

A WINTER SOLSTICE SUN WATCH STATION AT PETROGLYPH  
PANEL P-17 IN DRY FORK ASHLEY VALLEY, UINTAH BASIN:

Developing a Methodology for  
Interpreting Selected Rock Art

by

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## INTRODUCTION

Various calendrical studies of petroglyphs are successfully demonstrating the validity of astronomical orientations providing solid data for helping decode mysteries left by prehistoric builders and artisans. Calendrical studies can be particularly important avenues for penetrating the cultural history of remote prehistoric peoples due to the seasonal cycles regulating, in large measure, the lifeways of tribal societies.

Since 1978, I have had occasional opportunities to locate and study rock art sites throughout the state of Utah during archaeological survey work. Utah is an intriguing area for testing interpretive hypotheses because of its abundance of prehistoric rock art which has so far eluded interpretation, except for recognition of apparent hunting scenes. Religious development seems implicit in many costumed and imaginative anthropomorphs, but no clues have yet been advanced to allow more than speculative interpretations. Prior to the calendar watch station which I reported last year at 42Un842, we have not known a positive reason for panel locations outside of dwellings; we don't know the relationship of the art to the mode of living, or to religious practices or beliefs. Castleton has recently expressed what all have felt, that without some kind of Rosetta Stone to "unlock the secrets and the mysteries" "we can only speculate" (Kenneth B. Castleton, in "Succumbing to the fascination of photographs and petroglyphs" by Carme Wadley, in *Deseret News*, July 15, 1978). For me, astronomically oriented petroglyphs at sites I believe to be sun-watch stations are proving to be such a Rosetta Stone for unlocking the secrets of some rock art.

My findings at Petroglyph Panel P-17 in Dry Fork, which were used in developing a methodology for interpretation are the subject of this paper. We begin with a historical prologue constructed from the research data.

## PROLOGUE

Some 800 to 1200 years ago, or perhaps even earlier--the date is uncertain--a band of Indians came to winter in the Lower Dry Fork Canyon, Ashley Valley locality of the Uintah Basin. Remains of their habitations are uncertain, but they left a record carved on cliff faces. They remained in the area and returned to Dry Fork each December for a period of twelve years. These Indians had cultural beliefs and traditions related to Pueblo-Anasazi Indians of the Southwest, but they may have preceded them. Their livelihood was more dependent upon hunting and gathering than the largely horticultural Anasazi. This band may have been connected with a larger tribe but, at any rate, they were doubtless drawn to the area to exploit game herds that were driven from the high country on the north during early winter into the lowland areas of the Basin to the south to graze the warmer more snow free regions. Throughout the Basin temporary rock shelters used by hunters consistently face the southern sun for warmth. Evidence supports that the band camped in Dry Fork for a special purpose, to commemorate the winter solstice. Another band, perhaps even at the same time, was camped at the mouth of Sheep Wash on the Green River for the same purpose.

Upon moving into the area, a tribal calendar priest surveyed the cliffs of Dry Fork for prospective sites conducive for carving petroglyphs that were to function in conjunction with new year rites commemorated at the winter solstice. A few days before the solstice a priest or shaman may have positioned helpers along the northern cliffs at various pre-selected locations, instructing them to observe the exact position of the sunrise with respect to features on the horizon and to mark their observation points on the cliff. Some may have been directed to trace shadow effects from the sun created by rock projections on a cliff face for position-ing calendar markers, as may have been done at the winter solstice watch station at the mouth of Sheep Wash (site 42Un842; Norman 1981). Because the sun's movement is almost dormant for several days at the solstice, the priest would have had sufficient time to refine selected observations personally and to choose the best site to commemorate the new year for conducting their sacred ceremonies.

A choice location was discovered where all features seemed to be in harmony with the required ritual. The site was located on the extreme eastern end of a long stretch of southern facing cliff overlooking a wash. Here the pathway of the sunrise could be marked unobstructed, in a particular manner that would also commemorate the sun's rebirth at the winter solstice sunrise as it may have been seen emerging from a symbolic womb of Mother Earth in a cliff to the east. A calendar priest may have stood there on the hill where the sun,

upon its emergence, first struck the cliff, or he may have stood in a notch at the base of the cliff to witness the sun's rebirth. At any rate, a series of petroglyphs possibly relating to this ritual event and its commemoration were pecked on a cliff panel above the notch, and a sun-watch station seems to have been created to hallow this spot for repeated annual observation and ritual in succeeding years.

