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# Earth and Sky Union

## A View thru Parowan Gap

By Karen L. Monsen

"If an astronomical function can be found and verified, this gives the researcher an additional window into the world of the past."

~ Nal Morris

Gaze at the complexity of lines, tick marks, and images etched into the rocks at Parowan Gap, Utah and you cannot help but wonder: what does all this mean? While interpretation varies depending on the viewer, astrophysicist Nal Morris and archaeologist V. Garth Norman make a case that ancient artisans created these glyphs to record calendar events.

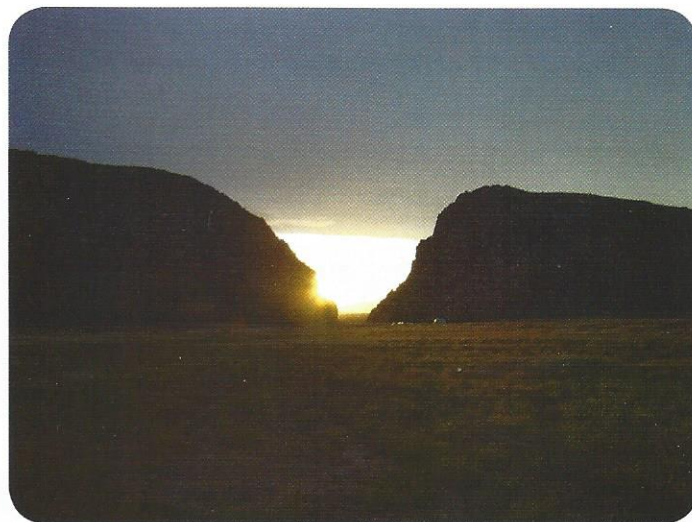
### Parowan Improvement Project

In 2014, the Bureau of Land Management (BLM) completed a \$420,000 site improvement funded through the deferred maintenance program and designed in conjunction with the Parowan Heritage Foundation, the Paiute Indian Tribe of Utah, the Hopi Tribe, and Cedar City/Brian Head Tourism Bureau. Dave Jacobson, BLM Outdoor Recreation Planner, reports the site receives approximately 50,000 visitors annually. Improvements were needed to provide better access, improve visitor safety, and protect resources. The BLM brought together all interested parties and oversaw construction that included pedestrian crosswalks and walkways, fencing, a rotunda shade structure, and a restroom. Interpretative signs were designed in collaboration with the Paiute Tribe of Utah and BLM.



### Parowan Public Programs

Nancy Dalton, Secretary/Treasurer of the Parowan Heritage Foundation coordinates the annual solstice programs that began in 1993. Public gatherings are held on winter and summer



solstices, equinoxes, and in November and February when "the sun enters and leaves the winter home" appearing to be swallowed or spit out of the mouth of the rockface profile named Too-Vuts (Tobats). Nal Morris shares his perspective at summer solstice programs.

### Astrophysicist's View

Morris worked on the Apollo Project in the '60s, taught astronomy and ancient astronomy at Utah Valley University, and retired in 2014. He began his research at the Gap in 1990. In 1991, he founded Solarnetics, a forensic analysis company focused on archaeo-astronomy, astronomical events, and alignments. He mapped the winter solstice and equinox rise in '91, the solar motions for summer solstice and sunrises and the lunar panel in '92, and in June 1995, Morris stood with Paiute tribal member Eleanor Tom to watch his first summer solstice from the viewing cairns at Parowan Gap.

Beginning in 1993, Morris worked with archaeologist V. Garth Norman on a 10-year archaeological project funded by Parowan City with UDOT management and a Federal Highways grant in cooperation with BLM, the Southern Paiute tribe and other agencies. Norman recorded one hundred petroglyph panels with over 1,500 figures reporting in his book, *The Parowan Gap Nature's Perfect Observatory*. "In the final analysis, 31 observatory station sightings and 9 petroglyph calendar shadow markers produced the empirical data needed to confirm a

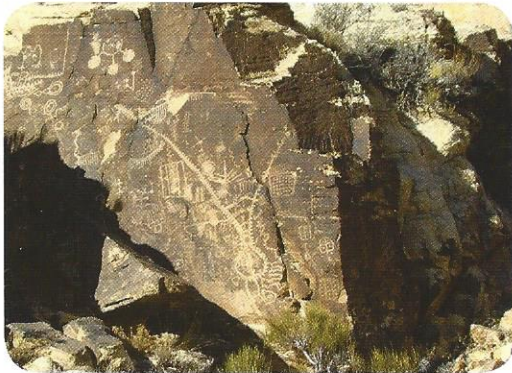


massive wilderness temple center and calendar observatory at the Gap, which extended over a four mile distance through and beyond the full Parowan Gap pass, and encompassed nearly a square mile basin with the Narrows."

