimed to be "the roots of the plants that helped the Hopi survive during their migrations" (Kelen and Sucec 1996:52).

While the interpretation of the rake as a pluvial sign does not necessitate the theoretical assumption that it constitutes a trance-induced phosphene, the assumption does apply, however, if the rake symbol is understood to "signify shamanic flight" (Hedges 1985:89). The design is then construed, again during the second stage of trance, as an avian element, one that in this case is a wing. With wings and feathers generally representing conveyance symbols for the shaman's celestial flight, the rake may stand as an abstraction for the extracorporeal voyage that the trancing or ecstatic shaman undertakes to enter the supernatural realm of the spirits.

Again, this interpretation fits the shamanistic origin hypothesis I contend applies to the majority of PASTYLE rock art. The rake can therefore be added to the steadily increasing body of pictorial evidence that I have been accumulating in support of the visionary imagery that pervades this parietal tradition.

Ewing's suggestion (1985:12) that the nonfigurative rake design symbolizes a spirit bird is equally intriguing. Considering, however, that PASTYLE birds are either drawn in a generic fashion with spread-out "rake-wings" or are clearly identifiable as water birds and owls (Malotki 1998), I would rule out her interpretative option for the Palavayu.

Of the more than 1,800 anthropomorphs that I have recorded to date, a total of 207 or 8.7 perecent are equipped with rake torsos. Of these, 152 constitute monocephalic rakes (Figure 10), and twelve are polycephalic rakes, with the

