RING LAKE AND TORREY VALLEY PETROGLYPHS

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EVERYTHING IS ALIVE

This short booklet is about the petroglyphs on the Ring Lake Ranch and the Torrey Valley as they are compared to regional petroglyphs made in the same manner. Before any discussion, a reader needs to be keenly aware of a basic belief that was and still is held by the Mountain Shoshone Indians who are most closely associated with the petroglyphs. Corbin Harney, a Shoshone spiritual leader, states it well when he writes "Everything is alive, and we forget that. Prayer is the only way we're going to live on".

Harney laments the fact that the Shoshone have accepted the practices and values of the Anglo societies to the extent that they forget that all things are alive. This means all the animals and plants are alive but more important is the belief that the things Anglos consider to be inanimate like mountains and rocks are also living entities. The Torrey Valley petroglyphs cannot be understood until one comprehends that their makers believed the rocks were every bit as powerful and important as human beings.

THE BASICS

A "petroglyph" is an image made by engraving, incising, abrading, or pecking a design into the rock. The goal of the person making the pecked image is to remove the darker outer surface of the stone and expose the lighter color of the interior stone. The dark-colored rock surface is called rock varnish or sometimes the term patina is used for the outer coating. A sharp-pointed stone, often made of quartzite or a hard rock, was used to make the Ring Lake petroglyphs by removing the dark outer coating of the



Quartzite tools used to peck out the petroglyph images. Left photo by Lawrence Loendorf; Right photo by Linda Olson.

stone. Archaeologists know this is how they were made because they find the "pecking tools" at the base of the panels.

We also know that is how they were made because the Mountain Shoshone tell us that is how they are made. Their explanation differs from that of archaeologists in that they say spirit people, little people or the *nynymbi* in their language made the petroglyphs. They know this because they hear the *nynymbi* pecking on the rocks.² They also say that although they hear the pecking, they seldom see the petroglyphs being made because the *nynymbi* disappear when humans approach.

It is not unusual that a Mountain Shoshone would claim the petroglyphs are made by spirit people because the images are considered so powerful, they can cause physical damage to individuals who get near them. Further, even if a Shoshone did know the person who made an image, they would never speak his or her name. It would be far too dangerous to talk about the medicine of another person, so the logical alternative is to say a *nynymbi* is responsible for making them. It is a classic case of circumlocution where an indirect answer is more appropriate.

The pecked petroglyphs at Ring Lake Ranch and the Torrey Valley are part of what archaeologists call the Dinwoody style. There is more discussion about the distribution of Dinwoody petroglyphs below, but at this point, it is important to know that Dinwoody petroglyphs are closely tied to the Mountain Shoshone.

THE SETTING

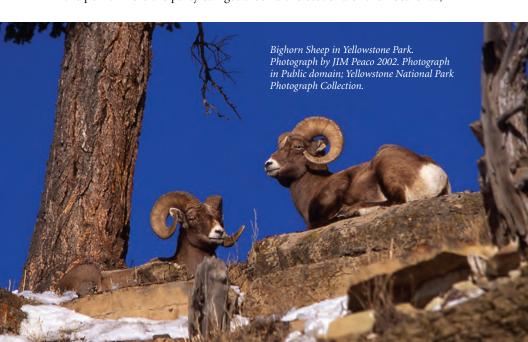
A visitor to the Torrey Valley knows it is a special place. Of course, the visitor is usually there in the summer when temperatures are moderate. Winters can be the complete opposite and quite brutal with deep snow and freezing temperatures. Nonetheless, the setting was ideal for the Mountain Shoshone primarily because it was prime habitat for bighorn sheep, the main animal they hunted. Bighorn sheep are often seen today by people who visit the Torrey Valley, especially in the winter. The numbers they see are usually in herds of ten to perhaps twenty animals.

Imagine what it was like when the Mountain Shoshone lived in these mountains two or three hundred years ago. In fact, we do not have to imagine because early fur trappers wrote in their diaries during the exploration of the area. Osborne Russel, for example, was a fur trapper who wrote about his daily routine while travelling through the Dubois area in July of 1835. He was with a group of other trappers trying to find a route into Yellowstone Park while working their way to the east along the high slopes of the Absaroka Mountains and eventually around them to the north into the park. At about the point when he and his companions were directly across from Ring Lake Ranch in the Absarokas that are in full view while driving the Torrey Valley road, he stopped to rest in a small valley where he writes in his journal, "On the North and West were towering rocks several thousand feet high" and along these rocky slopes "Thousands of mountain Sheep were scattered up and down feeding on the short grass which grew among the cliffs and crevices".

