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THE BUTTERFLY SITE: THE MOST ACCURATE MANCOS CANYON ARCHAEOASTRONOMY PETROGLYPH SITE

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ABSTRACT

Basketmaker and early Puebloan prehistoric inhabitants in the Southwest utilized petroglyphs in conjunction with geological landscapes to keep track of solar positioning and seasons of the year. This article is concerned with two concepts associated with one petroglyph panel located in southwestern Colorado on the Ute Mountain Ute Reservation. The first half of this article focuses on the archaeoastronomical mechanics of a specific petroglyph panel at winter solstice, where a number of linked images are skewered by a pointed shadow. Following the archaeoastronomy discussion a closer look is taken at the linked petroglyph figures skewered on winter solstice to determine if they represent specific characters in an ancient Puebloan story.

INTRODUCTION

The Mancos River Canyon is located in the southwestern corner of Colorado. Looking south from the top of Mesa Verde National Park, the canyon presents a surprisingly deep gash in what otherwise appears to be a relatively flat segment of the Colorado Plateau. Originating about 65 km away in the high La Plata Mountains, the Mancos River flows generally east to west, and quickly down-cuts through predominantly soft sandstone strata. On a map, Mancos Canyon is easily located because the canyon is bordered on the north side by Mesa Verde National Park, and not more than 32 km to the south is the state boundary with New Mexico (Figure 1). Mancos Canyon is impressive because it is deep and sheer, dropping over 600 m from the mesa top to the canyon bottom (Figure 2). The canyon was attractive to the early farmers because it is sheltered and well-watered with deep soil for farming, and also probably served as a migratory avenue between the high mountains to the east and the desert to the south and west. Based on archaeological data, the Mesa Verde area and Mancos Canyon

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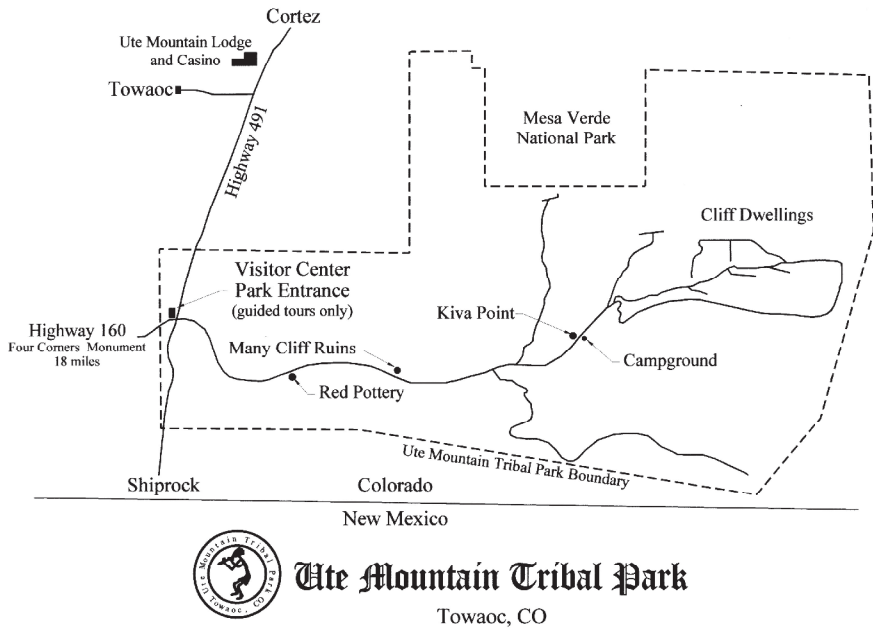


Figure 1. Map of Mancos Canyon



Figure 2. View north of Mancos Canyon looking toward Mesa Verde.

were occupied by early farmers between A.D. 500 and 1300 (Adams 2006:1). The time period discussed below generally falls between A.D. 500 and 900.

A question often raised is: Was the climate in the Four Corners significantly different from that of today? The answer is that it has not really changed. The climate of Mancos Canyon has changed very little since the main period of prehistoric occupation. It is classified as “cold, middle latitude, semi-arid (Bsk, Koppen system) with erratic precipitation” (Nickens 1981:16). All of Mancos Canyon is at an elevation above 1524 m, and it is surrounded on three sides by high mesas and mountains.

Although precipitation and temperature records have not been kept in the Tribal Park (see following paragraph), it is obvious to the authors after performing research there since 1989 that inconsistent moisture patterns frequently result in extreme alternating conditions such as summer flooding and protracted periods of drought. Nickens (1981:10), who conducted one of the few climatological studies of the Mancos area, states that the Mancos Canyon growing season seldom exceeds 120 days, which is long enough to sustain corn. The nature and range of these variabilities are discussed in greater depth by Adams and Petersen (1999) and Kohler et al. (2010). With the canyon floor near 1524 m in elevation, it does not receive the deep winter snowfalls seen on Mesa Verde, and is more comfortable year-round.

