THE STATE OF RESEARCH IN ROCK ART

STRUCTURAL ANALYSIS OF A TEWA INDIAN PETROGLYPH FROM NORTHERN NEW MEXICO

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Introduction

The interpretation of this panel is based on ethnographic documentation, symbol frequency and affinity tests, and gesture language equivalents found in spatial syntax and body posture. The goal is to determine the symbol's meaning in context with the cultural and ethnographic information. The word symbol is cautiously used, and only for illustrative documented examples in this study. A transliteration and translation of all of the combined symbols follows the lengthy analysis. Dr. Claudio Beretta has introduced a formal terminology to better facilitate this structural analysis (see glossary). Oral histories and personal interviews add evidence to substantiate the interpretation put forth here.

The petroglyph panel under discussion is dated around the late 1700s and is located near the eastern bank of the Chama river in the Rio Grande drainage area near the Tewa Pueblo Indian village of San Juan in northern New Mexico. The petroglyph has been classified as "Rio Grande Style" by Poly Schaafsma (1980, pp. 252-260, fig. 201, p.258), a style that dates from the fourteenth to the twentieth century. Archaeological data supports a direct relationship between this petroglyph and the historic Pueblo sites in close vicinity. Schaafsma (1980, pp. 252-253) states:

....the Rio Grande Style survived the trauma of the Spanish conquest and the later encroachment of the Anglo-American world, and it has persisted into the present. Elements of the style are painted on altars and other ceremonial articles currently in use and are present in petroglyphs and rock paintings done within the twentieth century.

The following analysis investigates the structural format in the following categories: Symbol Combinations: - When two or more symbols are combined without losing their original form, it is referred to as a symbol combination. Symbol Incorporations - when many symbols or abbreviated symbols have been incorporated into a composite symbol that represents a complete phrase or idea. Symbol affinity - a check used to test

the accuracy of the interpretation. Symbol consistency - a check to insure the consistency of the symbol when found numerous times or repeated in a cultural area.

Both symbol combinations and symbol incorporations are important to understand so as not to misinterpret an image as a single motif. Instead they are many symbols added or incorporated together. An example of a symbol affinity check is shown with this Rio Grande Style shield figure found on a kiva wall at Pottery Mound. It is labeled "shield rimmed with turkey feathers" by Hibben, (1975, pp. 130-133, fig. 101). A closer inspection shows that the man is carrying a large arrow. Radiating around his shield are more arrow tips. Inside his shield is a face with rounded topped feathers in a headdress. The feathers are easily distinguished from arrow points by the rounded tops. The arrowhead in the figure's hand is a clue that the other pointed symbols radiating around the shield are arrowheads and not feathers (affinity check). The ethnographic data refers to the ideas of "shielded warriors strong enough to deflect many arrows."

In the second series of shield figures, also labeled as "feather-edged shields"



Fig. 8. A Shield figure holding a spear and shield rimmed with arrow points (after Hibben, 1975, p. 130).

(Hibben, 1975, p. 131, fig.104) the round topped feathers are present on the rim and the design element is consistent with the interior designs associated with tail feathers (consistency check). Mislabeling can be avoided with the application of these simple checks.

Sign Language Affinity

Early scholars, such as Garrick Mallery, H.R. Schoolcraft (1853), and later Seton (1918) and William Tomkins, 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, vol. II, p. 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, p. 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, p. 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 the idea 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, pp. 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, p. 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.
- 5. Meaning is defined by the context. Though affinity to language structure does not apply in most cases, it has become apparent that Tewa linguistic structure is characteristic of word combinations and incorporations similar to the grouping techniques of symbols found in their petroglyphs.

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. A figure in the kiva mural art is heavily laden with symbol combinations and incorporations. Dutton (1963, p. 119) has described this deity: *Qaletaqa* in Hopi or *Kia ek apa* in Zuni (Corn-Mother-Sky-Father deity). "The macaw mask and form of the entire figure represent the Sky Father, whose all-seeing eye beholds everything that transpires. The scalloped skirt represents water and thus bespeaks rain necessary for the fructification of the earth, while the dun colored garment itself symbolizes the Earth Mother. Phallic symbols which appear on the serpent-like quiver—which contains the arrows that shoot forth as lightning—indicate the union necessary for all reproduction; here too, divisions of time as indicated by the Moon are symbolized. The crosses represent the "Corn Priests of Above"; the star signifies the "War Gods". The heart

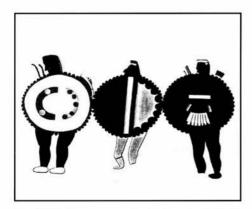


Fig. 9. Shieldbearers carrying feather-edged shields (after Hibben, 1975, pp. 131-133).

