

AMERICAN INDIAN PICTOGRAPHY IN SEMIOTIC TERMS

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North American Indian Pictography is primarily defined in terms of styles and artistic rhetoric. A closer view and analysis of certain petroglyph panels associated with cultural and historical events reveals a definite graphic writing containing gestural and logographic graphemes. A lexicon of these graphemes combined with ethnographic information may lead to a deeper understanding of the petroglyphs of North America. The use of animals as metaphors in mythic panels as well as the quadruped, a neutral animal used for direction and action in more general informational panels, will be discussed. This paper is also an appeal for international agreement upon terminology for the analysis of prehistoric pictography.

The basis of analysis of all North American pictography contains three basic elements: 1.) the understanding of gesture language, as it was used across aboriginal America; 2.) symbol analysis, using consistency and frequency tests with symbol associations, and deconstructing symbol combinations and incorporations; 3.) cultural context, the in-depth study of the religion, mythology and language idioms used by specific tribes associated with the study area.

I. Gesture Language.

American Indian Sign language was used extensively across the continent, with little variation between tribes. Local names of geographical areas, and tribal idioms, names and expressions seem to be the only discrepancy. The everyday expressions of movement, battle, food gathering, water, natural disasters, enemy locations., etc. were easy to understand in all parts of the country with any tribe or linguistic group. The cronicles of the early Spanish explorers into North America from Mexico report using "signs" to communicate with each tribe they encountered. The earliest report comes from Cabeza de Vaca, who after shipwrecking off the coast of Texas traveled inland east to the southwest United States, and eventually returned to Mexico circa 1530-40. He reports communicating in "signs" with each tribe he encountered. During Coronado long march north into Arizona and New Mexico, in search of the Seven Cities of Cibola, circa 1540, he encounters many different tribes and signs to them his intentions. He equipped another expedition, placing it under the command of Cardenas, his right-hand man to go west beyond Tuzan (Hopi land). Cardenas explicitly states that "he did not take any interpreter because he did not need one." being well versed in the sign language of the Indians. (Bolton, 1949:138) These comments are to illustrate that "sign language" was not restricted to the Plains Indians. It was used extensively throughout North America, recorded in the 1500s among the Yuman, Cocopan, Piman and Papago, Apache, Tanoan, Zuni, Keres, Hopi, Navaho and Paiute tribes. In 1865 a published manuel on Sign Language for the Plains Indians was produced for use by the American Calvery, who also had to communicate by signs to the various tribes.

Early scholars, such as Garrick Mallery, H.R. Schoolcraft (1853), and later Seton (1918) and William Tomkins,(1935) compiled extensive data on North American Indian pictography. These men stated that there was a close relationship between picture writing and sign language. Mallery writes, *Many pictographs are noted in connection with the gesture signs corresponding with the same idea*, (1893 II: 637).

Tomkins writes, *"The attentions and investigations of the author [Tomkins] have been for a long time devoted to pictography and to sign language, two studies so closely connected that neither can be successfully pursued to the exclusion of the other"* (1931: 77).

Mallery states: *The reproduction of apparent gesture lines in the pictographs made by our*

Indians has, for obvious reasons, been most frequent in the attempt to convey those subjective ideas which were beyond the range of an artistic skill limited to direct representations of objects so that the part of the pictographs which still is the most difficult of interpretation is precisely the one which the study of sign language is likely to elucidate" (1881: 370).

Comparison of Sign Language and Pictography

Gesture language is described as a visual communication system composed of hand gestures that communicate ideas. The gestures may be indexical (static) or iconic (kinetic). Indexical gestures form the basic foundation of the Indian sign language. Iconic gestures are pantomimic or pictorial gestures drawn in the air that are representative of an animal, person or object being communicated.

Indian pictography as well contains indexical symbols that are abstract images representing gesture language signs as noted by Mallery (1881), Tomkins (1931), Cody (1970) and Martineau (1973). Representational images found in pictography are the equivalent of pantomimic drawing of pictures. Neither system is associated with any particular Indian language. Both contain a spacial syntax most obviously demonstrated in sign language. Seton (1918), Mallery (1880:347-8) and Kroeber (1972) assert that the gestures convey ideas without reference to words or letters of a language. Indian pictography uses symbols that have no association with phonemes.

Kroeber (1972:xxvii) states:

There are an unlimited number of gesture signs and sign combinations possible for a single idea in sign language and a limited number of words in a spoken language for that same idea. Gesture signs can change meaning when the context they are in changes. Speech consists of elements that do not resemble the idea, where sign language consists of elements that do have a connection between the gesture and the idea."

Indian pictography as well is composed of symbols that change meaning when the context they are within changes. This is the reason that studies of symbol compilations cannot be complete if they are studied exclusive of the context they are found in.

In both sign language and pictography, the main topic is introduced and the following gestures or symbols are added as elements of the description, and completion of the story. Both systems, sign language and pictography have the following parallels:

1. Signs refer to both gestures and symbols.
2. Simultaneity: two signs produced together or in combination.
3. Reversibility: signs reversed so as to indicate the opposite meaning.
4. Directionality: signs that are positioned in space, or on the panel, in relation to the ground or the subject, to add meaning.