We might suspect the mountain man of exaggeration, which was common to some, but the next day, July 12, 1835, his party stops again to rest from the hard travel through deep snow banks. Russel writes:

We now seated ourselves for a few minutes to rest our wearied limbs and gaze on the surrounding objects near us on either hand the large bands of Mountain Sheep carelessly feeding upon the short grass and herbage which grew among the Crags and Cliffs whilst Crowds of little lambs were nimbly Skipping and playing upon the banks of snow³

Russel continues to write about the sheep while moving many miles to the point where the party can get around the east end of the Absarokas,



essentially somewhere southwest of Cody where they have finally gotten out of the deep snow drifts. Here they find Indians hunting the sheep and they themselves go out to hunt sheep. On July 16, 1835, Russel writes, "The Sheep were all very fat so that this could be called no other than high living both as regarded altitude of position and rich provisions".

For more than a week of travel across the Absaroka Mountains, Russel and his companions encountered bighorn sheep. Almost certainly a similar situation occurred in the Wind River Mountains. The point is that if you lived as a hunter and gatherer, the Torrey Valley would have been an ideal place.

Not only were there hundreds of bighorn sheep, there were excellent opportunities for fishing and capturing smaller game animals. Equally important were the dozens of different plants, some with nutritious root bulbs, that could be added to the larder. Further, the mountain environment offers ample supplies of wood for winter warming fires and areas within the rocks where sites are protected from the wind.

In short, mountains are an excellent place to live if your survival depends on hunting big game animals and collecting plant foods. There is one additional feature in the Torrey Valley that is essential for understanding Dinwoody petroglyphs. The canyon walls are bordered with sandstone, which is the only kind of stone that was used to make the petroglyphs. Higher mountain granite rocks and igneous stones are often too hard to make petrolgyphs, but the sandstones work well, which is one reason they were selected as a place to make the Torrey Valley petroglyphs.

THE MOUNTAIN SHOSHONE

The Mountain Shoshone in Wyoming and Montana were constituted of two main groups—the Agaidika or Salmon Eaters and the Tukadika or Sheep Eaters. The Salmon Eaters had a territory to the west in Idaho while the Sheep Eaters lived in the Wind River, Absaroka and Owl Creek Mountains. The Salmon Eaters, the band encountered by Lewis and Clark, are identified today as the Lemhi Tribe.

The Sheep Eaters took advantage of the bighorn sheep that lived in these mountains as described above. They hunted sheep in a variety of ways, but a successful method was to coax the sheep between wooden fences that



David Joaquin drawings of a Sheep Eater woman and man dressed in their finest clothing. Descriptions of their clothing were made by Meriwether Lewis who was especially impressed with the ermine tail tippet that the man wears. Lewis was given one as a gift by the Mountain Shoshone. A woman's dress, like the one in the illustration, is found in the National Museum of the American Indian, Washington, D.C.

they constructed to converge into a corral-like trap. They ate the sheep, used their hides to make fine clothing and their horns to make powerful bows and other things like snowshoes.

The Sheep Eaters followed an annual pattern of migration where they spent summers on the mountain tops, at 10,000 feet and higher where they were near the sheep. When the sheep moved off the mountains in the autumn, the Sheep Eaters followed their pathway. Winters were spent in the valley bottoms along rivers and streams where they had ample wood for warming fires. The Torrey Valley would have received its major use in the Spring and Autumn as the Sheep Eaters moved on and off the mountains.

When the horse was introduced to the region about A.D. 1730 many of the Mountain Shoshone abandoned their mountain lifeway to hunt bison which were more abundant on the basin floors. They became known as the Plains Shoshone or the Eastern Shoshone. Other Shoshone engaged in horse trade, moving south to be close to the Spanish colonies, the main source of horses.

The Sheep Eaters relied upon their large dogs to assist in hunting sheep, to carry their belongings when they moved, and they were reluctant to give up their successful life among the abundant bighorn sheep, so they never adapted to horses. Ultimately the diseases introduced by domestic sheep caused major loss of the bighorn herds. Although some Sheep Eaters kept up their mountain lifeway until Yellowstone National Park was created in 1872, they eventually were forced to move to Fort Hall and Fort Washakie.⁵

Even after they moved to Fort Washakie, they stayed in a community apart from the other Shoshone where they were respected as powerful people. Individuals like Togwotee, a well-known medicine man, were renowned for their shamanistic powers that they received in their vision quests.