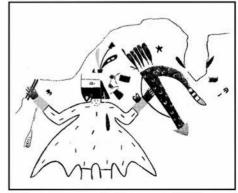


Fig. 10. Universal Corn (Earth) (after Dutton, 1963, p. 117).

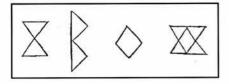
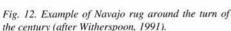


Fig. 11. Navajo Symbols for Born for the Water, Monster Slayer and Changing Woman. Navajo Cultural Motiv.





symbolizes the "middle place," as well as the good and true. Corn is symbolized and other seeds of vegetation. Feathers represent the bird life, serving as messengers from this world to that of the Below and of the Above; while downy plumes symbolize the clouds of the world"

The Pueblo people depict their deities with symbolism not only in graphic motifs but in color symbolism, spatial positioning and in numeration. The Navajo adopted many Pueblo traits in their art and culture. This is reflected in the "Navajo Cultural Symbol" that Witherspoon (1977) has defined: Born-for-the-Water (War God); Monster Slayer; Changing Woman; Navajo Cultural Motif.

The Navajo use symbol combinations and incorporations in their elaborate sandpaintings, and in their woven rug designs. A majority of Navajo rug designs incorporate these motifs in an endless variety of patterns. Though each rug design is different, they all are distinctly Navajo by the basic symbols known as Navajo cultural motifs that are representative of Navajo mythology (Witherspoon, 1987). The positioning of symbols or symbol combinations in the space of the panel has defined cultural meanings. Spatial syntax is a term used to describe the position of a figure, animal or foot print in relation to another.

For the following petroglyph panel analysis, the panel is separated into three monemes that consist of symbol clusters. The analysis reveals how the symbols, termed graphemes have been combined or incorporated to form the overall grapho-morphems that make up these symbol clusters. Each grapheme is analyzed and meaning determined as well as the extended meaning based upon metaphoric or extended meanings dictated by the culture. Affinity checks with other symbols in the panel, and other documented panels also of the same culture and time are given. Documentation of the sign language equivalent to the grapheme, the spatial syntax that is implied and all of the known variations and opposites of the grapheme are also presented in this analysis.

Moneme A

Cultural Meaning: Basic Navajo motif using symbol combination of Born for the Water, and Monster Slayer, the twins of Changing Woman.

Symbol Combination: A symbol combination that combines the symbol of Monster Slayer, Born for the Water, and Changing Woman into one motif.

Grapheme 1: Born for the Water Grapheme 3: Changing Woman

Grapheme 2: Monster Slayer

Grapho-morpheme: arrow head

Extended Meaning: Navajo identity, fight, war, conflict.

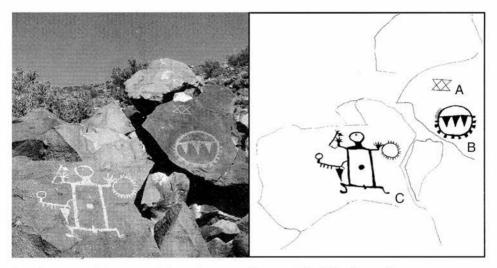


Fig. 13. Navajo and Tewa petroglyph panel.

Monemes A, B, C./Grapho-morphemes.

Comparative Affinity: A single version of this symbol is known as a War symbol and appears in Pueblo and Navajo petroglyphs, mural art and skin paintings, body paint designs and masks for Kachinas and on baskets, pottery and textiles. Associated with the Navajo War God, Tobadziststsini, (Matthew, 1909, p. 23). Identified as a war symbol (Alfonso Ortiz 1985, personal communication). The double symbol is documented by Witherspoon (1987, p. 32) as a basic Navajo motif symbolizing three deities representing the essence and core of Navajo culture and religion. Combining Born for the Water and Monster Slayer with Changing Woman inside.