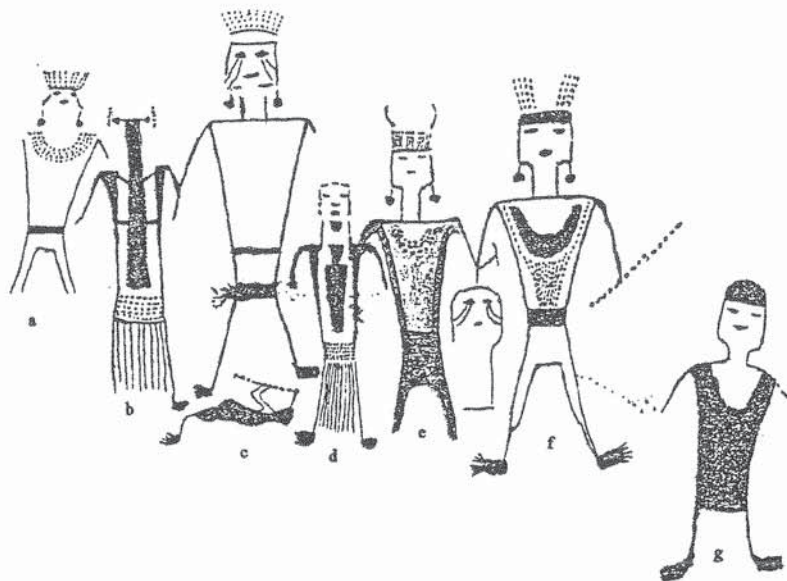
Symbols used for Indian picture writing are combined together as much as the concept they are conveying will allow. They are not placed linearly or separated from each other, as isolating languages such as English would dictate when used in a picture writing. They are aggregated much like the Native languages that are agglutinative in construction. Like the names of the Keres Pueblo deities found depicted in petroglyph panels near their villages, **Tsichtinako**, *creative-through-thinking-woman*, **Iatiku**, *bringer-to-life*, and **Nautsiti**, *more-of-everything-in-the-basket* are examples of agglutination. Most Indian names are not like, Sally, John or Martin as in Western languages. They are descriptive passages combined into one word. Like their language, their picture writing system follows this pattern.

The grammatical structure of sign language depends upon spatial positioning. The same is true of Indian picture writing. Time and space are defined by size and repetition of visual images. For example, the use of perspective depicts "long time" or "long distance away." Placing images "above" or "below" another, "in front" or "behind" conveys power and dominance, abandonment or rejection.

Dry Fork river, Asley, Utah.
Classic Vernal Style about
A.D. 1100

Family Story

In this panel, starting from the left, there stands a man, (a) who "owns" a woman (b). Placing one hand on the shoulder or upper arm of another person means "ownership" or "wife." But in this case, the first man has been "left behind", shown by his small size, a perspective distancing that denotes "in the distance" or "past time." He used to "own" the skirted woman, but his hold has been severed, (is not touching). Her arm is thrust down, which in sign language means "thrown away" or "divorce". She in turn, is "holding" the arm of the next man (c) with stripe eyes. He has a flute player positioned below his legs that is associated with courting and wooing, seduction and fertility. He is positioned in between the legs of "Stripe Eyes" to assist him with procreation. This may be the reason why she has chosen "Striped Eyes" and left her husband.























The next sequence is the same skirted woman (d) with a baby inside her. In this scene, her husband has returned to reclaim her. He (e) is wearing horns to say "strong". His hand is "holding" onto her arm stating that he "owns" her. She is *his* wife. He has joined forces with another man (f) and together they have overpowered (and killed) "Stripe Eyes". They are jointly holding the head or scalp of "Strip Eyes".

Note that these figures are progressively larger and closer to the viewer, drawn in perspective to indicate "closer in time."

The last figure (g) is standing in the very forefront. This figure is smaller, like a child, in plain clothes, uninitiated, and unadorned. He is gesturing toward the others with a dotted line leading toward them. This is possibly the child narrator, telling the dramatic story of his parents.

This panel can be interpreted with just a basic knowledge of sign language and some of the more common symbols employed throughout North America such as "holding," "owning," "pregnant," "strong," and the use of size/perspective to convey distance in "time."

The following is a Chart of commonly used anthropomorphic pictographic gestures found in Indian pictography.

Sign Vehicles				
Anthropomorphs				
				
one hand up "greeting" warning	arms reaching up "praying"	arms raised and bent at the elbow "Doing" "calling" "talking"	arms held out "barring the way" "don't go"	arms down "bad" "caution"
				
one arm up and one arm down "intermediatory"	one hand down "throw away" abandon, divorce	arms parallel and forward "beckoning" "supplicate"	one arm grabbing arm or shoulder "holding" "owning"	bent over with a cane "old"
				
"standing" "departing"	kneeling "young"	"going in"	lying down "sick"	upside down "dead"
				
large rabbit ears "prolific"	antenna "aware" "listening"	"emerging out"	horns "strong"	inverted horns "pulling in horns" "afraid" "weak"

II. Symbols
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II. Symbols

The study and documentation of symbols requires careful evaluation of just what exactly comprises a symbol or is in fact, a symbol combination, (two or more combined). The definition of a symbol requires careful analysis to determine the consistency of its use with an ascribed meaning, and how often it is found in association with other symbols of the same topic or subject matter. Symbol association and consistency checks are the basic tools of this analysis. This also requires a broad study base covering a large study area across many tribal territories. The work here reflects 20 years of research over 12 states and 15 tribes and linguistic groups. The petroglyphs are samples of the Columbia Plateau, Great Basin, Colorado Plateau, Rocky Mountains, Great Plains, Sonora Desert and all of the Southwest.

The Units of Description:

A Clusters of Symbols - moneme

Lexicon of Symbols

Indexical Symbols - graphemes, monemes, determinatives

Iconic Symbols - metaphors, animals, birds, plants, objects.

Sign Vehicles - quadrupeds.

Spatial Syntax - spacial positioning, rock incorporation.

Cultural Context - myths, legends, idioms of the associated tribes.

The Symbol Chart represents a majority of the more well known indexical symbols that have been verified through consistency checks and numbers of occurrence. These are symbols that can be assembled in a lexicon of signs, and are NOT iconic. They are more directly related to gestures common to all tribes. The sign language equivalents have been included where illustrations of them are available.

Iconic Symbols:

Iconic symbols are actual pictures of the topic under discussion. They may be a corn plant, buffalo, parrot, Shield figure, or mountain lion for example. In sign language, they are pantomimed, so that audiences of another tribe unfamiliar with the animal or object might understand what is being discussed. The iconic symbols are equivalent to the pantomimic proportion of sign language.

Animals as Metaphors

Animals are used as metaphors for the actions and behaviors, moods, intensity, attributes etc. of people. The mountain lion, the deer, the bird, are important "metaphores" used to convey ideas that are significant to the Pueblo People. Buffalo, wolf, and thunderbird are used as metaphors to convey ideas significant to the Plains people. Lizard, mountain lion, and mountain sheep are significant to the Yuman people, and so on. It is the job of the anthropologist to know the ethnography specific to the culture group associated with the petroglyph panels to determine what metaphor the animal represents.