Research by the authors in Mancos Canyon, which began in 1989, primarily centered on locating and recording ancient petroglyph rock art sites. This article is focused on a petroglyph site located over 1.6 km west, down canyon, from the large Pueblo II-III habitation complex known as Kiva Point. The panel is called the Butterfly site because it appeared to the authors that its central figure generally resembled a butterfly. To this day, the Butterfly panel is a significantly accurate archaeoastronomical location. The number of petroglyph figures that are precisely skewered by a pointed shadow on the winter solstice makes this site exceptional.

ROCK ART IMAGE DESCRIPTIONS

Mancos Canyon may not have the largest concentration of ancient Southwestern petroglyphs (pecked) and pictographs (painted), but there are quite a few to be found near the canyon bottom. The oldest known rock art in Mancos Canyon consists of pictographs that date back to Basketmaker II times. Regionally, Basketmaker II occupation covers roughly a 1,000-year period from 500 B.C. to A.D. 500 (Lekson 2009:45). Surprisingly, many of those early painted images survive in sheltered locations, and are usually rendered in light red, black and cream colors. Sally Cole (1990:129, personal communication, 2008) believes that pre-Ute pictograph rock art provides evidence of a Basketmaker II occupation in Mancos Canyon. These images bear a striking resemblance to Basketmaker II anthropomorphic petroglyphs found along the San Juan River near Butler Wash in southeastern Utah (Cole 2009:117-124) (Figure 3). In the last hundred years Ute pictographs were painted primarily in a brighter red color and depict such things as cowboys, horses, women, children, and cattle.

Many of the numerous petroglyph panels found in Mancos Canyon, in-



Figure 3. Mancos Canyon Basketmaker II pictograph.

cluding the Butterfly panel, have been style-dated by Polly Schaafsma (1980:128) to A.D. 400-900, which she identifies as late Basketmaker III- Pueblo I. Schaafsma (1980) classified the style as Rosa Representational. In general, Rosa Representational petroglyph images are not terribly large. Most are between 8 and 20 cm tall, although one spiral petroglyph exceeds 30 cm (Figure 4). They are relatively deeply pecked (approximately 5 mm deep). Rosa Representational glyphs are not particularly abstract, because the images often are recognizable to the western eye. Many of the zoomorphic images of ungulates are easily recognized by the size and sweep of the horns and antlers.

An interesting correlation has become evident to the authors: There are numerous similarities in design elements and motifs between some Rosa Representational images and Chapin Black-on-White pottery. Two examples of style similarities include the outlined cross and spirals, both of which are found on the Butterfly panel. Chapin Black-on-White pottery was made between A.D. 575 and 900 (Green 2010:11; Lister and Lister 1978:18), and therefore it should not be surprising that the Rosa Representational designs and the Mancos petroglyphs have similar motifs.

THE BUTTERFLY PETROGLYPH PANEL

The south-facing Butterfly petroglyph panel can be seen from the gravel road that accesses the canyon. The panel is located on an east/west-trending cliff face, about 15 m above the road. A shallow rock shelter undercuts the cliff face immediately below the panel (Figure 5). The ground in front of the panel and rock shelter is a sloping talus shelf that provides observers with secure footing and a platform for photography. About 2 m to the west of the panel and projecting 77 cm outward is a pointed boulder. This boulder is resting on a larger underlying



Figure 4. Largest Mancos Canyon spiral petroglyph.



Figure 5. Butterfly panel and rock shelter below.

boulder and appears to have been tenuously wedged into place against the cliff face. In the afternoon, on the winter solstice, the boulder projects a pointed shadow across the petroglyph panel, as discussed in detail below.

Because the cliff face has only a narrow horizontal band of desert varnish or patina, the images are concentrated along that band. The shelf below drops away on the eastern side, creating the illusion that the panel itself slants upward. The average height of the panel above the talus shelf varies from 1.09 to 2 m.

Close scrutiny of the panel reveals two major groupings of connected and/or clustered images. The larger lineal grouping of figures is on the west or left side. Each of the petroglyph images in the western sequence is connected by a shallow groove to its neighboring image, which in Mancos Canyon is an uncommon characteristic (Figure 6).

The eastern non-linked figures are loosely clustered around the upper portion of a deeply-incised man-made groove. These images include three anthropomorphs and one zoomorph, plus a circle with a central dot and an outlined cross.

