



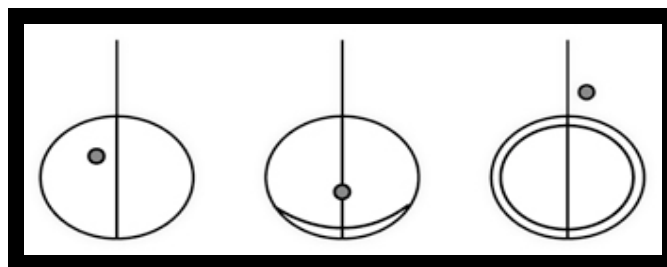
The Waterglyphs Revealed!



By Boma Johnson, Archaeologist, Feather Robinson, and Kat Johnson
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Facts:

- * So-called "Waterglyphs", which probably have nothing at all to do with water, are a unique type of petroglyph. They consist of a wide and deep pecked round circle with a line beginning at one edge and extending through the opposite edge. There is usually a dot/cupule either inside or outside the circle. There may occasionally be a second circle, either within the first circle, or slightly overlapping on one end.
- * Waterglyphs are most common to the Arizona Strip with a range from Page, AZ to Moapa, Nevada and from the Grand Canyon to St. George, Utah. Examples also exist in the form of geoglyphs or rock alignments, in the Mohave Desert in California, and a few "odd duck" possible examples in South America.
- * Waterglyphs are almost always found on a flat rock surface, near the edge of a precipice or cliff face; however a few have been found on vertical rock faces, and are smaller petroglyph representations of the same symbol.
- * There have been over 300 waterglyphs identified and mapped thanks to the original Ford/Spendlove research team, with more added by rock art researchers like Joe Brame..
- * Waterglyphs have been tentatively dated to be from 400 to 4000 year old, but keep in mind that petroglyph dating techniques are still pretty much "a work in progress" and are not fully reliable at this time.
- * The orientation/directions vary over a wide range of angles. To date, as far as we know, no serious archaeoastronomy studies have been done by professional astronomers or archaeoastronomy experts in any attempt co-ordination with astronomical events or calendaring sequences. This will be an enormous task.



Some "Waterglyph" Symbol Variations

What Are They?

There are a number of widely differing theories regarding the meaning of the water glyphs, including highly suspect local non-Indian legends and religious interpretations, which we will not discuss here. This, to us, seems the key problem: no attention has been paid to Native American cosmology or practices. And in the rare instances when Native Americans have been asked for input, researchers have asked the "wrong Indians"....individuals who are well-meaning, but who are not direct descendants of the native people who lived in this area in pre-historic times.

* **Direction Finders** to water sources – indicating travel routes from point to point across the desert. If this were true, then one would suppose that the glyphs would always be near a water source....but this is not so. This entire theory is based upon a "white man's world view"that the outdoor world is a dangerous place, rather than the Native American view that the natural world is home. And common sense would beg the question: why go to all the work of carving a large, deep and labor intensive marker to point to water, when all that would be needed is to stand on the same high ground, and look for areas of green against the desert shades, indicating springs? Archaeologist and rock art researcher David Whitley has stated, " Basic familiarity with Native American art of any kind is enough to convince most people that rock art is more than the scribbles of lost foreign travelers, and it defies being reduced to trail markers leading to water."

* **Tar Burners** – a theory proposed by linguist and rock art researcher Ekkehart Malotki, citing somewhat similar rock carvings used in pioneer times in the East, to extract pitch or tar from wood. These devices are found in the East and Midwest, but there is no evidence of their use here in the Southwest, nor have any records been found by Mormon pioneers of their use. And as Feather Robinson states, there would have been "an unusually large number in proportion to the small number of pioneers.... one or two tar burners would have been enough to service a small town." Many tar burners are portable flat rocks rather than carved into surface rock as are waterglyphs. Tar burners were fashioned to drain liquid substances; however, the waterglyphs grooves often have a potential drain pattern that would flow over a cliff, flow backwards into the circle, or have no drainage at all.

* **Atlatl Symbols** – similar to the waterglyph, but the line on the atlatl symbol is longer and there is no dot associated with it. Atlatl symbols are almost always on vertical surfaces. Although these petroglyphs were most likely made by the same Basketmaker/Anasazi culture, there is no observable connection in their meaning.