Documentation: War symbol for war Gods Ma sawi; Kaya petsit; Kauk'a kaya (Parsons 1920:93-94). War Shield with design, Acoma shield, (White, 1932, p. 127). Amulet of Masewa, (Dumarest, 1919, p. 219, fig. 32). War symbol (Martineau, 1973, p. 104, fig. 52e, p. 105).

Indian Sign language: Arrow Head. Touch index fingers and thumbs to form a triangle or arrowhead shape. 'Tip that is shot' ([Blackfoot] LaVan Martineau, 1986, personal communication).

Spatial Syntax: Close proximity to shield motif and other motif. Not connected to other motifs. Stands alone as self contained information, but related in some way, by association, proximity and style, to the rest of the panel. May indicate Tribal identity of the subject or person under discussion in this panel.

Moneme B (War Shield)



Grapheme 1: Grapho-morpheme: arrow repeated

Morpheme: "within" "in between"

Literal Meaning: "in between" three arrow heads.

Combined Meaning: Three of the same sign means "within" or "in between" (arrows). Extended Meaning: "Caught within an attack."

Symbol Affinity: Grapheme 2 of Moneme B, radiating arrow heads that are penetrating the shield. Moneme A, War symbol and grapho-morpheme of an arrow head.

Comparative Affinity: Three lines symbolize a river, (Martineau, 1973, p.101) and (Mallery 1893, vol. II, p. 642, fig.99d). Three of anything symbolizes "within"; within a river; within canyon walls

Spatial Syntax: Three arrow heads are encircled within a shield-like motif to include the context of a fight.

Symbol Affinity: The three arrow heads have affinity to the arrow heads radiating around the outside of the war shield.

Indian Sign Language: Canyon (also gorge, defile, chasm, gap) (meaning: mountain, both sides). Hold both closed hands in front of face-several inches apart, then still holding left hand in position, make as though to pass the right hand through the chasm (Tomkins, 1931, pp. 18-19). The sign for "within" is the same as canyon except both hands are not closed fists but are held flat. They refer to the side of anything (Martineau, 1987, p.c.)

Grapheme 2

Grapho-morpheme (a) Grapho-morpheme (b)

Morpheme - many; sticking in.

Literal Meaning: (a) "circle around", "surround"; (b) arrows heads surrounding (penetrating the shield).

Combined Meaning: "Surrounded-by-many-arrows" (enemies)

Extended Meaning (a and b): "surrounded by many enemies." The arrows penetrating. Comparative Affinity: 1. Shield figure, (Hibben, 1975, p. 101). Arrow points are NOT penetrating the shield. The shield is strong and deflecting the arrows. 2. Compressing inward (Martineau, 1973, p. 60, fig. 38a, p. 61). 3. Surrounded-by-enemies; the hoof prints of enemies surround the circle of lodges, 1742-43 Battistes Good's Winter Count, (Mallery 1893, p. 301, fig. 299,)

Spatial Syntax: Moneme B is positioned above Moneme C, suggesting the outcome or synapsis of the conflict.

Indian Sign language:

- 1. Surround. Hold hands well out and to right and left of body, hands equally advanced, same height, palms toward each other, lower edges pointing to front, index fingers and thumbs curved, spread and horizontal, other fingers closed; bring hands toward each other, and form a horizontal circle with thumbs and index fingers, in front of body" (Clark, 1885, p. 364).
- 2. Surround. Hold thumbs and indexes in semi-circle apart and opposite each other; then bring them together to form a flat circle" (Tomkins, 1931, pp. 54-55).
- 3. Surround. Hold hands together in front of chest level, palms together, then separate hands and circle outward until palms meet, about a foot from body" (Santo Domingo Pueblo, Teresa Van Etten, 1988, personal communication).



Grapheme 1

Moneme C

Grapho-morpheme (b)

Grapho-morpheme (a)

Literal Meaning: (a) "holding"; (b) "head".

Combined Meaning: "head-held-back-from-going-forward." Extended Meaning: "held-back-in-siege, unable to escape."

Inscription Affinity: Grapheme 2 of Moneme C "held-here-in-this-place." Grapheme 4 of Moneme C, head without a dot.