In total this petroglyph panel extends 2.86 m from left to right (Figure 7). In addition, the distance between the shadow-casting boulder and the bottom of the groove is 4.20 m. The distance to the final interacting man-made feature, which is a hole, is 5.67 m.

On the winter solstice the pointed shadow moves from left to right (west to east), and the panel will therefore be described from left to right. The first figure appears to be a spider. It is connected to a five-turned spiral with a small flute-playing figure standing on top. The spiral is connected to a large-headed stick figure. Its neighboring image looks like a three-leafed clover with dangling roots. Next is the butterfly with five lines descending from the bottom, and on the eastern wing stands an anthropomorphic flute player. Attached to the lower section of the eastern wing is a round figure that resembles a corn stalk with a sunflower head on the top. There is a gap between this figure and the eastern section of the panel. It is possible that other figures were originally inscribed into this portion of the panel, but some of the patina is missing so we will never know.

The eastern portion of the panel begins with a circle containing a dot in the center. Next is an outlined cross. The most dominant image is a deeply grooved line that extends downward at a left-to-right 45-degree angle and ends at the bottom of the wall. Arrayed above the groove are three anthropomorphs and one antlered ungulate (Figure 8). No other representational images have been observed, but a 10-cm-wide man-made or enhanced hole exists farther to the east on a spalled boulder which serves as the terminal interaction point on the winter solstice.

On the winter solstice all but one of the western figures are skewered by the pointed shadow as it elongates across the panel. The pointed shadow only interacts with two eastern elements. The first is the bottom of the groove, followed several minutes later when the tip of the shadow enters the man-made hole on the spalled boulder. This occurs moments before sunset.

Numerous interactions may be observed on the winter sol-



Figure 6. View of the panel with the shadow-casting rock and man-made groove.



Figure 7. Western half of the panel. Note the linking lines connecting each figure to its adjacent figure.



Figure 8. Eastern half of the panel with a view of the man-made groove.

stice. Beginning a few minutes before 2:00 p.m. the pointed shadow first enters the body of the spider (Figure 9). Over the course of the next hour and a half the shadow elongates and makes centralized contact with the majority of the linked petroglyph figures positioned on the western half of the panel. These interactions are described below with limited commentary.

- (1) Five-turned spiral: The shadow point moves through the central portion (Figure 10).
- (2) Large headed stick figure: The point moves through the groin area (Figure 11).
- (3) Three-leafed clover: This figure is missed as the shadow point travels under the image (Figure 12).
- (4) Butterfly: A man-made depression exists between the butterfly body and the point where the five lines attach. The point enters the depression (Figure 13).
- (5) Sunflower-like head: The shadow passes through the center of this image (Figure 14).
- (6) The shadow point travels another 1.78 m before striking the base of the groove (Figure 15).
- (7) Finally, at 3:45 p.m. the pointed shadow enters the 10-cm-wide man-made or enhanced hole located on the adjoining boulder (Figure 16).

Seven of the eight above-mentioned figures interact with, or are skewered by, the pointing shadow. That large number of interactions takes coincidence out of the equation entirely. The positioning of these images was well planned



Figure 9. Shadow enters the spider at 2:00 PM.



Figure 10. Shadow moves eastward into the spiral.

and is not haphazard. In addition, a secondary pointed shadow appears on the western edge of the panel as the primary shadow reaches the bottom of the groove (Figure 17). This secondary shadow will initially be projected under the first three figures, but does take aim at the connecting hole below the butterfly where the five vertical lines attach. The secondary shadow will interact with the adjacent figure,



Figure 11. Shadow points at the groin of the stick figure. Note how the shadow shape has been altered.



Figure 12. Shadow point slides under the three-leaf clover-like figure.

the sunflower-headed image. The shadow does not interact with any of the other remaining eastern images on the panel because the sun sets.

This panel has not only been observed numerous times on the winter solstice, but on the equinoxes and summer solstice as well, plus at many other random times. No other significant interactions have been observed. Because of



Figure 13. Shadow enters the man-made depression at the bottom of the butterfly figure.



Figure 14. Shadow point enters the head of the sunflower-like figure.



Figure 15. Shadow projects across the entire panel and comes to rest at the base of the groove.



Figure 16. Shadow point leaves the panel and enters a probable man-made hole in an adjacent boulder.

the wall's smooth features, its east/west orientation, and the changing elevation of the sun throughout the yearly cycle, winter solstice is really the only period in time when any sunlight-shadow interaction can occur across the entire panel. (Note: At Butterfly, the winter solstice shadow display changes noticeably six days before and after the actual solstice moment; Figure 18.) The site was ob-



Figure 17. Secondary pointing shadow enters the depression at the base of the butterfly figure.

served on January 6, 1995, and the pointing shadow tip had changed angles and dropped below the panel approximately 46 cm short of the base of the man-made groove. Because of the distance the pointing shadow extends [4.16 m], its elevation changes relatively quickly as the sun's angle elevates preceding or following the solstice.)