THE VISION QUEST

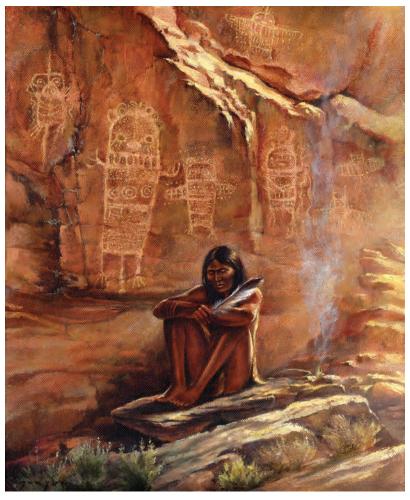
The vision quest was widely practiced by different Indian groups across western North America.⁶ It was an individual rite where spiritual power was sought by fasting and praying for guidance. Regional tribes carried out the ritual in slightly different ways. For examples, after preparation, the Crow Indians went to a place of solitude, often a mountain top, where they constructed a rock enclosure as the place where they would fast and pray. Individuals from tribes on the Columbia Plateau, went to a small cave. Sometimes these caves were adorned with pictographs and petroglyphs that were left by previous individuals who sought visions at the site.

The Sheep Eaters followed an established practice: first, a supplicant bathed in a lake or stream, then he painted a little red pigment on his chest and forehead, smudged in cedar smoke, and placed himself in front of a panel of petroglyphs. There he sat throughout the night and perhaps for several more days and nights, wrapped in a blanket, awaiting a visit from the spirits. They called this ritual *puhawilo* or sleeping at medicine rocks.⁷

Aké Hutlkrantz, the distinguished Swedish professor of comparative religions, recorded the dreams or visions that several Sheep Eater Indians had while sleeping at the petroglyphs. In one he learned that it was "a frightening trial", because the spirits who visited would *change forms* "first a man and then an animal".8 This is an important fact for understanding

the Torrey Valley petroglyphs because when they are studied today, we can expect to find them confusing. On the one hand they might look like a bird but on the other they look like a human.

Although the vision experience was variable, it was common for the individual seeking the supernatural power to be visited by a "*nynymbi*" or "little person," who led the supplicant on a journey directly into the rock surface through holes or crevices that at first seemed impassable. 9 Once



A Sheep Eater man on a vision quest at a petroglyph site. He would have cleansed himself in a sweat bath before coming to pray at the petroglyphs. He would stay for three to four days without food or water while seeking a guardian spirit helper. David Joaquin painting.

inside the rock, the human and *nynymbi* pair passed by a frightening series of ogres or monstrous creatures. As each of the creatures was encountered, the little person would instruct the supplicant in the behavior appropriate to such a meeting, but at some point the little person would leave the supplicant to fend for himself. Now alone and terrified, he was often, as noted above, confronted by a creature that seemed composed of parts of different animals, such as an owl with human arms or a rattlesnake with the legs of a weasel. At other times these creatures—who gave the supplicant supernatural power and defined the conditions and regulations for owning and using the power—could take on a more naturalistic form so that, for instance, a spirit bear might look just like an anatomically correct bear.

This important point is that to Sheep Eaters, the petroglyphs were self-portraits of the spirits that could be used to identify the pantheon of eagles, bears, thunderbirds, and water ghosts that gave their power to supplicants.



Four-finger anthropomorph with repetitive interior circles and lines representing the phosphenes or entoptic phenomena that a person experiences in a trance state or vision. These repeating forms are part of a human's biological make-up and the forms that a vision seeker transforms into a spirit figure, in this case a possible rocky-skin ghost. Uncle Wiggly photography.

Researchers have learned that the vision or dream itself follows a pattern where the person first sees repetitive shapes called phosphenes, visual archetypes, psychograms or entopic phenomena.10 These images which are within a person's biological makeup are so repetitive they can be categorized into fifteen or so groups like zigzags, dots, circles, spirals and other simple abstract figures. They are often expressed in the initial artistic drawings of children and continue to be made by people through their life, while they are doodling, for example.

Eventually, a person seeking a vision tries to make sense of these repetitive images and construes or alters them into a visionary

figure. It is this figure that the person puts on the rock as a reminder of the vision. The discussion of phosphenes or entoptic phenomena is especially important when viewing Dinwoody petroglyphs because the repetitive motifs are incorporated into nearly every petroglyph.