* **Sacred Viewing Stations**

Boma Johnson always says, "When in doubt, ask the Indians." (the *right* Indians, of course) Feather Robinson did just that, and her Hopi elder teacher gave her three key words – "Look Up, Ceremonies". In their 2010



presentation at the Dixie Archaeology Society in St George, Utah; Feather, Boma & Kat explained the use of some Anasazi/Ancestral Puebloan petroglyphs to relate a position on earth to a position in the sky in order to record an astronomical event, such as solstices and equinoxes, in a calendrical system, so that all might be aware of the timing of gatherings for important ceremonies. Each pueblo had a person who was designated as the Sky Watcher. It was his job to determine when the conditions in the sky were right in order to begin a ceremony. This was done in order to keep in harmony with nature, and also, (for a very practical reason) so that those who needed to travel long distances to attend would be able to leave home in time to arrive at a group gathering at the proper time.

The theory that we propose is that the waterglyphs are "Sacred Viewing Stations" for astronomical events, used as calendars for the all important setting of ceremony dates. The appointed Sky Watcher would look at the horizon, in the direction indicated by the line. He would then translate that point into the event taking place in the sky: solar equinox, cross quarter or solstice, lunar standstill cycles, or Morning and Evening Star events. Archaeoastronomy experts agree that the Anasazi would also have been able to predict many solar eclipses, if they were aware of the lunar standstill cycles - and the entire ceremonial complex at Chimney Rock, Colorado stands witness to this awareness.

The presence of a cliff or other landscape feature would have been no barrier to the line of sight. This concept is known as "intervisibility", and was first recognized by archaeoastronomer Anna Sofaer at Chaco Canyon, when she discovered that some Chaco Great Houses were directly aligned with outliers along lines that connected to the 18 year lunar standstill points on the horizon...even though mesas or cliffs appeared to stand in the way. The accuracy and straightness of these lines could have been easily accomplished by use of signal fires at night, or perhaps by other techniques. The time to begin the ceremony would be determined when the target object (sunrise, sunset, planet, star, constellation, etc.) reached the relative point indicated by the line extending from the circle. The key idea was to be able to look to the horizon and then to the sky and then coordinate the sky with happenings on earth. Feather believes that the circle symbol also focuses the energy from the sky to the Sky Watcher to enhance the experience.

How then does this theory relate specifically to the varied appearances of the so-called waterglyphs, with their single, double or even overlapping circles, and dot/cupules in varying positions? It is theorized that the circles would represent the sun, the moon, or even (in the case of overlapping circles) an eclipse. It is possible that the dots may represent the Morning or Evening Star occurring on the same event. This "star" (in reality a planet) is most often Venus, and there is a great deal of cultural importance given to this particular celestial object in native culture throughout the Americas, particularly in regard to determining times for war or sacrifice. A promising alternative theory for the use of the dots, proposed by rock art researcher Ray Urbaniak, is that these round holes "may have had sharp edges to support a stick (gnomons) to cast a shadow during the day & has since eroded leaving smooth sloped sides." Use of gnomons as shadow casters to record solar events has been documented at other archaeoastronomical rock art sites, including Nal Morris' research at Parowan Gap, Utah. Gnomons could also have been supported within the dot/cupules by use of packed stones.

To throw a wide variety of astronomical events, solar, lunar and Venus-related, into the mix is not too far reaching. Current archaeoastronomical research is now revealing a greater depth of knowledge and use of the lunar standstill at Chaco Canyon, and the importance of the transit of Venus in Mesoamerica and elsewhere. The possibility of these events taking place at the same time on a regular schedule, and then recorded, is also valid. Even today, modern Puebloans, such as the Zuni, base the decision of when to hold the Winter Solstice ceremonies upon the best conjunction with the full moon. Their goal is to achieve balance in life by adding the strength of the full moon to the weakness of the winter sun. The proof of this theory will have to wait until qualified archaeoastronomers make detailed observations, calculations and recordings at these sites. Fortunately, modern computer technology and new software will make this important work easier and more accurate. Qualified volunteers, anyone?

Criticism Of This Theory:

Once we realized the huge gap between theories based upon modern cultural considerations vs theories based

upon ancient Native American viewpoints, the going got easy! We've only observed two criticisms (so far) worthy of consideration:

* "Most waterglyphs don't point to anything in particular."

What exactly are we looking for? The original research team did address archaeoastronomy, but considered only the possibility of solstice markers. What about equinox sunrises and sunsets? How about cross quarters? What about major & minor lunar standstills? Don't know what they are? Time to do our homework - certainly the Anasazi knew! How about solar eclipses? And Morning Star/Evening Star risings and settings, in conjunctions with these other events?