Opposite: head-without a dot;

Variations: heading down; blocked; emerging out; $\[\mathcal{L} \]$

Indian Sign language:

1. Hold. Hold the extended hands, backs out, well in front of body, fingers of left hand pointing to right, of right hand to left, backs of fingers of right hand resting against inner surface of fingers of left, index fingers horizontal, forearms nearly so; move the hands, held in this position, slightly to right and left, by elbows and shoulder action.... This sign is used to express soldiering; i.e., holding a camp; to hold or detain a person as prisoner; to keep, hold or detain anything" (Clark, 1885, pp. 212-213).

2. Held back in siege. (held back from heading forward) Place closed fist against forehead and push head back (Martineau 1984, p.c.)

Grapho-morpheme (a)

Grapho-morpheme (b)



Grapheme 2

Literal Meaning: (a) held in this place; pinned; (b) man. Combined Meaning: "man-was-held-here-in-this-place."

Extended Meaning: "Warrior was held here."

Inscription Affinities: Grapheme 1 of Moneme C, "held back".

Comparative Affinities: this place, church, pueblo, shipapu

Documentation: Mallery, 1893, vol. II, p.720, fig.1203, p. 721, fig. 1211 upper right, 746; Martineau, Swartz and Houck 1981, pp. 11-12; Church symbol of Cochiti, (Joe Herrera, Tribal council of Cochiti, 1986 personal communication; Hibben, 1975; Dutton 1963, p. 156:31).

Sign Language:

- 1. Here. Same sign as SIT or REMAIN. Hold closed right hand in front of and little below right shoulder; then move hand downward several inches," (Tomkins, 1931, pp. 52-53).
- 2. Here. Right hand closed, fist, back outward, upright, is moved upward and downward in front of right side of body from the level of the breast to that of the top of the head. (Dakota) 'It is right here; at the place'," (Mallery, 1880, p. 217).
- 3. Sit. Close right hand in fist at side, then jerky movement to the chest then final jerk fist to waist," (Santo Domingo Pueblo, Teresa Van Etten 1985 personal communication).
- 4. For This place, there, point right index finger to palm," (Cody, 1970, p.16).
- 5. Held here or keep (see Sign 4, Cluster 3).

Variations: pinned, holding



Grapheme 3

Literal Meaning: "war club with elbow strap"

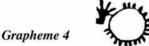
Extended Meaning: "fighting-with-a-war-club", "fierce."

Inscriptions Affinity: Moneme 2, grapheme 1; grapho-morpheme, arrow point.

Spatial Syntax: Hand touching war club, with elbow strap attached.

Comparative Affinity: bow and arrow, lance, rifle

Documentation: Photographs of a war-club with leather elbow strap. "Head Pounders" Hopi name for Navajos (Waters, 1963, p. 255). The raised war club pointing to the head of this figure may signify Navajo identity as a "Head Pounder."



Grapho-morpheme: (a)

Grapho-morpheme: (b)

Literal Meaning: (a) surround; (b) many (of something) Combined Meaning: "surrounded-by-many."

Extended Meaning: "surrounded-by-many-rocks."

Inscription Affinity: "surrounded-by-many-warriors."

Spatial Syntax: Association with and touching the hand identifies a shield that is held in defense. Surrounding rocks provided shielding and protection.

Documentation: Navajos consistently sought shelter among rocks when under attack. "....as the Mother of the Navajos saved herself by running in among the rocks, so the Navajos still save themselves in war by hiding among the rocks" (Benedict 1931: 2).

Symbol Affinities: Moneme A, War symbol; Moneme B. War shield with many short lines.

Comparative Affinity: See Moneme B, grapheme 2

Opposite: See Moneme B, grapheme 2, Comparative Affinity, 2, compressed in.

Sign Language: 1. Surround, see Moneme B, grapheme 2.

- 2. Many. Hold hands up at shoulder level, palms up, fingers spread. Many fingers indicated many people," (Santo Domingo Pueblo, Teresa Van Etten 1988,pc).
- 3. Many. Sometimes the hands are closed and opened several times in succession, rapidly, indicating more tens than can be counted," (Clark, 1885, p. 242).

Grapheme 5 Grapheme 6 Grapheme 7

Literal Meaning: 5. animal with four legs; 6. arrow; 7. knee.