DINWOODY PETROGLYPHS

Except for a few images at a single site, the petrolgyphs in the Torrey Valley are part of the Dinwoody tradition. Dinwoody petroglyphs are known for their large outlined bodies with lots of interior circles and squiggly lines. These attributes are so common that the petroglyphs were originally named the Interior Line Style but when they are examined closely, archaeologists have learned that nearly half the figures were solidly-pecked. This means the "interior line" designation is not accurate, and it is more appropriate to identify them as Dinwoody to include the solid-pecked figures with the in-filled ones.

The name Dinwoody is used because the petroglyphs were first reported at major sites along Dinwoody Creek on the Wind River Reservation, a few kilometers east of Torrey Valley.

Main Dinwoody Canyon panel. About half of the figures, both large and small, are solidly pecked. Note the pendant wing and propeller wing figures at the top center of the panel. The rectangular figure on the right side is unusual. Elsewhere in Shoshone territory, these are identified as animal pelts, but this is simply a guess. Uncle Wiggly Photography.



Dinwoody petroglyphs are found across Wyoming's Wind River and Bighorn Basins with sites in three concentrations. One is in the Torrey Valley and east along the Wind River mountain front to South Pass. A second location is in the Boysen Reservoir area with sites north and east of the Wind River. The third is north and west of Thermopolis with large numbers of sites east of the Absaroka Mountains and west of the Bighorn River. There are a few sites east of the Bighorn River, but the majority are to the west.

A fascinating detail about the distribution of Dinwoody petroglyphs is the types of figures tend to conform to different elevations. The animals at the top of the Sheep Eater world (thunderbirds and owls) are found at the highest elevation sites, while those at the bottom of their world (water ghosts and rattlesnakes) are in greater numbers at low elevation sites.

The concept of a tiered world is found among cultures across North America and it is common to find that different beings inhabit these other worlds. In modern times, we have explored other places with rocket ships to the moon, but in ancient cultures, remote and unexplored places were open to create mythical beings as their inhabitants.

Judith Vander, who has worked extensively with the Wind River Shoshone, uses Sky world, Ground world, and Water world to define the distinct worldview realms. ¹² To this we might add Underground world to account for animals, especially snakes, that live in that realm.

TORREY VALLEY PETROGLYPHS

Based on the worldview of the Mountain Shoshone, we can expect to find lots of birds in the Torrey Valley petroglyphs. Thunderbirds, eagles, hummingbirds, owls and other unrecognizable birds dominate the motifs. Other sky animals like bats may also be represented.¹³

The thunderbird and lightning are at the top of the pantheon with the belief that any of several birds can be associated with thunder and lightning. Eagles are often recognized as the thunderbird. Eagles are represented by pendant wing birds in the Torrey Valley, with many examples on Ring Lake Ranch. Although these representations of eagles have three-digit toes or bird feet, there can be exceptions. They do tend to have different head decorations which could imply bald eagles versus golden ones, or perhaps some are hawks, which can also be thunderbirds.

According to Hutlkrantz's interviews with Shoshone, hummingbirds are the most frequent bird associated with lighting and thunder. ¹⁴ He suggests this belief has deep roots, with connections to an ancient Mountain Shoshone homeland in Mexico where they were influenced, or part of, the Aztecan cultures. Huitzilopochtli was a god of the sun or war and was often depicted as a hummingbird. ¹⁵ The notion of lighting striking like a war god is clear.

The hummingbird is represented in Torrey Valley petroglyphs by birds with propeller-like wings. They also sometimes a have long beak reminiscent of the actual bird's elongated tongue.

There is a good example of a hummingbird at Ring Lake Ranch, on the sandstone wall immediately below the main lodge building. It is high on the cliff wall, almost immediately below the top, which is exactly where it should be at the top of the pantheon. The figure has a solid-pecked body with propeller wings that have wavy lines and dots trailing down from them to show the lightning and rain. The figure has three-toe feet to demonstrate it is a bird. Its head is eroded, and it lacks eyes.

There are about a dozen examples of these propeller-wing figures in the Torrey Valley and nearby Dinwoody Canyon. Some have more attributes than others, but they all appear to represent hummingbirds.





Two examples of pendant-wing figures that represent eagles or hawks. They are sometimes associated with lightning and the thunderbird. Scott Copeland photographs.

Owls are another important petroglyph figure in the Torrey Valley. They are easily recognized by their large concentric circle eyes and general body shape. A frequently photographed example is on the canyon wall almost directly across the lake from the Ring Lake panels.