## FIELD STUDY

When I first visited Dry Fork, I was struck by the high, straight and smooth sandstone cliffs on the south side of the canyon. Broad expanses of smooth patina display what I would regard as a rock sculpture's paradise, but here vast sections of cliffs do not have petroglyphs. In sharp contrast, smaller, irregular, and frequently more weathered sandstone cliffs are located on the north side of the canyon where petroglyphs are extensive. Why was the north selected and the south virtually rejected? Southern facing petroglyph sites are more common, presumably because of greater sunlight exposure throughout the year, but they are not exclusive.

If there is an explanation it must be sought in ritual associated meanings. But to find a clue, to crack a code, some bit of solid data must be found if we are to move beyond the very precarious realm of speculation in attempts to interpret prehistoric art. For me and others, that prospect lies in looking for possible calendrical petroglyphs that might be confirmed through precision horizon orientation to the sun at the solstices or equinoxes, and that might in turn relate back to associated petroglyphs.

I initially inspected the full stretch of rock art panels located at the McConkie Ranch in Lower Dry Fork Canyon and noted circular motifs that might have solar or lunar symbolism. In addition, with compass in hand I also noted general directional orientations of these panels with possible reference to the solstices or equinoxes, and noted the possibility of shadow effects from rock projections above that might dissect circles, as I had previously discovered at petroglyph site 42Un342 near the mouth of Sheep Wash (Norman 1981).

My interest was drawn to one panel in particular which displayed possible sun symbols in conjunction with other motifs on the same panel that might comprise a unit (see figure). This is Panel P-17 located directly above Sadie McConkie's ranch house at the eastern entrance to the chain of Dry Fork petroglyphs. A quick inventory shows two naturalistic "sun disks" with spires at the upper right. Below is a rectangular element above a concentric circle. To the upper right is the partial portrayal of a human bent forward as though looking

toward the sun disks. The posture and style of this figure are the same as found on a figure with raised arms in Panel P-76 which Schaafsma suggests is a dance gesture (1971:20, Figs. 13,14). Behind the human's leg is a dumbbell shaped motif. The right ball is almost obliterated from weathering, and the left ball contains two rows of vertical lines consisting of 5 and 7 dots. The dots are not centered but rather are positioned to the right of the ball with plenty of blank space remaining where more dots might have been added. To the right of the dumbbell is an inverted U with feet attached. Above is a roundish stylized human face with tear streaks from both eyes, and above that another human head, trapezoidal shaped in the Classic Vernal style. This completes the inventory. For calendrical speculations the panel aligns at 117 degrees and faces 207 degrees.

We will proceed with our investigation of this panel by presenting a Tanoan Pueblo mythological system as a model for ethnographic analogy. This will be followed by detailing the astronomical orientation to the calendar watch station, concluding with its bearing upon interpretation of the panel in conjunction with ethnographic and comparative petroglyph data.

I present this approach as a test of a methodology for interpretation. To apply the test, which can be done only partially at present, two assumptions are required:

1. The greater Fremont region of Utah is for the most part culturally homogenous throughout prehistory, even though different linguistic peoples may have occupied different areas at different times.
2. Cultural traits manifest in art and their meanings were to a great extent transmitted across cultural and linguistic borders to the south.

These assumptions provide us with a broader data base for comparative analysis and interpretation. If they prove valid, ethnographic data and meanings of art better known in the Southwest will shed light on meanings of similar motifs in rock art of the Fremont area.

#### ETHNOGRAPHIC MODEL

I will summarize the ethnographic model we will consider here from Florence H. Ellis, "A Thousand Years of the Pueblo Sun-Moon-Star Calendar" (1975).