Combined Meaning (5 and 6): "arrow-from-man-inflicts-wound-to-right-knee."

Extended Meaning: "man has a wounded knee."

Spatial Syntax: Arrow originates on the side of the body, not from a foreign source. The arrow is not associated with the hand indicating self inflicted. The wound is "of his own body." This suggests a pre-existing injured condition of the right knee.

Composite Meaning: of arrow and legs and head of a quadruped. The head of the quadruped is without a dot, or "not held back". The quadruped is able to move (mobile). Spatial Syntax: The shaft of the arrow is entwined with the back and tail of the quadruped and is connected to the wounded knee of immobile (held-back) man.

Extended Meaning: Quadruped provides mobility for man with wounded right knee.

Symbol Affinity: 1. Moneme 3, grapheme 4, the head of the quadruped is drawn exactly like the head of the man. The dot is the key difference in meaning between them. 2. The arrow pointing to the knee originates from the body of the man, meaning the wound was not caused by outside forces in this battle.

Comparative Affinity: "Navajo-were-hurt-because-they-did-not-listen" (Martineau, 1973, pp. 96:11, 99). Arrow on horse's feet,"were hurt" as they walked and broke through the frozen stream," (Martineau, 1973, pp. 96, 97).

Opposite: "Hand-with-arrow-shot-crow." (Mallery, 1893, vol. I, pp. 280, 220).

Comparative Affinity Meaning: The head of the man and the head of the quadruped were drawn using the same sign. The quadruped does not have a dot (held-back) as the man does. This illustrates the difference in the state of mobility between the man and the animal. To use the symbol of a horse head for "horse" would not allow the clarification of a "head" with a dot and "head" without a dot (held back from heading forward). The war club, war shield, and war symbol indicate a battle has taken place. The arrow originating from the body and pointing to the knee indicate a lame condition NOT caused from this battle or an outside force, but a pre-existing condition. The four legged animal is in some way connected to the figure's wounded condition. The contrast of the two "head" symbols, one "being held back" and the other "not held back" suggests that the "four legged symbol" assisted the "lame legged symbol" in moving.

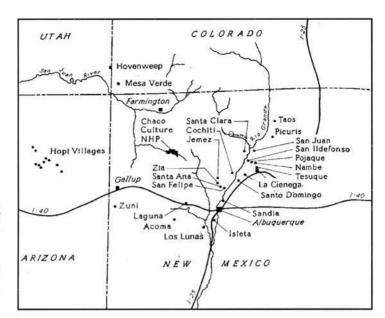


Fig. 14. Map showing the ancient ruins of Hovenweep, Mesa Verde, Chaco Canyon, La Cienega and Los Lunas in relationship with modern pueblos of New Mexico and Arizona.



Fig. 15. Navajo Panel in Largo Canyon, N.M., dated around 1870 A.D. depicting the Navajo conflict with the U.S. army known as the Kit Carson Campaign of 1863-64.

Transliteration

The combination of extended meanings of the signs in the Navajo/Tewa Battle petroglyph reads like this: fight -caught-within surrounded-by-many-enemies arrows-penetrating-defense unable-to-escape fighting-with-a-war-club warrior-was-held-here-surrounded-by-many-rocks quadruped-provides-mobility-for-man-with-wounded-right-knee.

Translation

Rephrasing the specific sign meanings into a general narrative the following account is described:

A battle took place here. A (Navajo) warrior was surrounded by many enemies (Tewas) and was unable to escape. 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:

The interpretation of this petroglyph is strongly supported by the Tewa oral histories from San Juan Pueblo. The elders living there have many stories about a lame Navajo warrior. Dr. Alfonso Ortiz, an anthropologist and scholar of symbolic anthropology, is a native Tewa Indian from San Juan Pueblo. He states that 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 (Ortiz, 1984, p.c.).

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 - Awanus*, 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." (Van Etten 1985, p.c.)