As stated above, the projected distance from the pointer boulder to the bottom of the crack is 4.16 m, and 5.63 m to the hole. The farther a shadow is projected the more it will deviate as the solar angle changes. Based on photographic and observational evidence, the penumbral effect upon the edges of the pointed shadow, which becomes somewhat fuzzy as the point extends across the length of the panel, is not dramatic enough to degrade accuracy of the observed shadow interactions. In contrast, other Mancos Canyon petroglyph sites have been observed where shadows cast less than one meter are not accurate enough solstice markers, because they are not as sensitive to changes in the sun's angle and do not deviate in a timely manner. At Butterfly, the precise interactions will only stay on target with the farthest elements for six days on either side of the winter solstice before the shadow point begins to deviate noticeably downward, and no longer hits the bottom of the groove. Two weeks before or after the winter solstice, the elevation of the sun will have deviated only one degree on the horizon, enough to cause the shadow point to move substantially lower, exiting the bottom of the panel 46 cm before reaching the bottom of the groove. The kind of accuracy found at Butterfly is singularly impressive.

One cannot help but wonder about the cultural meaning associated with the images that make the site more than just a mechanical device for marking solar time. The fact that all of the figures are connected by shallow grooves along a nar-



Figure 18. Sixteen days after winter solstice. Note the change in the pointing shadow as it falls 46 cm short of the groove base.

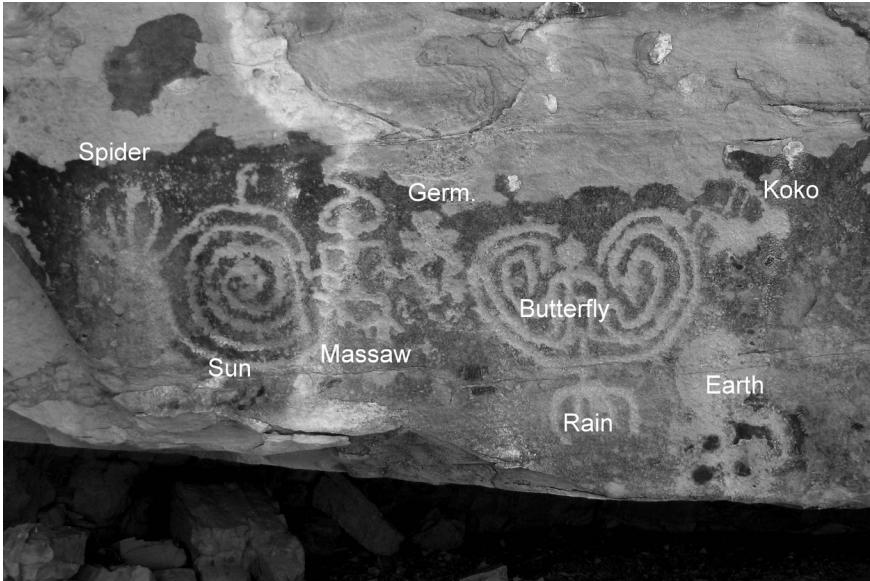


Figure 19. View of western half of the panel showing name of each figure labeled.

row horizontal plane suggests a linked narrative. The question then is: What is the story? Follow-up research on the western half of the Butterfly panel revealed that the images displayed were not randomly chosen. In fact, when a group of Hopi tribal elders visited the site in 2000 with the Tribal Park director, Veronica

Cuthair, they stated that all of the figures on the Butterfly panel's western half were "creation figures" that depict powerful entities responsible for organizing or directing the nature of the world as conceptualized by the Hope (Figure 19).

HOPÍ ETHNOGRAPHIC PARALLELS

The discussion that follows focuses on the western segment of the panel and provides probable meanings for the figures, as extracted from Hopi ethnographic literature and conversations with respected Hopi elders. The Hopi were first selected by the authors when looking for potential cultural parallels because of the Hopis' claim to be descendants of the Ancestral Puebloans (Jenkins/Kuwawisiwma 1991:32). Initial research revealed striking similarities between the contemporary primary Hopi deities and our interpretations of the linked figures depicted on the panel. Later dialogue with a Hopi elder validated the identifications of the linked images. Further research into Tewa deities shows no parallels between the beliefs of Keresan Pueblos found near the Rio Grande (Ortiz 1969) and the images depicted on the Butterfly panel.