Iconic images usually depict the subject if it is a major character in the discussion. Many times it is used as a metaphor for the major "topic" of the discussion. Animals are used as metaphors of the actions and relationships that humans engage in. Animals, their tracks, their body language, stance, horns, ears, hair, claws, hooves etc. all accentuate the motives and actions of what "People" are doing. American Indians use these animal images to express the actions or

conditions of what they are discussing in pictures.

Mountain Lion and Deer Track, Rio Puerco, New Mexico, 1200 - 1400 A.D. Pueblo Indian
Narrow Escape

This panel depicts a mountain lion "trailing" close behind a fleeing deer. The concept of being pursued by a fateful enemy is conveyed by the combination of mountain lion/deer. The spatial positioning shows the closeness of the mountain lion and deer and an encounter with death. The second sequence shows a spacing between the tracks. A natural crack in the rock has also been pecked out to emphasize a natural land formation, a canyon, deep river or some kind of natural land formation allowing the deer to escape the mountain lion. The animal tracks are used as metaphors for the actions of humans. The question remains, who was the author, the enemy who lost his victim or the victim managing to escape.



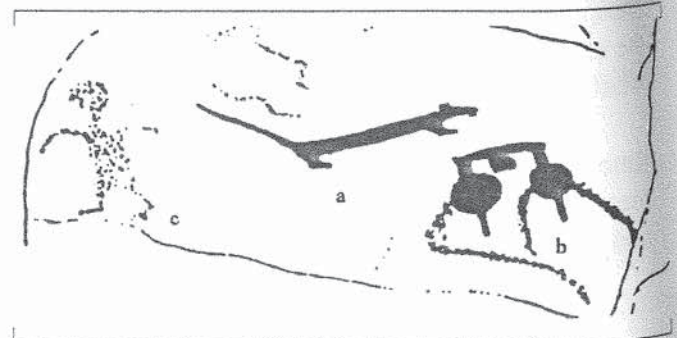
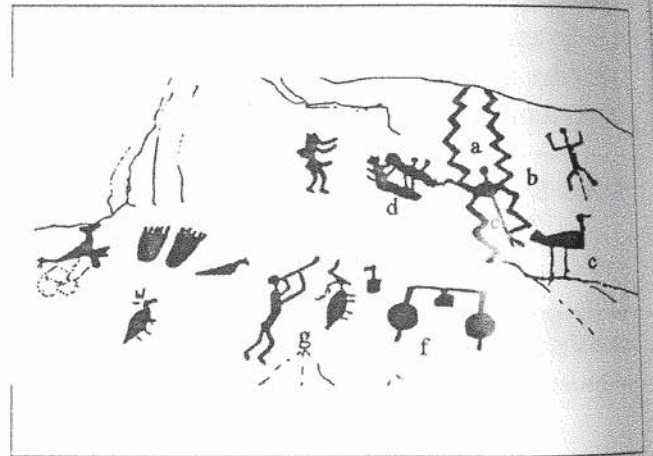
Water Jar Boy

This 1400 A.D. petroglyph depicts an event that came about while a young woman (a) was mixing clay near a river (b). Water splashed up her leg (c) and caused a conception. She is depicted inside the river, her arms and legs incorporated with the water symbol moving back and forth. Attached to the water symbol is a couple copulating (d). The bird (e) turned away from the river represents her mother who was gathering reeds "turned away" when it happened.

The woman gave birth to a water jar (f) that had a boy inside that spoke. The flute player (g) and quadruped represents "singing to life" a Pueblo custom that brings people and animals into being. The double-lobed jar represents the "duality" that accompanies all things in Pueblo philosophy.

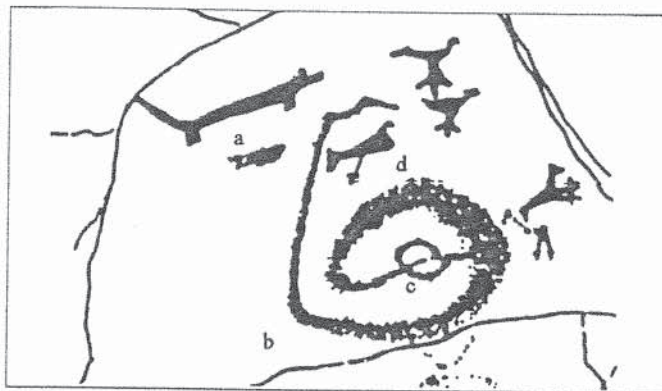
The young boy wants to go hunting with his grandfather. His mother reminds him that he has no arms or legs to hunt rabbits. But the boy insists on going and his grandfather carries him in the jar. Soon he sees a rabbit and goes rolling after it. He hits a rock and breaks open. A boy emerges and stands up, covered with water, and pottery shards.

This panel shows a mountain lion (a) which to the Pueblo people, is a metaphor for



"hunting". The boy is hunting, "like a mountain lion". The water jar (b) is breaking, and water is leaking out. To the left is the boy, (c) kneeling or "just getting up". He is shown covered with drops of water and pottery.

In the story the young man returns with rabbits he has killed, to his grandfather who does not recognize him. The boy is dressed in fine buckskins with beads and moccasins. He returns to the village where his mother and friends are relieved to learn he has broken out of the jar and survived. He eventually asks his mother, who his father is. She cannot tell him because of the strange conception. He decides to go in search of his father, though his mother and friends warn him, he can not find such a person. He goes "hunting" again, this time for his father following his intuition. He arrives at a spring and meets a man there who challenges him on the intentions of his quest. He refuses to be discouraged and in fact names the man as his father. The boy is correct, and the man takes him down into the spring. There he meets his deceased relatives in a happy reunion.



This panel shows the boy (a) "hunting" as a mountain lion and arrives at a spring (b). It is a coil like a snake that means "water" or "spring". It is pecked in with dots to represent particles of moisture or water. In the center (c) is a circle that represents the area inside where he met his relatives (d). They are shown as birds.