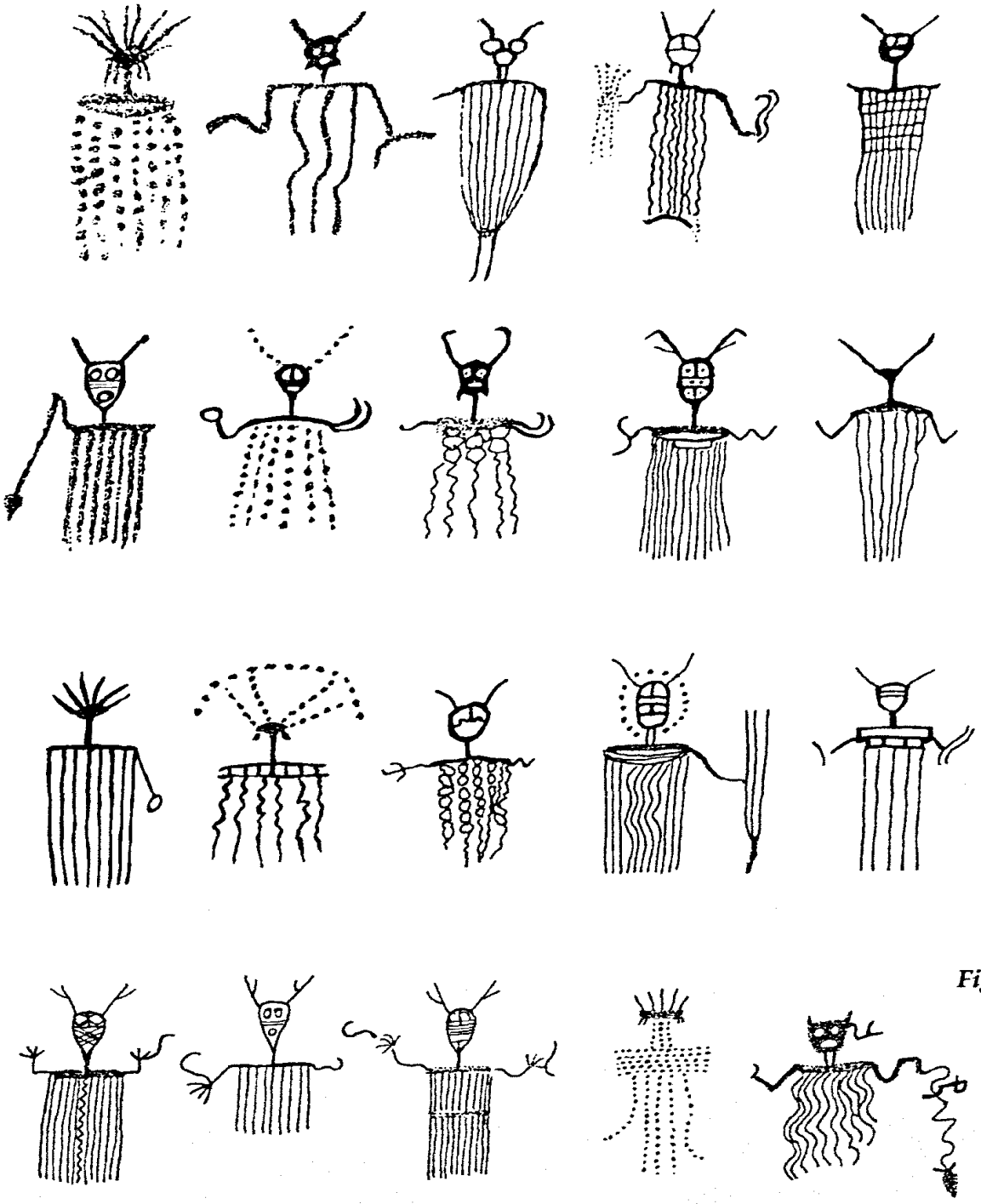

Figure 10. Typical PASTYLE monocephalic rakes.

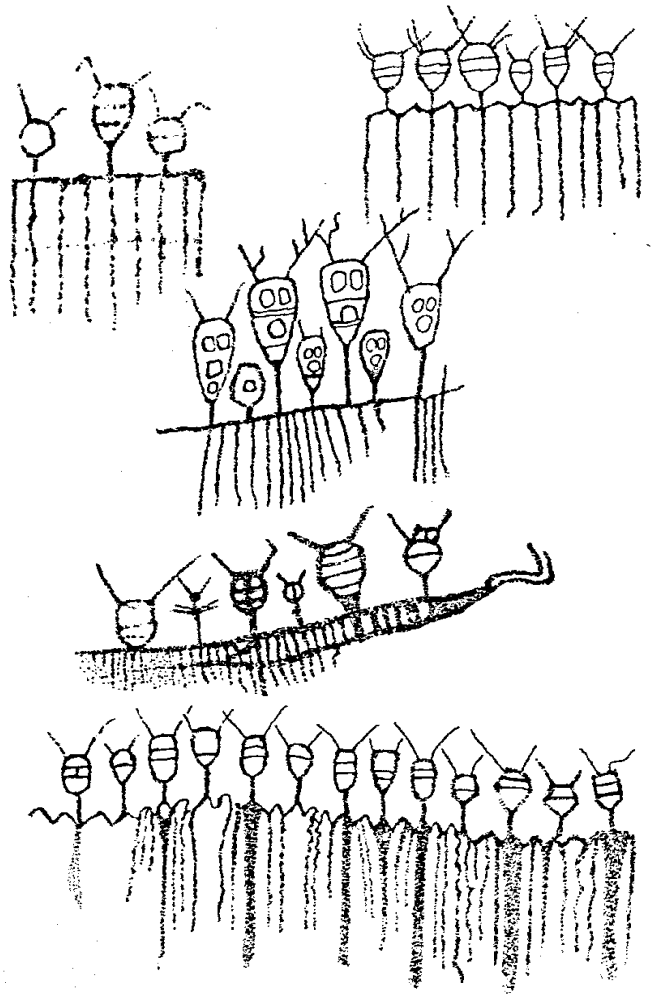

Figure 11. Typical PASTYLE polycephalic rakes.

twelve having a collective total of 55 heads (Figure 11). Iconographically, these rake-bods constitute an extremely unique and highly idiosyncratic feature in the PASTYLE rock art index that, to my knowledge, does not occur in any other rock art theater of western North America. The only other depictions of head-topped rakes that I am aware of in the literature are found in Gimbutas (1989:301). These are anthropomorphic comb-pendants from Neolithic and Iron Age Switzerland that, in Gimbutas' view, represent divine figures of the "Goddess" (Figure 12).

Clearly, anthropomorphic rakes of the kind so common in PASTYLE rock art must now be seen as hallucinated products of the third stage of trance. Dominated by pictorial images that are primarily culturally controlled, it is in the course of this merger stage of entoptics and iconics that subjects may actually become part of their mental images. I therefore argue that the resulting rake-bods are interpretable as either pluvial or avian beings, depending on whether the rake is seen as a symbol for rain or flight. The latter option would allude to the essential experience of shamanic transformation, implying that the rake-bodied anthropomorphs could then be hypothesized to represent shamans in the ecstasy of out-of-body travel. This interpretation is especially attractive for the previously mentioned group of T-rakes (Figure 13). Its semantic likelihood is even stronger for all those rakes that feature owl-like heads (Figure 14). As I have argued elsewhere (Malotki 1998), owl images, of which I have discovered over eighty to date within the confines of the Pastyle tradition, may be pictorial metaphors for the shaman. Glaucocephalic or owl-headed rakes, thus, doubly symbolize the shaman's ability to wing his or her way to the Otherworld.