### Zipper Glyph Sun Journey

The Zipper Glyph is uniquely identified with Parowan Gap. When Morris first saw it, he thought it resembled the figure-8 produced by recording the sun's path viewed at the same time of the day from a fixed position on earth. By overlaying a topography map on the Zipper Glyph, Morris noticed significant correlations. Sun circles on lines spanning the zipper align where the sun touches the horizon viewed through the gap during the 6-month solar transit from winter to summer solstice. The zipper lower bulb connects to lines locating viewing cairns. A wavy line along one side matches

ridgeline turns and tick marks indicate ridge cairns. Morris identified hundreds of correlations between glyph markings and celestial movements.



To check his observations, Morris worked eight years designing a computer program that calculates coordinate positions of sun, moon, stars, and planets with respect to horizons for a given topology. He named the program SHAMOS (Sky & Horizon Astronomical Model Orientation System) or a blend of SHaman and CosMOS signifying the convergence of ancient philosophy and the cosmos. SHAMOS finds coordinates with respect to horizon positions for a given time and date and it will also find time and date for given positions.



### Lunar Glyphs

Near the Zipper Glyph is an intricate panel with a curved wedge with 28 downward extending lines. Line lengths correlate to moon phases—shorter lines waxing and waning, long centerlines for the full moon. A circle surrounded by twelve dots documents a year of full moons. An oblong segmented

with nineteen lines records the full moon rises that align in the gap at 19-year intervals.

### Paiute Perspective

Tribal member Shanan Anderson disagrees with Morris' interpretation. As a child, she was taught that Parowan Gap was a "library of stories" representing events that had happened for thousands of years. On these rocks, ancestors left their stories about their families, clans, bands, and historic events.

Some of the stories speak of a migration and according to what her elders told her, others are meant "for tribal ears only." In the book, *Southern Paiute: A Portrait*, Eleanor Tom explains, "Working with the white community, there are so many people who have no clue as to who I am, who I represent. They need to reach out to us. We need to reach out to them."

Morris sees relationships that are too precise for casual association, "The lunar panel is just as intricate and accurate as is the Zipper Glyph." Another glyph appears to track Venus and repeats every eight years in addition to the lunar calendar that repeats every 19 years.

As Morris identifies earth-sky relationships, he concludes that ancient people were skilled sky observers who recorded cyclical celestial events. Visitors may speculate on glyph meanings; tribal members hold private their interpretations and stories; astrophysicists, archaeologists, and anthropologists seek meanings relevant to their perspectives. Only the ancient people who etched the glyphs know the original intention and purpose. We can only speculate and wonder. Parowan Gap remains a library of stories etched in intriguing glyphs. *SU*

### Information on the Parowan Gap

[www.utah.com/playgrounds/parowan\\_gap](http://www.utah.com/playgrounds/parowan_gap)

### Cedar City Brian Head Tourism Bureau

[www.scenicsouthernutah.com/parowan-gap](http://www.scenicsouthernutah.com/parowan-gap)

### Paiute Indian Tribe of Utah

[www.utahpaiutes.org](http://www.utahpaiutes.org)

### BLM Cedar City Field Office

[www.blm.gov/ut/st/en/fo/cedar\\_city](http://www.blm.gov/ut/st/en/fo/cedar_city)

### Directions to Parowan Gap from Parowan Gap

#### Brochure and online resource:

[www.utah.com/playgrounds/parowan\\_gap](http://www.utah.com/playgrounds/parowan_gap)

#### From Cedar City, UT:

- North on Main (or take Interstate 15 Exit 62) to UT 130.
- Continue north 13.5 miles, then turn east (right) 2.5 miles on a paved road to Parowan Gap

#### From Parowan, UT:

- North on Main Street to 400 North.
- Turn west (left) drive under the Interstate; continue for 10.5 miles on paved road (near Milepost 19)



Karen L. Monsen is a freelance writer who lives in St. George, Utah. She covers outdoor topics, nature, science, research, and human impacts.