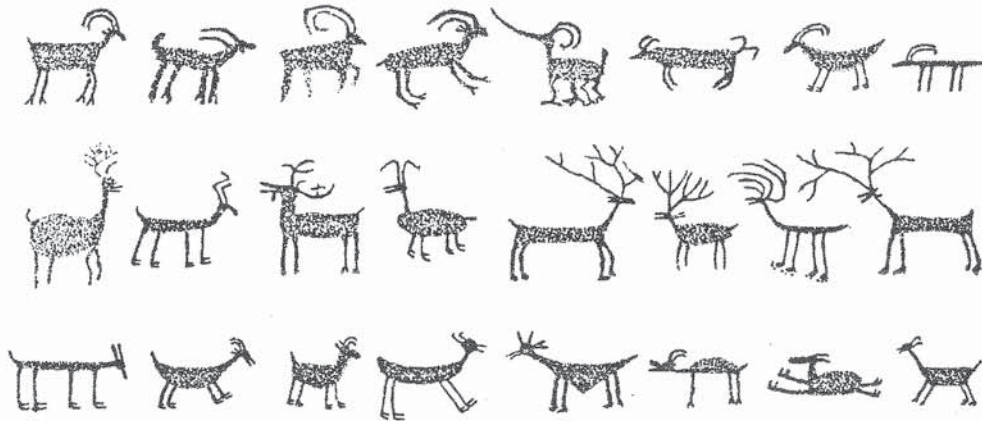
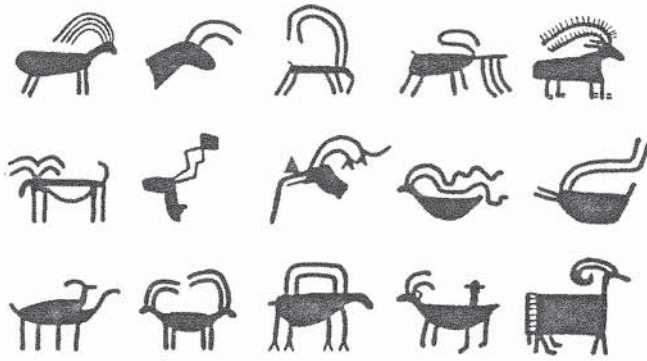
Cultural Context

Tribal myths, histories, archaeological evidence, geographical location are all part of the cultural context involved with interpreting any petroglyph panel. Native American petroglyphs cannot be understood without studying the Native American cultures. Every tribe has its own cultural history and mythology. Their cultural heroes and deities are cultural indicators that identify what tribe left the visual images that we see. Many of the sites are just travelogues, battle accounts and requests for certain things such as rain or fertility. But some panels recount origin myths and religious beliefs that are individually unique. The process of sorting out each tribal identity in the petroglyphs is finally happening. The example of the Water Jar Boy shows the use of animals as metaphors in the context of Tewa culture, hero stories and philosophy.

Sign Vehicles

Sign Vehicles describe the actions of people. Quadrupeds are used as vehicles with which to hold descriptive terms that clarify what is going on in the story. Quadrupeds are found in such variety and individual modification that it becomes apparent they are a neutral "animal" that are not laden with metaphoric meanings. They are simply a means by which to transmit information. Quadrupeds depict movement, direction, a description of terrain, the size of the group of people, the age of group, where they went and if they returned, if they stood and fought or fled and much more.

The following are variations of quadrupeds illustrated by Martineau, 1972 and McCreery 1993. Compare to a highway department rendering of a Desert Bighorn.



The following

Quadrupeds

Horns

"heading"

Body



















straight "travel"

Legs

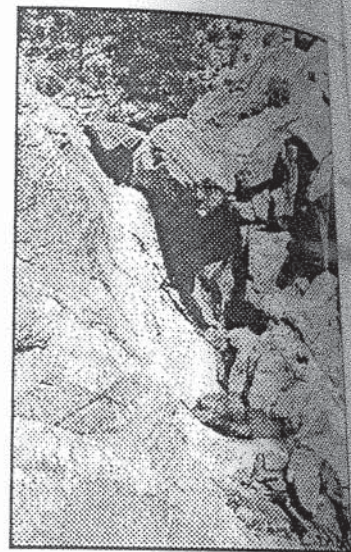
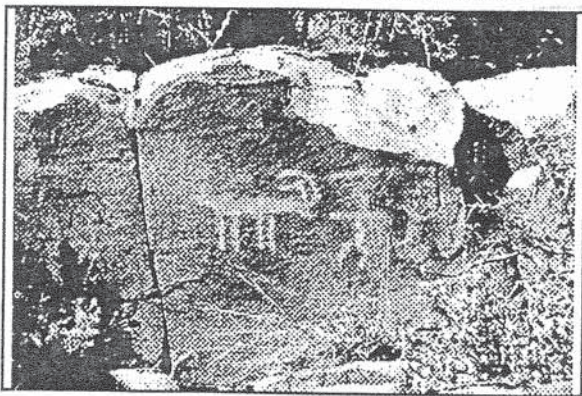
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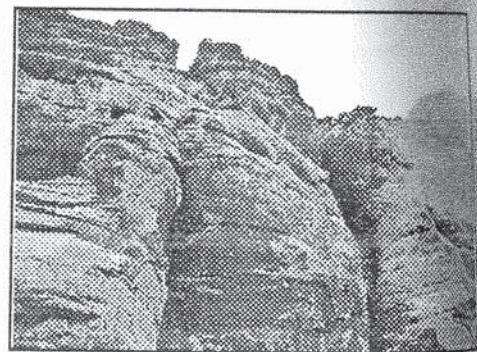
The following Chart shows the various uses of the quadruped.

Quadrupeds			Sign Vehicles		
Horns					
					
"heading"	"returned"	"emerged out"	"heading in two directions"	"heading back"	"many heading"
Body					
					
straight "traveling"	square "place"	bowl "valley"	inverted bowl "mountain"	oval "canyon"	curve "go around"
Legs					
					
bowed "avoided"	V shape "stood firm"	no legs "stayed in one place"	backwards feet "returned"	Human feet "humans"	"climbing up"

The following are examples of quadruped panels that demonstrate the use of sign vehicles. The first panel is found in southcentral Nevada near a natural water catchbasin (tank). The small panel is on a boulder located up on a rocky ridge overlooking this grotto with water below. A person can see its location from the ridge and would perhaps attempt to climb straight down. The panel is placed right in that direct line of descent. It tells the viewer to "stop" going in that direction. As a test, I sent one person straight down, ignoring the sign, and the other to the left perpendicular to the sign. The person who took a route to the left arrived at the water over an easy descent and unencumbered trail. The person who continued straight down was delayed by large boulders and uneasy footing.