If the pluvial hypothesis is given preference, anthropomorphized rakes may be assumed to be graphic attempts at capturing the shaman in his cardinal role as rain-maker. In other words, they would constitute rain-shamans. I personally believe that the likelihood is great that PASTYLE rake-bods depict rain deities, that is, supernatural beings with rain-generating powers. As such they could be compared to the kachinas in the Pueblo world. Although kachina gods and PASTYLE rake-rain deities, chronologically, are probably separated by several thousand years, there exist a number of conceptual parallels between the two. Hopi kachinas, for example, are believed to visit the land of their protégés in the shape of clouds and bestow on it life-assuring moisture. The same desire for the

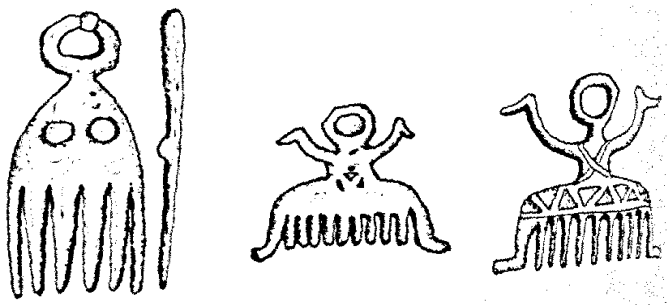

Figure 12. Anthropomorphic comb-pendants from Old Europe. Left, Neolithic Switzerland, ca. 4000 B.C. Middle and right, La Tène, Iron Age Switzerland. After Gimbutas 1989:301.

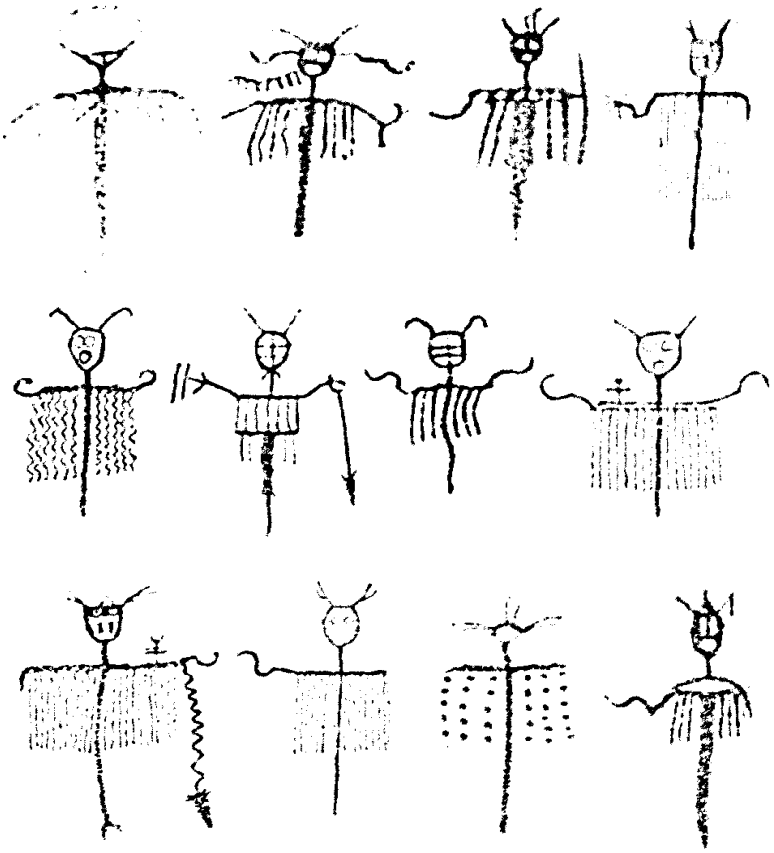

Figure 13. Typical PASTYLE "T-rakes."