In a Tanoan pueblo mythological system, the sun in man-like form was created in the underworld from the womb of Mother Earth along with plants and animals. Flowers became the Sun's

special symbol. The simplest and most widespread form of sun symbols is a dot with one or two concentric circles. The outer circle represents the sun's rays and sometimes radiating lines are added all around. Facial features consist of two eyes and a mouth on the Zia sun symbol.

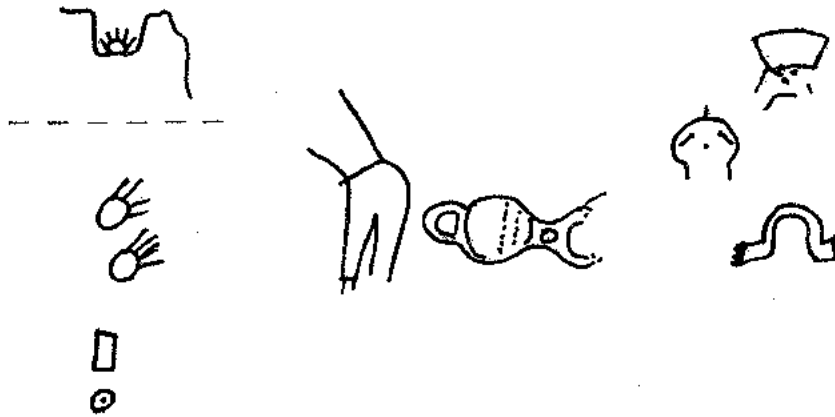
The sun's movement between the summer and winter solstices is understood to create the seasons which regulate the agricultural cycle. For this reason the solstices are special ritual occasions and are carefully observed and marked by calendar priests. The solstices are referred to as the "middle" of time by the Zuni. Sun Priests select sites for sun watch stations to calculate dates. Some sun-watch stations also function as sun shrines for calendrical divination. The Hopi have separate sites for summer and winter sun watching. Priests relate that at the Matsakya pueblo sun shrine a series of lines on the wall indicate the number of years a Sun Priest has held office, and succeeding Sun Priests record their annual observations on opposite walls.

Religious retreats beginning with the summer solstice provide constant aid for growth and maturation of crops during the agricultural season. Moon can aid in influencing Sun for good omens for the growing season. The Moon sign can be a new moon crescent, half circle moon, or full moon circle. The Zuni Indians plant prayer sticks during the summer solstice ceremonies for Sun, Moon, the dead and the Katchinas. Concern for the dead presumably could relate to the beginning of waning fertility in the sun's southern trek to the winter solstice where the most important new year ceremonies occur. A hand or foot print placed at a shrine symbolizes prayer for rain. A foot print made in a small cake of corn meal during the Zuni Shalako announces the arrival of one or more supernaturals.

#### CALENDAR STATION P-17

The most curious motif at P-17 looks like a weight lifter's dumbbell. The wide bar between two balls may serve as a numerical device displaying 15 dots. My impression of this motif is that it could be a sign of the calendar shift, the two balls relating to the expired year and new year respectively. This motif as a possible solstice sign is under study.

One other motif on this panel seems consistent with the theme of a calendar watch station. This is a walking circle, actually an inverted U with feet. It is perfectly circular and is left open at the base to convey the walking aspect more clearly with legs. The concept of movement is best expressed in human legs or feet. Foot prints are a common expression of this movement which I suspect is solar in association with spirals at various petroglyph sites.



Panel P41, Ashley Valley, Dry Fork

Panel face axis aligns at 27 degrees south of east to cliff notch at 13 degrees elevation (top left cut).

My final challenge to bring substance to these speculations was to establish the possible kind of calendrical observation that might have been made at this location, if we are indeed dealing with a calendar watch station. My compass calculations and the particular setting of the panel and surrounding terrain focused upon a potential winter solstice sunrise observation which, of course, had to be confirmed by firsthand observation. I was back at the site the next December 21, and was fortunate to have a cloudless day. I positioned myself by the panel. While awaiting sunrise I contemplated how many hundreds of years must have passed since a man may have stood where I stood on that same day of the year to observe what I was anticipating. If his traditions were anything like those of the Zuni and other pueblos of the Southwest, then this was perhaps the most important ritual day of the year. On this day the sun is reborn, emerging from the underworld of winter dormancy and death, to begin a new cycle in a return journey northward.