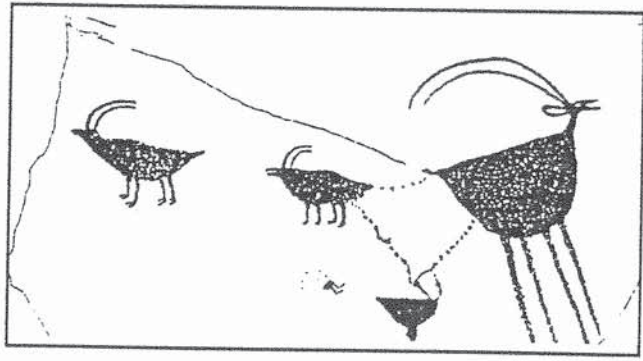


The quadruped simply depicts "movement" or direction of travel. The anthropomorph depicts the sign language gesture, "stop" known also to mean, "barring the way." This is a signpost meant for travelers along the trail going to the water tank below the ridge.



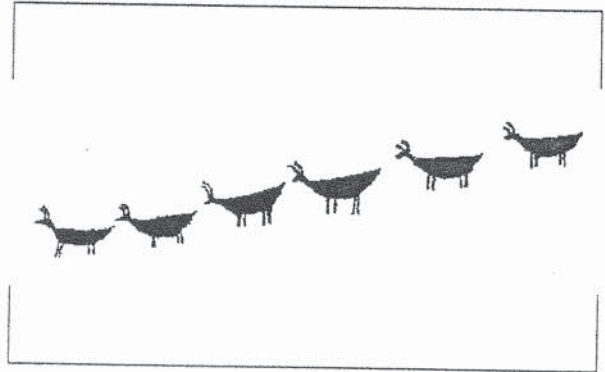
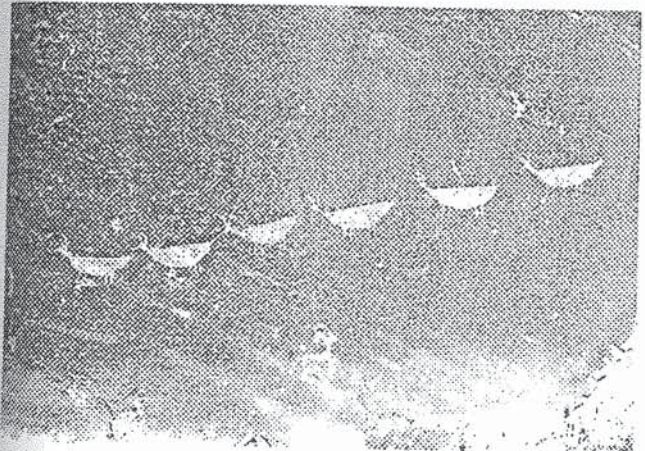
This panel is found near Moab in Hidden Valley. It shows a small sheep standing upon the enlarged horns of a larger sheep. It simply reads: "Go Up On Top". The broad horns indicate a wide trail. The small sheep is standing on it. It has to be a high place above your head because it is above the large sheep's head. From reading the symbolism one can easily locate the ruin on top of the caprock.

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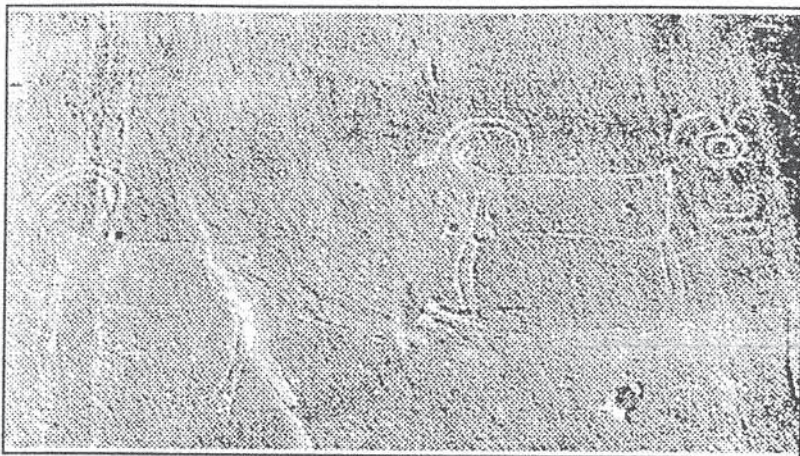
Batatakin, Tsegi Canyon, Arizona, circa 1200-1300A.D.

This panel uses the sheep body to depict the local geography under discussion. The large sheep has a deep bowl body indicating the valley in which the people lived. The legs are also very long indicating a very deep valley. There are little dots leading off to the left to a smaller sheep. His body is in the shape of a canyon. The dots indicate that one group of people have left the large valley and gone in the direction of the smaller sheep. A second set of dots lead from this sheep to a smaller sheep body to the right and below. It appears that this group eventually goes back to the large valley, by the series of dots leading back again. The other group continues on.

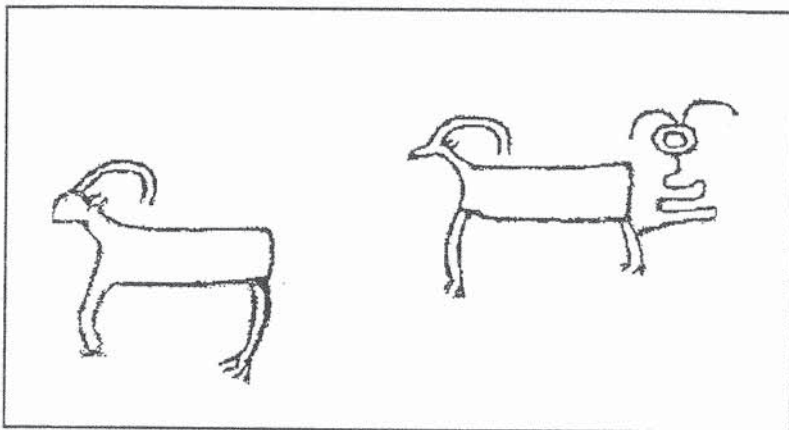


forward for something as they travel. There are no such sheep with forward swept horns in real life. This is a common gesture for "looking."