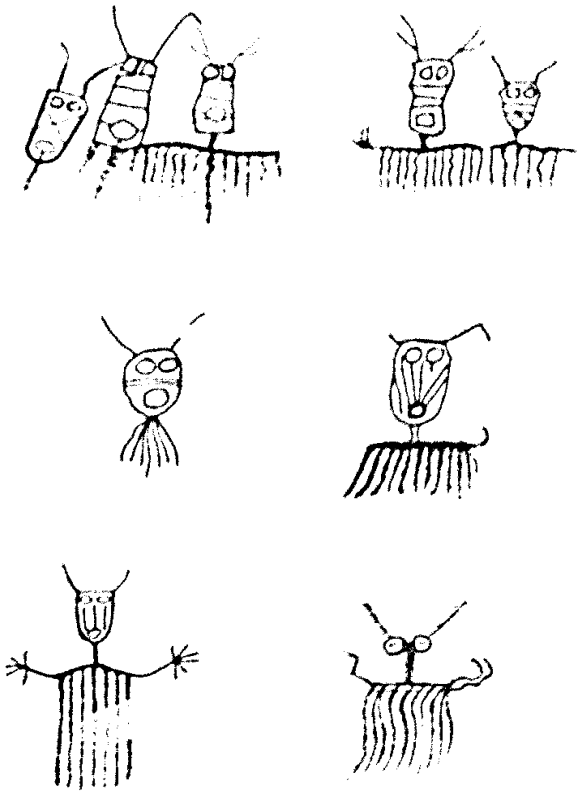

Figure 14. Owl-headed rakes from the PASTYLE tradition.

life force of water probably motivated the PASTYLE shaman-artists to engrave their visions of supernatural rain-providers on the sandstone faces at selected power spots in the Palavayu.

Finally, I should like to make an observation for which I have no more scientifically testable evidence than any of the other interpretative hypotheses enumerated above. It has always struck me that the Hopi *yoyleki*, although completely schematized, is reminiscent of the anthropomorphized Palavayu rock art rakes. To wit, when the heads of the latter are equated with the cloud emblems of the former, the antenna- and antlerlike projections can be likened to the lightning symbols in the aquatic design. The pectiniform rain fringe, of course, is shared by both. This conceptual resemblance is even more striking when the polycephalic rakebods are taken into consideration. Their heads would then represent multiple clouds, just as the cloud triad of the *yoyleki* stands for any number of cloud configurations.

CONCLUSIONS

The Archaic PASTYLE rock art of northeastern Arizona, believed to have been created by shaman-artists, is distinguished by a limited inventory of motifs which seem to fit the heuristic potential of the neuropsychological model.

Among the most frequently occurring geometric elements within the inanimate branch of the PASTYLE motif index is the rake. Polyvalent in nature, its rectilinear configuration is interpretable, within the framework of the shamanistic origin hypothesis, as a symbol of falling rain and the shaman's ability to perform magic flight. These explanatory insights are supported by a hermeneutic methodology that combines the three following distinct strands of evidence:

1. Human psychobiology: Application of the neuropsychological model which, due to its universalistic character, is shared by all *Homo sapiens sapiens*, demonstrates that the rake motif can be understood as a product of the trancing

shaman's mind. Departing from a set of parallel lines, one of the six fundamental entoptic forms (Lewis-Williams and Dowson 1988:203) that the human brain-mind generates during the first stage of an altered state of consciousness (ASC), I argue that the PASTYLE shaman, ever concerned about the vital necessity of life-sustaining moisture, mentally manipulated this basic entoptic into the iconic form of falling rain. Such manipulations typically take place during the second or construal stage of trance when trancing subjects attempt to inject sense into the entoptics from their storehouse of experienced world reality. A crucial clue to this rain construal is seen in the rake's crossbar, which I take to signify the cloudbank releasing the rain.

In the context of this identification of the rake with falling rain, human- and owl-headed rakes can then be seen as depictions of actual rain shamans. Consisting of geometric and iconic features, these fantastic rake composites must have been perceived in stage three, the deepest stage of the ASC, when the trancing subject observes himself as participating in the hallucinatory imagery.

In addition to the pluvial interpretation, the rake could have been construed as a symbol of extracorporeal flight by the shaman. This explanation, triggered by the kinesthetic sensation of weightlessness that frequently accompanies ASCs, is certainly applicable to the rake in isolated form. It is even more readily acceptable for anthropomorphic images with attached or integrated rakes, especially "T-rakes," that allude to the shaman's metamorphosis into a bird.