Two distinct kinds of owls are significant to the Sheep Eaters. One is the natural owl of the night that serves as an assistant to powerful medicine men, but it was benign compared to the malevolent *wokaimunbitsch*, a large, owl-like bird that was believed to steal and eat people.¹⁶

This massive bird talked and behaved like a human being, but at night it hovered around campfires, swooping down to grab people in its large talons. The *wokaimunbitsch* sometimes took captives to its lair and fed them to baby *wokaimunbitsch*, but more often it simply ate them.

Cannibal owls were combination characters with human and bird like attributes. Therefore, it is not unusual to see hands and arms depicted on the figures, which made them more capable of grabbing their victims.

Propeller-wing figure that represents a hummingbird. The hummingbird was most commonly considered to be the thunderbird. Note the lighting coming down from the wings of the figure. This example is at the highest place on the cliff where it represents the top of the pantheon. Scott Copeland photographs.

Other petroglyphs in the Torrey Valley appear to represent combinations of birds and humans. They might be called birdmen but there is no evidence to suggest they are male, and they could as easily be bird women. These figures are usually identified by their bird-like attributes including wings and three-toe feet. It is worth noting that figures at lower elevations are more likely to have four- or five-digit hands and feet than in the Torrey Valley.



Owls in Torrey Valley petroglyphs are recognizable by their concentric circle eyes. The example on the left has hands because it was a cannibal owl that needed them to grab people; Middle, Screech owl drawing by David Joaquin; Right Linda Olson tracing of an owl along the Wind River, near Dubois.

Of course, a vision could come from an animal like a bear or an elk, but very few Torrey Valley petroglyphs resemble actual animals. There are no bears or bear paws, figures that are common at rock art sites outside the Dinwoody tradition region, nor are there any elk, an animal that is well-known for its power, with such importance that it was the guardian spirit animal for Chief Washakie, the highly respected Shoshone leader. Part of the reason these animals are not found in the Torrey Valley, as explained above, could be that they are associated with the Ground World at lower elevations.

Another reason, and perhaps more important, could be that the petroglyphs are constituted from spirit animals or combinations of more than one animal, so they no longer resemble the actual species.

One would think that petroglyphs made by peoples whose livelihood was strongly associated with bighorn sheep would depict more of them. There are three or four animals that resemble sheep in the petroglyphs but even these are embellished in ways that suggest they are spirit sheep. For example, one has oversized horns that nearly encircle the figure.

The absence of natural looking sheep may be related to the elevation of Torrey Valley as a place where birds and spirit animals of the Sky World are more common. However, as the region was once home to thousands of bighorn sheep, it must be more complicated than the worldview. The absence of bighorn sheep in the petroglyphs is more likely the fact that the Mountain Shoshone did not use petroglyphs for hunting magic. In other words, they did not use drawings of sheep to magically control them or encourage them into their traps. Instead the absence of sheep underscores the prominence of the petroglyphs as the products of visions and their importance as guardian spirit helpers.



Bird-human figures intermixed with other figures. Note the three-digit hands and feet and the spread-wing stance of several figures. Scott Copeland photograph.

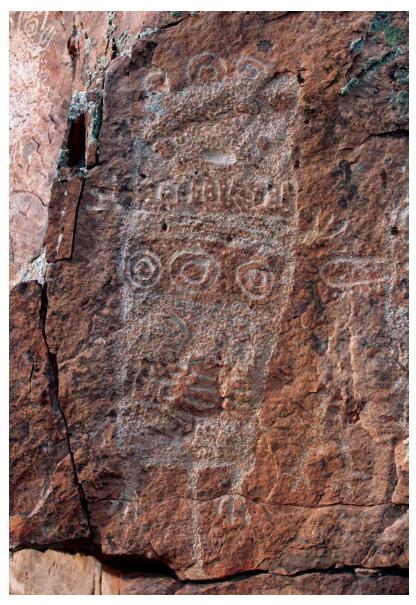
The Mountain Shoshone describe many other spirit helpers that they received in visions with different ogres and dangerous spirits that contain power. These powerful spirits included *Tundzoavits*—or rocky-skinned ghosts—who were giant twelve-foot tall ogres weighing 500 pounds, most of whose tough skin was made of stone, although their faces and hands were soft. Male and female rocky-skinned ghosts lived in caves from which they emerged and snatched people. They were able to travel across the landscape in pursuit of victims, which gave them an advantage over similarly predatory water ghosts. Rocky-skinned ghosts were joined by buttocks bouncers, water babies, water ghosts, uncle bat and other sorts of ghosts who are mentioned by the Shoshone when they were asked about their visions by anthropologists.¹⁷