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These sheep are found in Capitol Reef National Park. They are connected to three specific symbols: a "trail" symbol, "emerge out" symbol and concentric circles that are often used to represent the previous "worlds" the Anasazi people emerged from, the Hopi specifically. This panel clearly uses the three symbols together to convey the idea of the "people" on their migration "trail" and "emerging out" of the previous "world" into this one.



Emerge out



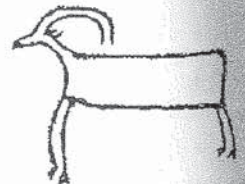
worlds



trail



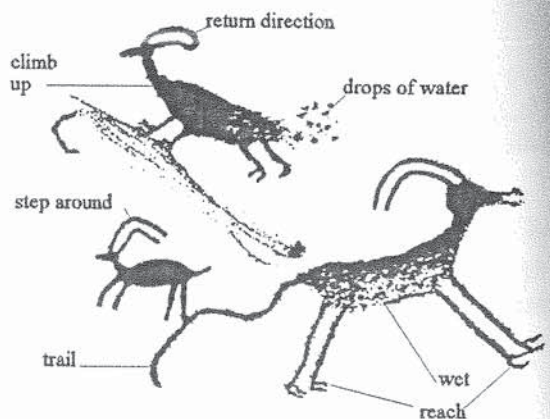
people traveling



Southern Utah, Wet Sheep circa 1300 A.D.

The large sheep has come up a trail indicated by the long "trail" line attached to his tail. He is "reaching" across an area that is wet, indicated by his "wet" or dotted body. The next action is this sheep "climbing up" out of the water. His horns are joined in a loop indicating that he returned to where he began. The final scene is the sheep returning down the trail "avoiding" the wet area this time. This time he is stepping off the trail and going around the bad area.

The actions depicted here by sheep serve as a sign post for human travelers along this trail.



Summary

The symbol chart that follows contain only a sample of the 500 or more symbols collected and recorded with cultural definitions. It is not within the scope of this presentation to give a full account with examples of panels containing them in proper context. They are presented here as simple forms and few simple combinations. The sign language equivalent is given for a few also.

Spatial Syntax is the positioning of each glyph in relation to others and the physical characteristics of the rock surface. Cracks and bumps are used to portray geographic formations of the surrounding land. The spatial positioning of each glyph with a cracks that may represent a river is all part of reading the entire panel. Examples are given with the mountain lion and deer track. Space denotes tension in the pursuit. Space denotes relief in the escape. The crack is a major element in the drama of "escape over the canyon\river from the pursuing lion".

A rule to remember: Things are not drawn the way they look, they are described in symbols.(words) A place where there is water is often depicted by a "cupped hand" that symbolizes "drink". Large snakes may represent rivers or springs. Long legged birds may represent the tribe of people who "dwell near the water" as wading birds do. Tribes are often identified by an abstracted glyph of a plant, or animal that they habitually eat. They are identifying themselves, not discussing a species of animal, be it mountain goat, pronghorn or whitetail deer. Species identification for plants and animals was not a meaningful subject. It was the metaphor they represent that was of interest.

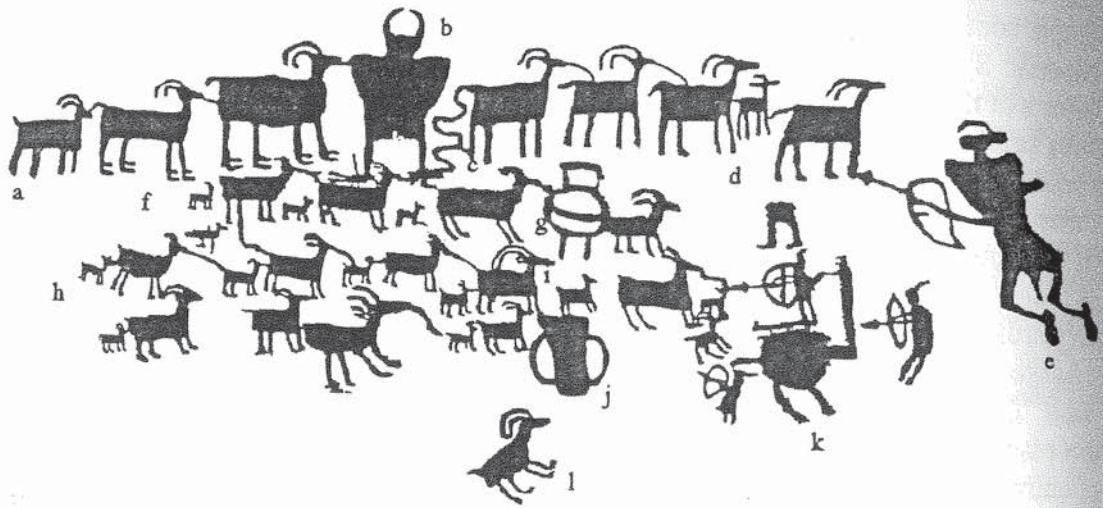
Style changes are simply TOPIC changes. For example, the curvalineal abstract style that appears across an enormously large land base from Washington State, Oregon and California, east across Idaho, Nevada, Arizona, Wyoming, Utah, New Mexico, Colorado, Kansas, Nebraska, Oklahoma and into Texas, and the Midwest indicates that many tribes of hunter\gatherer people were using these symbols to convey messages. It was not one tribe living in all that territory. The same curvalineal abstract style was employed by the Paiutes, Shoshone, Utes and Plains Indians up to modern times. This style dates from 4,000 BP up to 200 BP. The Pueblo as well as the Navaho people still use it. Rio Grande Style was employed by the Paiute, as well as the Navaho, Hopi, Zuni, Pima, Mohave and Kiowa Plains people. Fremont style was employed by the Numic people, that included the Ute, Shoshone, Paiute and Hopi people. How did all these different people understand the writing from other tribes? They could because it was based upon sign language that was easily understood by all tribes.