The authors initially encountered the Butterfly panel in 1989 and investigated it as a mechanical solstice marking location, and indeed the layout of the Butterfly panel provided an excellent example of a winter solstice marking device. One characteristic of Rosa Representational rock art is its tendency to depict common recognizable elements found in nature, that is, animals, plants and humans. A spider, a spiral and a kokopelli pecked into patinated surfaces were certainly recognizable. The first interpretative clue was provided by a conversation with a Hopi ethnologist in 1990, who suggested that the large-headed stick figure might represent Masauwu (also spelled Maasaw). That piece of information was equivalent to the Rosetta Stone for the authors, and it led them to investigate Hopi cosmology to determine if there were any other correlations. Years later a visit was arranged at the Hopi reservation to meet with a well-respected tribal elder, now deceased, who requested that his name not be made public. He explained that Masauwu was the central figure of the panel, and that it is possible to interpret the panel from the center out. It must be reiterated that when the group of Hopi elders visited the panel in 2000, they explained that all of the linked figures were creation figures. As the reader will see, Masauwu is arguably the most important Hopi deity and is "the deity who owned the Upper World at the time when the people emerged through the sipapu" into this world (Courlander 1971:235).

HOPÍ DIETIES

The authors need to state that many variant interpretations exist concerning Hopi deities. Some versions are older than others, and some variations exist among Hopi communities, illustrating that not all Hopis agree on all details.

As noted, the linked elements depicted in the Butterfly panel represent creation figures, meaning they are entities of power in the Hopi cosmos. Most of the Hopi ethnographic literature refers to those same entities as the primary gods. Based on the images depicted on the panel, it is emphasized that in the last 1,500 years the deities have not changed significantly, and the changes that have occurred are very conservative.

Based on the authors' research, it appears that the Hopi have three primary gods: Masauwu, Spider Grandmother, and Tawa the Sun.

Masauwu: Masauwu is the Hopi "deity of the earth surface, the underworld, and the passages in between" (Schaafsma 2010:26). Courlander (1971:19) called Masauwu "Ruler of the Upper World, Caretaker of the Place of the Dead and the Owner of Fire." According to Parsons (1939:179), "Masauwu, [is] the first denizen of Hopiland, a towering personage [who is the deity of] Death, War, Fire, and Night."

Spider Grandmother (Gogyeng Sowuhti): Literally, this deity is Spider Old Woman, one of the creator deities of Hopi mythology. "Spider woman is my mother, is all mother, the mother of all" (Stephen 1936:744-45). In the words of Williamson (1984:63), "She functions to help or protect humans when they find themselves in insuperable difficulties. She offers advice, occasional magical potions, and, in other ways, generally serves as the keeper of ancestral wisdom."

Tawa (the Sun): As Tyler (1964:138) describes, "We will look to our father the Sun who travels above us every day taking care of all of us, and it is he who is the highest, and in all of our religious ceremonies we take care of him in our own way, so that he will continue to perform his duties in taking care of our life on this land."

These three primary deities are followed by others, which seem to be slightly less significant. The positions of the primary deities can best be explained by the following narratives.

Courlander (1971:32) offers the following: "Gogyeng Sowuhti, Spider Grandmother, spoke. She said, "You will go on long migrations.... Wherever you stop to rest, leave your marks on the rocks and cliffs so that others will know who was there before them. Tawa, the Sun Spirit, will watch over you. Do not forget him. There are other gods as well. There is Masauwu, the Spirit of Death ... This is his land, and so people must always be in the presence of death.... Speak well of him but avoid him.... There is also Muyingwa, the spirit who germinates and makes things fertile.... There is Huruing Wuhti, the Hard-Substances Woman who owns all shells, corals and metals. Also living here is Balolokong, the Great Water Serpent who controls the springs and brings rain." A noteworthy correlation can be seen between the order of the figures depicted on the Butterfly panel and Courlander's rendition of the deities above.

According to Page and Page (2008:146), Spider Grandmother "instructed the Hopi to be mindful of their gods – Tawa the sun spirit; Masauwu; Muyingwa, the spirit of germination; Balolokong, the water serpent, who brings rain and is in charge of springs."

Mullett (1979:1) goes on to say, "in the beginning there were only two: Tawa, the Sun God, and Spider Woman, the Earth Goddess. All the mysteries and power in the Above belonged to Tawa, while Spider Woman controlled the magic

of the Below.... In time it came to them that there should be other gods to share their labors. So Tawa divided himself and there came Muiyinwuh, God of all Life Germs; Spider Woman also divided herself so that there was (Harung Wuhtis) Huzruiwuhti, Woman of the Hard Substances, the goddess of all hard ornaments of wealth such as corral, turquoise, silver and shell. Huzruiwuhti became the always bride of Tawa" (she is also known as the Earth Mother) (Figure 8).