2. Ethnographic information: Ample ethnographic evidence for the pluvial exegesis of the rake motif, though separated from PASTYLE art by several millennia, is evident in the shape of the Hopi *yoyleki*. Denoting "falling rain," it constitutes the classic Hopi rain symbol and is attested both in the rock art and a number of religious contexts of this extant Puebloan culture located just to the north of the Palavayu area.

3. Natural modeling: Both rain and birds were part of the natural environment of the PASTYLE shaman artist. Integral to his reality experience, they were therefore able to serve as natural models for the rake motif. While owls seem to have been the most favored bird that the PASTYLE shaman selected as his alter ego (Malotki 1998), it was rain in the form of localized virgas, or "rainshafts," meteorological occurrences that are typically observed during the rainy season in the Southwest, that most likely served him as natural models for the rake motif.

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REFERENCES CITED

Abelanet, J.
1986 *Signes sans Paroles: Cent Sciecles d'Art Rupestre en Europe Occidentale*. Hachette, Paris.

Bahn, P. and J. Vertut
1988 *Images of the Ice Age*. Bellew Publishing Co., London.

Beck, W., D. J. Donahue, A. J. T. Jull, G. Burr, W. S. Broecker, G. Bonani, I. Hajdas, and E. Malotki
1998 Ambiguities in Direct Dating of Rock Surfaces Using Radiocarbon Measurements. *Science* 280:2132–2139.

Bednarik, R. G.
1994 Art Origines. *Anthropos* 89:169–180.

Burlin, N. C.
1907 *The Indians' Book*. Harper and Brothers, New York.

Christensen, D. D.
1992 Pre-Pueblo Rock Art in the Little Colorado River Drainage. In *American Indian Rock Art*, Vol. 17, edited by D. E. Weaver, Jr., pp. 36–43. American Rock Art Research Association, El Toro, California.

Clottes, J. and D. Lewis-Williams
1998 *The Shamans of Prehistory: Trance and Magic in the Painted Caves*. Harry N. Abrams, New York.

Eliade, M.
1964 *Shamanism: Archaic Techniques of Ecstasy*. Princeton University Press, Princeton.

Ewing, E.
1985 Tinaja Yubay: Preliminary Report on an Unrecorded Rock Art Site in Central Baja California. *Rock Art Papers* 2:1–18.

Ferg, A.
1974 Petroglyphs of the Silver Creek-Five Mile Draw Confluence, Snowflake, Arizona. Ms. Arizona State Museum, University of Arizona, Tucson.

Fewkes, J. W.
1892 A Few Tusayan Pictographs. *American Anthropologist* 5:9–26.
1897 Tusayan Totemic Signatures. *American Anthropologist* 10:1–11.

Gimbutas, M.
1989 *The Language of the Goddess*. Harper Collins, San Francisco.

Hedges, K.
1985 Rock Art Portrayals of Shamanic Transformation and Magical Flight. *Rock Art Papers* 2:83–94.
1994 Pipette Dreams and the Primordial Snake-Canoe: Analysis of a Hallucinatory Form Constant. In *Shamanism and Rock Art in North America*, edited by S. A. Turpin, pp. 103–124. Special Publication 1. Rock Art Foundation, San Antonio.

Heizer, R. F. and M. A. Baumhoff
1962 *Prehistoric Rock Art of Nevada and Eastern California*. University of California Press, Berkeley.

Kelen, L. and D. Sucec
1996 *Sacred Images: A Vision of Native American Rock Art*. Peregine Smith, Layton, Utah.

Kellogg, R., M. Knoll, and J. Kugler
1965 Form-similarity between Phosphenes of Adults and pre-School Children's Scribblings. *Nature* 208:1129–1130.

Leroi-Gourhan, A.
1988 *Dictionnaire de la Préhistoire*. Presses Universitaires de France, Paris.

Lewis-Williams, J. D.
1995 Seeing and Construing: The Making and 'Meaning' of a Southern African Rock Art Motif. *Cambridge Archaeological Journal* 5(1):3–23.

Lewis-Williams, J. D. and T. A. Dowson
1988 The Signs of All Times. *Current Anthropology* 29(2):201–245.

Loendorf, L. L.
1994 Finnegan Cave: A Rock Art Vision Quest Site in Montana. In *Shamanism and Rock Art in North America*, edited by S. A. Turpin. Special Publication 1. Rock Art Foundation, San Antonio.