The "water people," a variety of ghost-like creatures classified under the general heading of *pandzoavits* or water ghosts. These creatures included the *pa:unha*, or water-babies—squat, heavy set creatures inhabiting springs, creeks, rivers, and lakes. Other larger water ghosts had big hands and feet, enabling them to snatch people who came close to the water's





These two figures are on opposite sides of the valley and sufficiently alike to indicate they represent some mythical being. Perhaps they are "rocky skin ghosts". Note the multiple four- or five-digit hands and feet suggesting they are not intended as bird-like. Left, Uncle Wiggly Photography. Right, Wendy Bekin photograph.



Some researchers think this figure is an owl, but recently James Keyser suggests it may represent Uncle Bat, a mythical creature that was contrary to other ghosts. Scott Copeland photograph.

edge. The special mission of the female water ghost *Pa waip* was to coax men into the water, often on the pretext of a sexual liaison, after which she captured and drowned them. Water ghosts had various techniques

of enhancing their range and power. *Pa waip*, for instance, often dispatched her amphibious assistant, the turtle, to perform errands on land, while other water ghosts shot their victims using magnificent horn bows and arrows whose points were invisible except to a person who had water ghost power.

Spirits in all three domains of sky, ground, and water were known to travel. Some Shoshone thought that spirits took a terrestrial route when they came down from the mountains in the winter, paralleling the seasonal movements of animals like bighorn sheep and the Sheep Eaters who followed them. Other supernatural creatures, like the many kinds of water spirits, took a different route to and from the mountains. The pandzoavits (water ghosts), for example, were not only powerful enough to make the water in hot springs boil, they were thought to travel through an underground hydrological network linking gevsers in Yellowstone Park to hot springs at places like Thermopolis, Wyoming. Other spirits traveled from lake to lake though



Unusual figure on Ring Lake Ranch. There are more than three digits on its one hand suggesting it is not a bird-like spirit. Water babies are described as squat, heavy-body figures, so perhaps that is what it represents. Scott Copeland photograph.

interconnecting streams and rivers, while yet another group was able to move through rock formations using a system of connected fissures and caves. Despite their mobility, spirits had a home territory and it was there that they were most likely to be encountered.

The question arises as to why a Sheep Eater would seek out a guardian spirit. It was because a Sheep Eater who successfully completed a spiritual quest and now possessed supernatural power was recognized as a *púhagant*—or a medicine-person—and could use his or her power in different ways. ¹⁹ Some individuals used their power to become superb

warriors, aided by the ability to make their bodies as hard as stone and therefore invulnerable to arrows and bullets. The power gave other persons the knowledge needed to cure the sick. Sheep Eaters believed that many illnesses were caused by invisible arrows that were shot into their bodies by bad spirits. In these instances, the healer would press a tubular pipe against the victim's skin at the site of the entry and would suck out the bad medicine.



Water ghost figure. Note the extended lines that suggest the figure is emerging from water. The position of the figure, adjacent to a lake, is another indicator of it relationship to water. There are more bird figures in the Torrey Valley, but water ghosts could still travel through the streams to reach the valley. Uncle Wiggly photography.

THE MAP?

A controversial Torrey Valley petroglyph has one group of people who claim it is a map and another who think it is an abstract figure. The map proponents point to the correspondence between the circles in the figure and the position of the lakes in the Torrey Valley. They also see streams and ridge lines as indicators that the petroglyph represents the local region's geography.

A major problem with this hypothesis is that the Mountain Shoshone did not draw maps until Europeans asked them for help with what features were located on the landscape. They had no reason to draw maps when they lived in a country where, like in the Torrey Valley, you can stand on the ridge top and see all the surrounding terrain, so why make a map?

Those who argue that the figure is an abstract form point to the arm and hands connected to it and further, there is a small human or bird-like form attached at the bottom. Altered states of consciousness where a person sees repetitive images much like the dots and circles in the figure suggest it is an expression of a vision where the initial stages are flickering dots and wavy lines that transform into the bird-human figure.

Another way to view the figure, and perhaps a compromise between the two ideas, is to suggest the abstract form represents the journey the supplicant took in their vision. In other words, they had an out-of-

Petroglyph thought by some to be a map. The problem is that Sheep Eaters did not make maps unless a European asked them and then made a map with their information. It is better to consider the figure as a map of the mind or the journey a person took in their trance. Uncle Wiggly photography.