Whether one looks at the Butterfly panel beginning with the central figure, Masauwu, and expanding outward to either side, as was suggested to us by a Hopi elder, or from the direction dictated by the pointed shadow, which moves from left to right, all of the figures are deities. It is interesting that the first three figures skewered by the pointed shadow are a spider, a sun/spiral and Masauwu. The placement of the next three figures suggests that they were slightly less important in the pantheon of Hopi deities. It seems logical that the panel's creators placed the Germination God between the God of the Land and the Butterfly – which is a water figure – to enhance the likelihood of significant moisture falling on the land, thus ensuring germination. However, one wonders why the pointed shadow did not skewer the germination image on the winter solstice. The answer to that conundrum is provided by Qoyawayma (1964:7), who states that "Muyingwa, the Germinating God, is busy under the earth's crust, must not be disturbed in his work of germinating seeds for next season's crops."

Butterfly is identified as a water-figure because of the five descending lines located below the body. One only needs to consult plate XXI in Hopi Journal of Alexander M. Stephen (Part II) (Stephen 1936) to see a correlation between the five descending lines on the butterfly panel and more recent Hopi depictions of rain. Additionally, the number of lines (5) can be interpreted as coming from the sky, whereas the numbers one through four refer to the four directions, be they cardinal or inter-cardinal (Wolf and Wheeler 2014:115). One would expect that over the course of 1,500 years some religious changes should occur. The one obvious alteration is the replacement of the Butterfly with the serpent Balolokong. It is obvious to anyone familiar with the Hopi area why rainfall and springs are of immense concern to the Hopi and their ancestors.

There is one remaining image that is skewered by the shadow on the panel. It is attached to the Butterfly, but it is placed at a lower level. This was initially described as resembling a corn stalk with a sunflower top. Based on all of the above accounts of the primary Hopi deities, the authors feel this image represents a Hopi goddess known as Huruing Wuhti, also referred to as Hard Beings Woman. "Hard Beings Women is most often mentioned in connection with shells, beads, and the like, but these are doubtless signs of our great hard being, the earth.... She is responsible for the substance of the earth, that old shell-mound on which we all live.... She is definitely female, and curiously enough it is her son who becomes the earth-god of crops" (Tyler 1964:82). If one looks closely at her position on the panel it is placed below the water figure (Butterfly) so that the falling precipitation may interact with the earth, probably to nurture the growth of plants. "Everything in Hopi belief is dependent on rainfall, which, when combined with mother earth, is the essence of all things" (Hieb 1979:577). Butterflies often cluster around moisture sources, and thus they are considered to be a logical

symbol for reliable water.

Two secondary figures are present on this segment of the panel. Neither of the figures is skewered by the pointed shadow, but their presence makes them significant. These two smaller figures have been determined to be Mahuti and Kokopelli. Kokopelli is discussed first because he is ubiquitous throughout the Southwest, found in ancient rock art, kiva murals, and pottery designs. Schaafsma (1980:136) states, "Known by the name of his modern Pueblo kachina counterpart, Kokopelli, this figure is one of the few that has survived in recognizable form from the ancient days of the Anasazi into modern times. ... Flute playing figures are present in the rock art of the Anasazi from Basketmaker III on." This humpbacked flute player lacks the phallic element usually associated with later depictions (Schaafsma 1980:136), suggesting it is one of the earlier versions, meaning late Basketmaker III-early Pueblo I. According to Schaafsma, "One interpretation of this figure is that he is a rain priest who calls the clouds and moisture with his flute" (1980:140). It is interesting that this Kokopelli was placed on the wing of the Butterfly, which is interpreted as a water symbol. Perhaps the imperative to enhance rainfall is being reinforced by the depiction of Kokopelli on the wing of the rain symbol, the Butterfly-cloud. The redundancy of having two water symbols together probably enhanced the feeling that these symbols working in tandem might provide more rainfall.

The smallest figure on the western portion of the panel is identified as Maahu or Mahuti. This figure is so small that the only discernible detail was the small flute it is holding and perhaps playing. Early attempts to identify it were not productive until information was found about Mahuti, the flute-playing cicada. This small upright, initially unknown figure seems to stand on top of the sun/spiral. According to Newsome (2012:63), "In Hopi stories, the cicadas play their flutes to melt snows of winter and summon the warmth and flowers of spring." The placement of the cicada on the sun/spiral seems logical since the cicadas sing when the sun warms the pinyon-juniper forests and melts the snow. Again, the placement of the cicada on the sun suggests that these two entities are also working in tandem to enhance the regenerative effects associated with warm weather.