Putting it all together

The following analysis is based on Martineau's (1981) methods of analysis. The symbol analysis was published in 1980, (ESOP Vol. 13) and not until 1984 was the ethnographic documentation carried out. This led to a verification of the interpretation and a cultural context to the symbols. This analysis also exemplifies the importance of cultural context associated with a petroglyph site. The definition of terms was developed by Dr. Claudio Berreta of Italy and is used to demonstrate the deconstruction of Monemes into Graphemes and their meaning in the context of Pueblo and Navaho symbolism. This is only an abbreviated version of the full report that includes a complete analysis including sign language equivalents and symbol variations found in similar panels.

Definition of Terms

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|-----------------------------------|---|
| Moneme -
(phrase) | A cluster of symbols that represent an idea, or phrase. |
| Grapheme -
(drawn-word) | A symbol combination or symbol incorporation. |



Cottonwood Wash, 9 Mile Canyon, Utah. 1100 - 1200 A.D.

Ambush from Enemy Tribe

This panel, read left to right, depicts many "sheep" connected by nose or tail or foot to each other. The connecting line represents "lineage" or family relationships.

The first course of sheep (a) are connected and shown in a relationship to the top central figure (b). This figure is "strong" because he has horns. He may be a shaman, or strong leader. The undulating line (c) from his foot to the tail of the next sheep means he is walking "moving" with this band of people. They (d) are each connected by a line to the others back. This indicates "carrying something" and implies they are dependent upon each other as they travel.

The large figure on the right is a warrior of a different tribe is kneeling in a position to shoot (e). This body posture indicates crouched down in "ambush."

The second course of sheep (f) are following a shield figure. The shield figure (g) is incorporated with a sheep in a defiant stance, that together indicate the band is standing firm ready to fight.

The third course of sheep (h) are showing connections to the small sheep in front. They again, are dependent upon or "carried" by the one in front (i). They are looking for protection from another shield figure (j). This figure has a very "broad" body, that may indicate the width of the defense put up.

The next scene (k) are details of the battle, with several body parts and exaggerated limbs. There are more warriors shooting at them. The large shield has a distinct "not turn aside" arm gesture along with the legs leaning the shield forward.

The lower sheep (l) is moving up the cliff, and viewing the battle. He has the "return" symbol in his horns.

The analysis of this panel make it clear it is not a "hunting" scene . Hunting is not within the context of the shield figures, body parts and family lineage.

Navaho/Tewa Battle Petroglyph

San Juan Pueblo, New Mexico. 1700 - 1800's

This panel is located on the Chama river a few miles north of San Juan Pueblo, New Mexico. It relates a story still within memory of the Tewa People. The symbols describe a battle that took place. The reconstruction of this panel utilizes terms for the symbols and their component parts. A *moneme* is a single composition that stands alone and is composed of smaller units of meaning called *graphemes*.

Moneme (a) is the tribal symbol for "Navaho".

Moneme (b) is a grapheme=circle with radiating graphemes=arrowheads, that represent a shield surrounded with arrow heads that are penetrating into the shield. In the center are three graphemes=arrow heads, that indicate a "fight within" or someone is caught inside a fight. (Three of anything means "within").

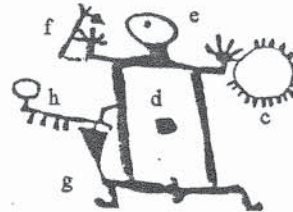
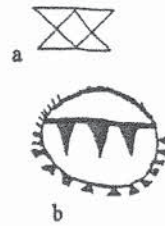
The anthropomorph is composed of monemes c, d, e, f, g, and h. Moneme (c) contains a grapheme=circle that has radiating graphemes="surrounded by many" referring to something in quantity that he is using for a shield surrounding him. These would be rocks. Moneme (c) is not a sun symbol because of the association with his hand "holding it". Grapheme (d) is a square with a dot inside="held here in this place," or "pinned." Grapheme (e) is the figure's head, a circle with a dot inside=holding. When associated with the "head" area it means "held back in siege." Grapheme (f) is a war club with an elbow safety strap identifying this figure as a warrior. Grapheme (g) is a large arrow touching the knee meaning "wound" in the knee. The shaft of the arrow originates from the body (not from an outside source), indicating that this wound in the knee was pre-existing. Grapheme (h) is another head, neck, and body of a 4 legged animal. The tail of this animal is intertwined with the shaft of the arrow. This quadruped does NOT have a dot in the forehead, meaning that it could move without being "held back." This refers to a horse being the source of the warrior's mobility. Putting all of the symbols together, this panel might read:

A (Navajo) warrior was held in this place, held back in seige and surrounded by many enemies (Tewas) shooting arrows at him. He fought with a war club and sought protection using the rocks as shields. He was lame in his right knee and used the aid of an animal (horse) for mobility.

Ethnographic Documentation:

Several years after this interpretation was presented, an ethnographic investigation revealed this information: The Tewa oral histories from San Juan Pueblo have many stories about a lame Navajo warrior. In the late 1700's to early 1800's during harvest season, the Navajos often came south down the Chama River valley and raided San Juan Pueblo. The Tewas organized war parties to pursue the Navajos who sometimes fled up into the rocky hillsides for protection

An informant from San Juan tells of the Navajo "Big-Foot": "The Tewa called him *Oekhu'wa* - *Munu* meaning Kachina, fast moving, turbulent, wild. He was a ferocious warrior and raider of horses. He had a swollen area around his right knee that was wrapped and bandaged with pine needles. This



man could not run or walk well but was a masterful horseman. The spirits had made him mean and vicious but the balance of good was in his ability to ride and steal horses."

A second informant from San Juan, told many stories of "Big Foot, *Oekhu'wa* - Avam, a crazed horse stealer who couldn't run or walk but could ride very well. He stole maidens and horses and some prize dogs. He had a scar from his ear to his cheek."