Dr. Gary Witherspoon, professor of anthropology and married to a Navaho woman explained in detail the Navaho iconic motifs that identify the figure as a Navaho warrior. (Witherspoon, 1989, p.c., 1977)

Summary

The proceeding analysis is an attempt to investigate the possible symbol interpretations based on Martineau's 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 determining the myth or legend associated with a petroglyph site because it is a key element with any interpretation. The definition of terms developed by Dr. Claudio Beretta has enhanced our understanding of the structure employed by Indigenous people of North American in their pictographic writing for the last millennium. This panel and its interpretation is still open to further investigation.

Glossary

Moneme - (phrase) - A cluster of symbols that represent an idea, or phrase.
Grapheme - (drawn-word) - A symbol combination or symbol incorporation.
Grapho-morpheme - (drawn-root-word) - A graphic root word. The basic symbol.
Morpheme - (root-word) - The root meaning, not a symbol, but a modifier also called a determinative. Examples of determinatives include: "wet," "deep," "rough," "wide," "rubbed out (dead)," "covered," "blocked," "chopped off," "up high," "dead," "all the same," "depart," "meet," "separate," "young," "old," "close," "far away," all the descriptive modifiers. These graphic modifiers are usually based upon Indian sign language.

Mono-grapheme - (Single-drawn-word) - A symbol that stands alone, usually representative of an object or person. *Iconic* representations.

References:

BASSO Keith H.

1972 Semantic Aspects of Linguistic
Acculturation, in James Spradley (ed.),
Culture and Cognition, Rules, Maps, and Plans,

Prospect Heights (Waveland Press, Illinois).
BENEDICT Ruth
1931 Tales of the Cochiti Indians, *BAE Bulletin*, vol. 98, Washington.

CHAO Yuen Ren

1968 Language and Symbolic Systems, Boston (Cambridge University Press).

CHOMSKY Noam

1972 Language and Mind, New York (Harcourt Brace and Row).

CIRLOT J.E.

1962 A Dictionary of Symbols, New York (Philosophical Library).

CLARK W.P.

1885 The Indian Sign Language, Reprint, 1982, Lincoln (University of Nebraska Press).

CODY Iron Eyes

1970 Indian Talk, Hand Signals of the American Indians, Happy Camp (Naturegraph).

CULLER Jonathan

1981 The Pursuit of Signs: Semiotics, Literature, Deconstruction, Ithaca, NY (Cornell University Press).

DE GEORGE Richard T.

1981 Semiotic Themes, Lawrence (University of Kansas).

DUTTON Bertha

1963 Sun Fathers's Way, Kiva Murals of Kuaua, a Pueblo Ruin, Cornado State Monument, New Mexico, Albuquerque (University of New Mexico Press).

HARRINGTON J.P.

1910 A Brief Description of the Tewa Language, American Anthropologist, vol, 12, pp., 497-504.

HIBBEN Frank C.

1975 Kiva art of the Anasazi at Pottery Mound, Las Vegas (K.C. Publications).

KLIMA Edward S. & Ursula BELLUGI

1979 The Signs of language, Cambridge (Harvard University Press).

KROBER A.L.

1881 & 1972 Sign Language Inquiry, in G.Mallery, Sign Language Among America Indians, First Report of the BAE, 1879-80. Reprint, The Hague (Mouton), 1972.

MALLERY Garrick

1972 Picture Writing of the American Indians, (1888), New York (Dover).

1880 A Collection of Gesture Signs and Signals of the North American Indians, BAE Miscellaneous Publications. Reprint, 1978, in D.J. Umiker Sebeok & Thomas Sebeok (eds.), Aboriginal Sign Languages of the American

and Australian, New York (Plenum), vol, 1, pp, 77-406,

1881 Sign Language among the North American Indians, First Annual Report of the BAE, 1879-80, pp. 213-552.

MARTINEAU L.

1973 The Rocks Begin to Speak, Las Vegas (K.C.). MARTINEAU La Van, B.K. SWARTZ & Charles HOUCH

1981 The use of Indian gesture language for the interpretation of North American petroglyphs: a trial analysis, Occasional Papers (ACASPP), vol. 1.