Thus, the true essence of the winter solstice sunrise is the sun's rebirth, bringing fertility and life back to the earth after a journey of three months. The three moons from winter solstice to spring may be reflected in the two and a half or three spiral turns of equinoctial calendar markers. As the light of day grew brighter, the sun came dramatically into view. It entered perfectly in a great U-shaped notch on top of a cliff across a wash to the southeast, as if born from the

womb of Mother Earth. I respectfully acknowledged the reborn sun and imaginatively placed my mark on the solar bar where my predecessor, the last solar priest of a vanished tribe hundreds of years before presumably placed his mark.

Now that we know basically what was going on, after discovering the specific characteristics of the sun watch, we can take a closer look at the petroglyphs for possible additional related details. The somewhat disjointed motifs now take on a deeper significance. The sequence begins at the lower left with a concentric circle sun symbol beneath the vertical rectangular element which I believe represents the notch in the cliff through which the sun rises.

Above the rectangle channel of emergence and to the right we see the two illuminated suns with spires expressing movement of a rising sun, as opposed to depiction of a static symbol. The lower sun has a possible line attached originating from above the rectangle, suggesting movement above and to the right, which is the natural path of the sun as it rises in a southern arc. The upper sun conveyed a truer picture of the actual angle of rise with reference to the rectangular notch of emergence. Next in logical order, the rising sun is observed by the human from the upper right, obviously oriented with the upper sun's spires on a normal axis of the sunrise. This bent human figure gives directional focus toward the rising sun with reference to the sun symbol.

The missing head of the human replaced by dots suggests the blinding effect of the sun's light as one looks into the sun. The solstice observation is next recorded directly behind the individual in the dumbbell or solstice transition symbol. The face to the right with lines across its eyes reminds us of Xipe or Xolotl, the Mexican underworld deity aspect always with lines through the eyes blinding the figures (Sejourne 1960: 150, Figs. 55,60). Various representations convey blindness or tears. Some tribal rituals regard tears as sympathetic magic to bring rain as part of new year ceremonies. According to the late Maya scholar J. Eric S. Thompson (1950: 201-2) to "blindfold his eye" as state in the Tizimin Maya book page 10 means the departure of a 20-year Katun time cycle. The Maya celebrate the passage of all major time cycles as birthdays of creation. The same or similar meaning for the Dry Fork glyph would certainly be appropriate for winter solstice renewal commemoration. (For a detailed discussion of the blinded eye motif in Mesoamerica see Norman 1976: 176-179.)

The two heads and legs may be of later date, but are nevertheless compatible with the solstice theme, suggesting possible use of this calendar watch station by later peoples. The feet attached to an inverted U or legs may express the journey of the sun, the U conforming to the circular shape of

the sun, and/or its arch path across the sky. The trapezoidal face above in particular may be a later addition from the Classic Vernal style period, being typical of that era (Warner 1982: 24, Figs. 1, 2). The Classic Vernal style in Dry Fork is quite obviously of later date evidenced by its bolder less weathered lines overlapping earlier art (Schaafsma 1971).

The sun's journey from the solstice may be commemorated in the walking sun symbol, if the circular form is the sun, at the extreme east of the sun watch hieroglyphic panel. What other implications might be drawn from this calendar watch station? It must be more than coincidence that this station is on the extreme eastern end of the entire half-mile stretch of rock art. The inference from this, I think, is that this was the first spot selected in the area due to its cosmological significance, and that its sacred character was preserved by all else which followed, petroglyphs being placed westward behind the solstice sun marker. Thus all that followed remained in harmony with the sun panel at the head commemorating the new year and creation.

So, more than a sun watch station, this panel at Dry Fork marked a sacred spot. The sun has shone upon this spot in a unique way at the winter solstice unobserved for hundreds of years. We can now recognize this phenomenon and understand in part and appreciate its meaning in the rock art as we learn to see the world through the eyes of prehistoric inhabitants of the Rocky Mountains who created it.

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