The spirit represented by the figure is not known but note that a foot connects to a crack in the rock surface. This is common with many other petroglyphs in the Torrey Valley, sometimes with an extra line that continues away from the figure to a crack. This is done to express the connection to the inner world of ghosts inside the rock. Scott Copeland photograph.





body experience where they flew over the Torrey Valley and when they made a petroglyph of the vision, they included a bird's eye view of the region.

AGE OF TORREY VALLEY PETROGLYPHS

No Torrey Valley petroglyphs have been dated through exact methods, so their age is not precisely known. Although not exact, there are ways to



The petroglyph is heavily coated with rock varnish, a process that takes many years. While the degree of varnish is not an absolute tool, it is a strong indicator that a petroglyph is older than one with less varnish. Wind River Historical Center-Dubois Museum photograph.

estimate their age. For example, since the petroglyphs are associated with the Mountain Shoshone, they must be as old as the Shoshone presence in Wyoming. Radiocarbon dates for what are considered as Mountain Shoshone sites in the Wind River Mountains, at the High Rise Village, for example, are as old as 2000 to 2500 years before the present. This means the petroglyphs might be as old as 2500 years.

Another way to estimate the age of the petroglyphs is through the age of the artifacts found in the immediate vicinity of the petroglyphs. Ring Lake Ranch has amassed a good-size collection of artifacts that guests pick up and contribute to the ranch collection. The projectile points are dominated by the Rose Springs type with dates of about 1200 years of age in the region. This is a good estimate for many of the Torrey Valley petroglyphs, especially those with heavy lichen cover.

Many variables such as amount of local precipitation, the direction the lichens are facing and the slope of the rock surface, affect the rate of lichen growth. However, a thousand years is ample time for the Ring Lake rocks to cover with lichens. The amount of rock varnish, the dark rock surface coating, found on the petroglyphs is also an indicator of age. Some of the figures have heavy lichen cover suggesting they are old but others have very light varnish and no lichens, which indicates they may be quite recent.

When all the variables are considered, there are Torrey Valley petroglyphs that are as old as 2500 years, but most of the figures were probably made between 1000 and 700 years before the present. There are some figures with very little varnish or lichen cover that likely date to the past 250 years.

LICHEN REMOVAL

In the mid-1980's, Beverly Childers, a California researcher, began a long-term study of the Ring Lake petroglyphs. In the process she got interested in whether it might be possible to remove the lichens that obscured major portion of the panels, or in some places totally covered the petroglyphs.²⁰ Working with permission, she contacted Mason Hale, a Smithsonian Institution expert on lichens to inquire about the consequences of removing lichens from petroglyphs. As luck might have it, at that time, Hale was studying the effects of pollution on lichens in the Wind River Mountains. He advised Childers who then used an herbicide to remove the lichens from several prominent Ring Lake petroglyph panels.

As might be expected, the removal of lichens from petroglyphs is a controversial topic. Lichens survive through a process of symbiosis where they gain some of their nutrient from the rock itself. They are so embedded into the rock that removing them exposes a less stable or softer surface which is open to increased erosion. On the other hand, the petroglyphs can be seen, which was not possible prior to the lichen removal.

Childers did a follow up study, a decade after the removal, and did not detect any significant changes to the panels where the lichens were removed. The analysis was visual, based on photographs and not a chemical study of the rock surface. The latter kind of study was undertaken by Debra Dandridge, a graduate student at Texas A&M University, who became interested in lichens and petroglyphs in the Torrey Valley.

Dandridge studied the chemical composition of the rock surface before and after lichen removal with some of the samples from the Torrey Valley, although not on the Ring Lake panels. The conclusions are not definitive with no strong evidence to support increased rock deterioration after lichen removal. Nonetheless, it is not a good idea to remove lichens to simply get a better photograph. Any lichen abatement process should be part of an organized program with specified goals. Further, as Dandridge points out, there should be consideration of the re-growth of the lichens and possible methods to slow that process.



Large panel where lichen was removed across most of the surface. Scott Copeland photograph.

CHALKING PETROLGYPHS

Chalking petroglyphs to obtain a better photograph was once a standard archaeological practice and used in the Torrey Valley. The belief was that the chalk would wash off in a few years but that is an error. Microscopic examination of tiny samples from Wyoming petroglyphs show the chalk is

incorporated into the varnish layers covering the petroglyphs. Although it was once standard practice, chalking is no longer acceptable.