It appears to the authors, as retired anthropologists, that the representation of all of the above-mentioned deities relates to what was important to the people as they attempted to manipulate or enhance their environment through a form of magical power.

BASE METAPHOR AND RELIGIOUS CHANGE

The example of religious change that can be provided is illustrated by the substitution, in more recent times (although it cannot be said exactly when) of the serpent for the Butterfly as a water symbol. Granted, another religious change was introduced in the western Pueblos as early as A.D. 1325 (Adams 1991:120) and that is the concept of the Kachinas (Katsinas). However, Kachinas do not fall into the same category as the much earlier primary deities displayed on this panel. According to Adams (1991:155), "to modern pueblo practitioners, the Katsina Cult is involved in ancestor worship and in the concept of afterlife.... When initiated Hopi die, their spirit or breath is transported to the underworld, and when

the Katsina season comes, they climb a ladder to the top of the San Francisco Peaks and return to the Hopi Mesas as Katsinas or cloud people.” However, as Adams (1991:126) reiterates, “religious institutions are slowest to change in human society and Pueblo culture is, if anything, exceptional in the maintenance of its traditional values, in particular those related to ritual” (see also Parsons 1939).

Close scrutiny and comparison of Hopi religious cosmology with the panel’s figures strongly suggests that many of the core concepts or “base metaphor” (Farrer 1991:201) for the ancient Puebloans continued through time into modern Hopi culture. However, changes do and will occur most commonly in the “branch metaphor” realm. Based on the linked figures depicted on the Butterfly panel, the base metaphor has not changed significantly in over 1,500 years. Of all the Pueblo groups, the Hopi had the most precarious dry-farming existence in the past, as well as the present. “The Katsina cult offered a pantheon of ancestor deities who could be approached and closely worked with to derive more rain” (Adams 1991:120). The Katsina cult originated sometime between A.D. 1300 and 1325 (Adams 1991:76) and represents another cultural change, or an add-on system, that attempts to increase the likelihood of rain.

CONCLUSIONS

(1) The Butterfly petroglyph site is an exceptionally accurate Mancos Canyon winter solstice marker, and in fact is the most accurate solstice site the authors have observed in the canyon. Its pointing shadow will deviate from the panel within six days of the solstice, and many figures are sequentially skewered by the shadow.

(2) The authors sought a cultural connection between the images depicted on the panel and the existing Southwestern Puebloan cultures. After research and conversations with Hopi elders, the authors have determined that the closest cultural ties for the panel lie between the Hopi and the creators of the panel. After extensive research, the authors realized that the western half of the panel, with its linked images, tells a story, and that the pre-Puebloan artisans did not just portray random images across the western half of the panel.

(3) The authors have observed numerous other petroglyph panels in the region, and with the exception of hand-holding rows of anthropomorphs, a sequence of figures that are linked together by grooves has never been observed. It is concluded that the linking grooves connecting the figures represent a storyline based on the primary deities of the Hopi and their ancestors.

(4) The “Rosetta Stone” for the authors was the determination of the big-headed stick figure, that is, Masauwu, the deity of the land, death and fire. Additional primary deity identifications soon followed, and with that came the realization that the shadow-skewered images might also display a sense of power or magic. The authors have proposed that because all of the figures are creation figures – primary deities – the artisan was attempting to influence the availability of water and crop success throughout the year via this winter solstice panel.

(5) Primary deities represent an aspect of the base metaphor that is found in modern Hopi culture, and it is believed that this panel shows the continuum from ancient to modern. Yes, there has been a substitution for the Butterfly with a ser-

pent, and the Katsina cult was added to enhance rainfall, but the base metaphor has essentially remained for at least 1,500 years.

(6) All of the above factors reflect the great degree of seriousness employed in creating a season-marking calendar, and also indicate the use of a strong sympathetic magical device to enable the intercession of powerful deities. The ultimate purpose was to ensure sufficient rainfall to provide storable crops for The People.

Note: In order to render the images more visible to the reader, contrast was added to the photographs comprising Figures 3 – 15 and 17 – 19 using Photoshop version CS2. The photographs are otherwise unaltered.