Abstract:

North American Indian pictography is primarily defined in terms of styles and artistic rhetoric. A closer view and analysis of certain petroglyph panels associated with cultural and historical events reveals a definite graphic writing containing gestural and logographic graphemes. A lexicon of these graphemes combined with ethnographic information may lead to a deeper understanding of the petroglyphs not only for North America, but in other countries as well. The use of animals as metaphors in mythic panels and a neural animal used for direction and action in more general informational panels, will be discussed. This paper is also an appeal for international agreement upon terminology for the analysis of prehistoric art and pictography.

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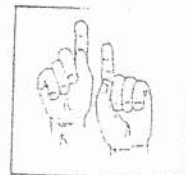
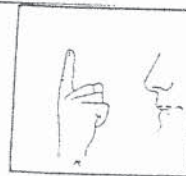
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Symbol Chart

Symbol	Description	Contextual meaning	Signlanguage equivalent	Description
	single dot	"here" here, this spot, sit here		Here, Sit, Remain: Hold closed right hand in front of and little below right shoulder; move hand downward several inches.
	dots in a row	foot prints, trail		
	dots in a pattern	planted garden, dance, people of one band		
	irregular dots	"particles of something" water, cornmeal, blood		All: Move right flat hand in horizontal circle from right to left, breast high
	circle	all around		
	concentric circle	"empty inside"		
	three, concentric ring	three or four worlds (Hopi)		Keep, Hold: With right hand grasp left index finger firmly and move hands slightly to right and left.
	circle and a dot	"holding" something		
	two circles	eyes, "look"		Look, See: Bring right hand to opposite eyes, and point two fingers in the direction to look.
	circle with two lines	"look this way"		
	two circles joined with a line	two heads "talking" "discussion," "writing"		
	circle with a line on either side	"passing through" this area		
	circle with a line across	"crossing in front" of an area		
	vertical line with perpendicular horizontal line	"holding" "grasping"		Hold: Grasp right arm at the wrist, firmly with left hand.
	bowl	"valley" "deep"		
	inverted bowl	"hill" "mountain"		
	straight line	"trail," "pathway"		
	short parallel lines	"removed," "nothing there," "		
	squared off line	cliffs and canyons, "difficult" trail		
	zigzag line	"back and forth movement"		
	double zigzag line	"waves," "river"		
	wavy line with a head	"movement in one direction" "snake" "spring"		Snake, Movement Forward: Move pointing hand forward in wavy motion.
	double wavy line with a head	"snake," "river," "ocean"		
	square	"place," "land," "area"		Place, Land: Point to ground and draw an imaginary square.
	many squares	many "places"		
	small square	little "place"		
	elongated squares	high "place," long "place"		

	swirl (outside to in)	"go up," "ascend," "germinate"
	swirl (outside to in)	"go down," "descend"
	swirl (horizontal)	"roll over"
	swirl (horizontal)	"wave," "wind," "whirl wind"
	large spiral	long trail over long time, "migration"
	crossed lines	"cross over"
	X lines	"trade" "exchange"
	lines merging out from a head.	"coming out," emerge, heading outward.
	lines converging in	"going down into"
	arc or straight line over something	"hidden," covered, stolen
	open V lines	"open up"
	terraced shape	"pile up" "heap up" cloud, man made hill, altar, shrine
	inverted V	"closed down"
	sideways V	"dim," hard to see
	horizontal hook	"returned"
	straight and curved line	cupped hand "drink" "water"
	hooked stick	something "near" or "close"
	bent stick	"missed something"
	one vertical line	"man" "person"
	many short lines	"many" people, plants
	short lines on a line	"many" people or plants that grow or stand up
	lines descending from a horizontal line	"many" falling, rain, snow, people in battle
	two dots with a line in between	"canyon" "gorge" "gap"
	left line elevated	"superior"
	right line elevated	"inferior"



Cross Over: Pass the right hand flat, over the left hand.

Trade: Hold up hands and rotate them past each other.

Covered or Hidden: Arc over and hold left fist underneath.

Heap up: Gather in from the sides then bring hands upwards and terrace to show the shape.

Drink: With fingers tight together form a cup and carry to mouth above downwards, as though drinking water.

Man: elevate the right index finger out, in front of face.

Rain: (falling from clouds) Show fists in front of head, slowly lower them while opening hands. Repeat.

Canyon, Gorge, Chasm, Gap: Show fists in front of face, several inches apart, Then take left hand and pass right, as if through a chasm.

Superior: In comparing two persons or things, place the two extended fingers side by side, pointing up. Highest represents the superior.

Inferior: In comparing two persons or things, place the two extended fingers side by side, pointing up. Lowest finger represents the inferior.

Symbols

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circle lines





















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Iconic Symbols

	circle with radiating lines	"sun "		Sun: Form with index and thumb of right hand an incomplete circle. Hold hand toward east.
	circle with 4 radiating lines	"moon"		Moon: Make sign for <i>night</i> , then with curved thumb and index finger form a segment or quarter moon.
	crossed lines	"stars"		Meet: Hold hands opposite each other, pointing upwards; bring the hands towards each other until tips of index fingers touch.
	two lines touching at one end	"meet"		Separate: Hold hands close together in front, indexes pointing forward; by wrist action turn hands so that right index points to right and front left index to left and front.
	two lines leaning away from each other	"separate"		Strong: Indicate horns in the head.
	head with horns	"strong" "medicine"		Afraid: Bring both hands out in front of breast; bring hand back a few inches and slightly downwards, while curving index fingers. (Mean "pulling in your horns")
	head with downward bending horns	"afraid" "weak" "coward"		War, Fight: Bring loose fists, palms toward each other, in front of body, at height of shoulders. Move each and forth in reverse of each other.
	arrow head	"kill," wound, hurt		Peace: Clasp the hands in front of body, with back of left hand down.
	opposing arrow heads	"war"		Abandon, Throw Away: With one hand closed, drop it downwards and to the rear, opening hand as though to expell something.
	interlocking lines	"peace" "friendship" claspng hands		
	hand cast down	"throw away" "abandon" "divorse"		