Photography of petroglyphs in their natural condition is much better and can often be achieved by getting side light to expose the petroglyphs. If the natural light is too direct, it is often possible to use reflectors to re-direct the light, so it rakes across the figures to expose them better.

CASTING PROGRAM

In 1987, another controversial program was undertaken to make latex molds for plaster casts of the Torrey Valley petroglyphs.²² In the 1970's and 1980's the casting of petroglyphs was practiced across North America with the belief that the effort was saving the figures for future study. The technique is totally abandoned now as it is recognized to cause damage to the rock surface and ultimately destroy the petroglyphs.

The Torrey Valley project was sponsored by the Buffalo Bill Center of the West in Cody Wyoming when George Horse Capture was the curator of the Plains Indian Museum and the principal investigator for the project. The actual casting done by Nancy Jo Arthur and Steve Arthur from Rangeley, Colorado. Funding was from the Wyoming Humanities Council and the work was done with permission from the Wyoming State Game and Fish Commission. The project was discussed and tacitly approved by the Wyoming State Historic Preservation Office and the Wyoming State Archaeologist. Ring Lake Ranch and private landowners denied access to petroglyphs on their land for the project.

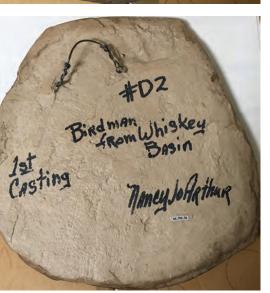
The project was not very successful. The main problem was the unpredictable nature of Wyoming spring-time weather. The researchers experienced rain, snow and cold, elements not conducive to the casting process, which requires sunshine and warmth to cure the layers of latex between applications. Nonetheless, they were able to make casts of seven Torrey Valley petroglyphs.

No follow up studies have been done to determine if the Torrey Valley petroglyphs that were cast have suffered significant changes. It is clear, from photographs, that any lichens were removed by the casting material. In some ways, casting is a double whammy for the rock surface, as it removes the lichens and any hard surface coating that has developed to protect the rock.

CONCLUSIONS

The petroglyphs in the Torrey Valley and at Ring Lake Ranch are an important resource. The Dinwoody Tradition to which they belong is





among the most recognized types of rock art in the world. They are considered as sacred images by the Wind River Shoshone. There is something poetic about their location on the cliffs below an ecumenical retreat center where people come to meditate and pray as they escape the rigors of the busy work-a-day world.

The petroglyphs deserve our respect. They offer the opportunity to ponder the world of the people who lived on this land before us and remember that they practiced their religion for centuries and prayed at this place long before we arrived. Petroglyphs are part of the ritual and ceremony still practiced by the Eastern Shoshone today. They need to be protected so future generations can see them and reflect on the past.

One of the casts made for the project which is currently in the collections of the Buffalo Bill Center of the West. Bonnie Smith photographs.

ENDNOTES

- ¹ The Harney quotation is found on page 36 in "Mountain Sprit: The Sheep Eater Indians of Yellowstone" by Lawrence Loendorf and Nancy Medaris Stone in 2006. It is used frequently in this booklet and referenced as Loendorf and Stone 2006.
- ² See Hultkrantz 1981 for several references to the *nynymbi* pecking petroglyphs on the rocks.
- ³ Russel 1965:22. Russel also describes Sheep Eater encounters in Yellowstone National Park.
 - ⁴ Russel 1965:25.
 - ⁵ Loendorf and Stone 2006:167–168.
 - ⁶ Benedict 1922: Irwin 1994.
 - ⁷ Shimkin 1986:325; Hultkrantz 1981.
 - ⁸ Hultkrantz 1981; Loendorf and Stone 2006:41–42.
 - ⁹ Loendorf and Stone 2006.
- Lewis Williams and Dowson 1988; Whitley 2000; Malotki and Dissanayake 2018.
 - 11 Francis and Loendorf 2002
 - 12 Vander1997.
- ¹³ Francis and Loendorf 2002; Loendorf 2004.
- 14 Hultkrantz 1956.
- ¹⁵ The Sheep Eater language is in the Uto-Aztecan family with ancient relationships to Mexico.
 - ¹⁶ Nabokov and Loendorf 2002:158.
- ¹⁷ Shimkin 1937–1938; Hultkrantz 1981.
- ¹⁸ Francis and Loendorf 2002; Hultkrantz 1981.
- 19 Hultkrantz 1981; Shimkin 1981.
- ²⁰ Childers 1984.
- ²¹ Dandridge 2006.
- 22 Loendorf and Smith 2015

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