MARTINEAU La Van & Alex SHEPHARD

1985 Clear Creek Project, Paiute Indian Tribe of Utah. MATEJKA Ladislav & Irwin R TITUNIK

1976 Semiotics of Art, Cambridge (MIT Press). MATTHEW W,

1902 The Night Chant, a Navaho Ceremony, Memoirs of the American MNH, vol. 4, pp. 13-32.

ORTIZ, Alfonso

1972 New Perspectives on the Pueblos, Albuquerque (University of New Mexico Press).

PARSONS Elsie Clews

1920 Notes on Cochiti, New Mexico, Memoirs, vol. 6/3, Landcaster PA (AAA).

PATTERSON RUDOLPH, Carol

1989 Sign Language and Petroglyphs, in Donald Cyr (ed.), Exploring Rock Art, Santa Barbara, CA.

1992 Petroglyphs and Pueblo Myths of the Rio Grande, Albuquerque (Avanyu Publishing).

SCHAAFSMA Polly

1980 Indian Rock Art of the Southwest, Albuquerque (University of New Mexico Press).

SCHOOLCRAFT Henery R.

1851-1857 Historical and Statistical Information Respecting the History, Condition and Prospects of the Indian Tribes of the United States, 6 vols., Philadelphia (Lippincott, Grambo).

SETON E.T.

1918 Sign talk: A universal Signal Code. Without Apparatus, for the Use in the Army, Navy, Camping, Hunting and Daily Life.
TheGesture Language of the Cheyenne Indians, Garden City, NY (Doubleday, Page and Co).

SEBEOK Thomas & Jean UMIKER (eds.)

1978 Aboriginal Sign Languages of the American and Australian, vols. 1 and 2, New York (Plenum Press).

SKELLY Madge

1979 AmerIndian gesture code. Based on Universal American Indian Hand Talk, New York (Elsevier Science Publishing).

SPEIRS R. H.

1966 Some Aspects of the Structuring of Rio Grande Tewa, Ph.D Dissertation, Buffalo (SUNY).

STOKOE William C., Jr.

1972 Semiotics and Human Sign Languages, The Hague (Mouton).

TOMPKINS William

1930 Universal American Indian Sign Language, San Diego.

WATERS Frank

1973 Book of the Hopi (Dover Publications).

WHITE L,A.

1932 The Acoma Indians, FortySeventh Annual Report of the Bureau of American Ethnology, 1929-30, pp, 171-92, Washington.

1949 The Symbol: The origin and basis of Human Behavior, *The Science of Culture*, pp, 22-39, New York (Ferrar, Straus).

WITHERSPOON Gary

1977 Language and Art in the Navaho Universe, Ann Arbor (University of Michigan Press).

WHORF Benjamin Lee

1956 Language, Thought, and Reality, Cambridge, MA (MIT Press).

Riassunto:

Questa è l'analisi strutturale di un semplice pannello di petroglifi situato nel settentrione del Nuovo Messico, lungo il fiume Chama, vicino al villaggio Tewa di San Juan. Il pannello è datato intorno alla fine del 1700. E' importante notare che dall'analisi strutturale preliminare, iniziata nel 1973, risultava che esso potesse raffigurare una scena di battaglia in cui un guerriero, ferito ad una gamba, fu costretto a rimanere sul luogo per molti giorni. Soltanto nel 1984, dopo ulteriori indagini, il racconto orale e le testimonianze personali delle genti locali rivelarono tutta la storia rappresentata da questi petroglifi.

Summary:

This is a structural analysis of a simple petroglyph panel, located in Northern New Mexico along the Chama river near the Tewa village of San Juan. It dates around the late 1700s. It is important to note that the preliminary structural analysis of this panel began in 1973 resulting in a possible interpretation of this panel portraying a battle, a warrior with a wounded leg who had been held back in siege for many days and could not leave this site. It was not until 1984 through more investigation that the oral history and personal testimonies of the local villagers revealed the entire story that is represented by this petroglyph.

Résumé:

Voici l'analyse structurale d'un panneau simple de pétroglyphes situé dans le Nord du Nouveau-Mexique, le long du fleuve Chana près du village Tewa de San Juan. Le panneau est daté à la fin du 1700. L'important est que par l'analyse structurale préliminaire, commencée en 1973, il semblait qu'il pouvait représenter une scène de bataille dans laquelle un guerrier, ayant été blessé à une jambe, fut obligé à rester sur place plusieurs jours. En 1984 seulement, après des enquêtes ulterieures, le conte oral et les témoignages des gens du lieu révélaient toute l'histoire représentée par ces pétroglyphes.