REFERENCES CITED

- Adams, E. Charles
1991 *The Origin and Development of the Pueblo Katsina Cult*. University of Arizona Press, Tucson.
- Adams, Karen R.
2006 Through the Looking Glass: The Environment of the Ancient Mesa Verdeans. In *The Mesa Verde World: Explorations in Ancestral Pueblo Archaeology*, edited by David Grant Noble, pp. 1-7. School for Advanced Research Press, Santa Fe, New Mexico.
- Adams, Karen R., and Kenneth Lee Petersen
1999 Environment. In *Colorado Prehistory: A Context For the Southern Colorado River Basin*, edited by William D. Lipe, Mark D. Varian, and Richard H. Wilshusen, pp. 14-50. Colorado Council of Professional Archaeologists, Denver.
- Cole, Sally J.
1990 *Legacy on Stone: Rock Art of the Colorado Plateau and Four Corners Region*. Johnson Books, Boulder, Colorado.
2009 *Legacy on Stone: Rock Art of the Colorado Plateau and Four Corners Region*. Revised and updated. Johnson Books, Boulder, Colorado.
- Courlander, Harold
1970 *The Fourth World of the Hopis: The Epic Story of the Hopi Indians as Preserved in Their Legends and Traditions*. University of New Mexico Press, Albuquerque.
- Farrer, Claire R.
1991 *Living Life's Circle: Mescalero Apache Cosmivision*. University of New Mexico Press, Albuquerque.
- Green, Louis A.
2010 *Layman's Field Guide to Ancestral Puebloan Pottery; Northern San Juan/Mesa Verde Region*. Minuteman Press, Montgomery, Alabama.
- Hieb, Louis A.
1979 Hopi World View. In *Handbook of North American Indians: Vol. 9 Southwest*, edited by Alfonso Ortiz, pp 577-580. Smithsonian Institution, Washington, D.C.

- Jenkins/Kuwanwisiwma, Leigh
 1991 *Anasazi: Why Did They Leave: Where Did They Go?*, edited by Gerald G. Widdison. Southwest Natural and Cultural Heritage Association, Albuquerque, New Mexico.
- Kohler A. Timothy, Mark D. Varien, and Aaron M. Wright (editors)
 2010 *Leaving Mesa Verde: Peril and Change in the Thirteenth-Century Southwest*. University of Arizona Press, Tucson.
- Lekson, Steven H.
 2009 *A History of the Ancient Southwest*. School for Advanced Research Press, Santa Fe, New Mexico.
- Lister, Robert H., and Florence C. Lister
 1978 *Anasazi Pottery: Ten Centuries of Prehistoric Ceramic Art in the Four Corners Country of the Southwestern United States*. Maxwell Museum of Anthropology and the University of Mexico Press, Albuquerque.
- Mullett, G. M.
 1979 *Spider Women Stories: Legends of the Hopi Indians*. University of Arizona Press, Tucson.
- Newsome, Elizabeth A.
 2012 Mural Arts from Pueblo II to Pueblo IV. In *Painting the Cosmos: Metaphor and Worldview in Images from the Southwest Pueblos and Mexico*, edited by Kelly Hays-Gilpin and Polly Schaafsma, pp. 61-71. Museum of Northern Arizona, Flagstaff.
- Nickens, Paul R.
 1981 *Pueblo III Communities in Transition: Environment and Adaptation in Johnson Canyon*. Memoirs No. 2, Colorado Archaeological Society, Boulder.
- Ortiz, Alfonso
 1969 *Tewa World: Space, Time, Being, and Becoming in a Pueblo Society*. University of Chicago Press, Chicago.
- Page, Susanne, and Jake Page
 2008 *Hopi*. Rio Nuevo Publishers, Tucson, Arizona.
- Parsons, Elsie Clews
 1939 *Pueblo Indian Religion, Volume 1*. University of Chicago Press, Chicago. (Reprinted by Bison Books, 1996.)
- Qoyawayma, Polingaysi
 1964 *No Turning Back: A Hopi Woman's Struggle to Live in Two Worlds*. As told to Vada F. Carlson. University of New Mexico Press, Albuquerque.
- Schaafsma, Polly
 1980 *Indian Rock Art of the Southwest*. University of New Mexico Press, Albuquerque.
- 2010 Landscape and Painted Walls: Images in Place. In *Painting the Cosmos: Metaphor and Worldview in Images from the Southwest Pueblos and Mexico*, edited by Kelly Hays-Gilpin and Polly Schaafsma, pp. 19-40. Museum of Northern Arizona, Flagstaff.

Stephen, Alexander M.

1936 *Hopi Journal of Alexander M. Stephen*, edited by Elsie Clews Parsons. Columbia University Contributions to Anthropology, Volume 23. 2 vols. Columbia University Press, New York.

Tyler, Hamilton A.

1964 *Pueblo Gods and Myths*. University of Oklahoma Press, Norman.

Williamson, Ray A.

1984 *Living the Sky: The Cosmos of the American Indian*. University of Oklahoma Press, Norman.

Wolf, Virginia, and Edward Wheeler

2014 *Petroglyph Based Archaeoastronomy Sites in the Northern San Juan Region of Colorado*. Maxwell Museum of Anthropology, Anthropological Papers, No. 9. University of New Mexico, Albuquerque.

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