* "Some waterglyphs point to a cliff or hill, not the horizon or sky"

So? Again, this is an example of "thinking like a white man". Native Americans had the imagination and vision to realize that the line went through the rise of the land to the horizon viewpoint on the opposite side. This the concept of "intervisibility" as discussed by Anna Sofaer, in relation to the direct lineup of some Chacoan great houses to outliers along lunar standstill lines, in spite of intervening cliffs or mesas. In the words of Feather's Hopi teacher, we had best "Look Up".

The key unanswered question is – "Why are these viewing stations primarily on the Arizona Strip?" It is likely that these viewing stations were a regional variation of many widespread differing devices, based on custom, necessity and use. The Arizona Strip Anasazi specifically used these sacred viewing stations, with the circle-line-dot petroglyph carving technique on horizontal rock, as their observational method of choice, perhaps because of the relatively flat, open terrain and large areas of sandstone available for recording. We also speculate that this same open terrain would have allowed signal fires to communicate the start of an astronomical event to the home pueblo, as has also been demonstrated between the lunar standstill site at Chimney Rock to Chaco Canyon. For future research, burned areas near the waterglyphs potentially used for signal fires should be investigated.

Native Americans in other areas did indeed watch the sky, and for the same reasons described previously. However, they did do the same thing in many different ways. There many techniques for sky watching, in order to reach the desired end of achieving calendrical information for the setting of accurate ceremony times. The same results from tracking sky events can be recorded in a number of ways. One example is by sitting inside a kiva at a specified position and viewing the night sky through the roof entry, then recording the needed information on the kiva walls. Another example is with door & window placements and building alignments that co-ordinate with astronomical events, as was done in Chaco Canyon. According to prominent archaeologist Steve Lekson, of the University of Colorado at Boulder, a war was fought over the socio-political-religious alignment of buildings! There were at least two factions at Chaco Canyon: the old-style "Solstice/Lunar People" and the Mesoamerican-influenced "Cardinal Direction People". Chacoan Great Houses and Kivas were aligned according to these world views, and when agreements were no longer possible, the entire Chaco System fell apart. This story provides ammunition for the underlying concept that the Native American relationship to the Sky World was of supreme importance in their lives.

Another Anasazi method of observing solar events was the use of small stone basins in bedrock (made or modified by pecking) that were fashioned as handy reflectors of mid-day solar events by filling them with water to catch the reflection. There are two well known examples of this at Sun Temple in Mesa Verde. There are more

at Cliff Palace, Chaco Canyon & Chimney Rock, and even in Macchu Picchu! There are similar devices in Mexico (remember, "no borders" in prehistory) including the very common "pecked crosses" (cardinal direction symbols) that had multiple uses. All this points to more evidence for the same thing: The Old Ones used many different techniques to observe the movements on the Sky World, and to co-ordinate those movements with their own ceremonies.....ceremonies that they believed would add continued movement, energy and balance to life on earth. For the supporters of the "direction finders theory" to ignore the academically documented body of scientifically researched evidence of Anasazi recording and use of varied astronomical events, from well known locations in Chaco Canyon to our own local solar-interactive petroglyphs on Anasazi Ridge, seems oblivious to Native American world view, and perhaps subtly racist in nature.

Feather has explained that the circle also represents the sacred way of Native Americans sitting when involved in spiritual activities, or moving in sacred dance. She also said the dot can represent the position of the ceremony leader, sometimes inside the circle, sometimes outside the circle. Native People are very resourceful in finding diverse ways to accomplish what is needed, and often employ double meanings and metaphors, to make their points.

We are well aware that many Southwestern rock art sites with astronomical interactions have multiple purposes, including that of illustrating message/story panels with pointers of light, and marking devices for calendrical purposes, particularly in setting exact dates for ceremonies. Recently, we have become more aware of many of these solar alignments here in our own area of St George, Utah, with a good example at Tonoquint Grotto and many others on Anasazi Ridge. As we become more sensitive to the importance and prevalence of astronomical viewing stations, it is likely that we will find many more of these sites, and perhaps of types that will be new to us. Much work will be necessary by experts well-versed in both archaeoastronomy and Native American culture, in order to determine just what Sky World events are being highlighted...an adventure awaits!



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