McCreery, P. and E. Malotki
1994 *Tapamveni: The Rock Art Galleries of Petrified Forest and Beyond*. Petrified Forest Museum Association, Petrified Forest, Arizona.

Mallery, G.
1972 *Picture-Writing of the American Indians*, Vol. II. New Dover, New York.

Malotki, E.
1994 Water Magic: Serpent Iconography at a Basketmaker II Site in the Palavayu of North eastern Arizona. Paper presented at the International Rock Art Congress, Flagstaff, Arizona.
1996 Yoynawakna: A Petroglyphic Rain Prayer at a Post-Spanish Hopi Site in Northeastern Arizona. *European Review of Native American Studies* 10(1):13–17.
1997 The Dragonfly: A Shamanistic Motif in the Archaic Rock Art of the Palavayu Region in Northeastern Arizona. In *American Indian Rock Art*, Vol. 23, edited by S. M. Freers, pp. 57–72. American Rock Art Research Association, San Miguel, California.

Malotki, E. (continued)
1998 The Owl: A Shamanistic Motif in the Archaic Rock Art Iconography of the Palavayu Anthropomorphic Style, Northeastern Arizona. In *American Indian Rock Art*, Vol. 22, edited by S. M. Freers, pp. 1–18. American Rock Art Research Association, Tucson, Arizona.

Marshack, A.
1991 *The Roots of Civilization*. Moyer Bell, Mount Kisco, New York.

Martynec, R. J.
1985 A Synthesis of Petrified Forest National Park Rock Art and Ceramics. *Museum of Northern Arizona Bulletin* 54:69–74.

Pilles, P. J., Jr.
1975 Petroglyphs of the Little Colorado River Valley, Arizona. In *American Indian Rock Art*, Vol. 1, edited by S. T. Grove, pp. 1–26. San Juan County Museum Association, Farmington, New Mexico.

Rafter, J.
1987 Shelter Rock in the Providence Mountains. *Rock Art Papers* 5:25–32.

Ritter, E. W.
1993 A Petroglyph Complex of the Sierra de San Francisco Uplands, Baja California, Mexico. *Rock Art Papers* 10:81–102.

Schaafsma, P.
1980 *Indian Rock Art of the Southwest*. School of American Research, Santa Fe. University of New Mexico Press, Albuquerque.
1994 Trance and Transformation in the Canyons: Shamanism and Early Rock Art on the Colorado Plateau. In *Shamanism and Rock Art in North America*, edited by S. A. Turpin, pp. 45–71. Special Publications 1, Rock Art Foundation, San Antonio.

Steinbring, J. and G. Granzberg
1986 Ideological and Cosmological Inferences from North American Rock Art: An Exploratory Discussion. *Rock Art Papers* 3:207–220.

Stephen, A. M.
1936 Hopi Journal. Edited by Elsie Clews Parsons, 2 vols. *Columbia University Contributions to Anthropology* 23.

Steward, J. H.
1929 Petroglyphs of California and Adjoining States. *University of California Publications in American Archaeology and Ethnology* 24:47–238. University of California Press, Berkeley.

Turner, C. G., III
1963 Petrographs of the Glen Canyon Region. *Museum of Northern Arizona Bulletin* 38. Glen Canyon Series No.4.
1971 Revised Dating for Early Rock Art of the Glen Canyon Region. *American Antiquity* 36(4):469–471.

Turpin, S. A. (editor)
1994 *Shamanism and Rock Art in North America*. Special Publication 1. Rock Art Foundation, San Antonio.

Whitley, D.
1992 Shamanism and Rock Art in Far Western North America. *Cambridge Archaeological Journal* 2:89–113.
1994 Shamanism, Natural Modeling and the Rock Art of Far Western North American Hunter-Gatherers. In *Shamanism and Rock Art in North America*, edited by S. A. Turpin, pp. 1–44. Special Publication 1. Rock Art Foundation, San Antonio.

Whitley, D. and L. L. Loendorf, (editors)
1994 *New Light on Old Art: Recent Advances in Hunter-Gatherer Rock Art Research*. Monograph 36. Institute of Archaeology, University of California, Los Angeles.

Wright, B.
1973 *Kachinas: A Hopi Artist's Documentary*. Northland Press, Flagstaff.