



## Messages on Stone



Petroglyphs are like whispers from the past. For thousands of years, people of the Southwest have used the surfaces of the boulders, canyon walls, and rock shelters as a means of communication. Petrified Forest National Park contains hundreds of fine examples of these images pecked into stone.

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### What is a petroglyph?

Petroglyphs are images, symbols, or designs that are scratched, pecked, carved, or incised on natural rock surfaces. Created by people hundreds,

even thousands, of years ago, petroglyphs intrigue us and provoke many questions.

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### How are petroglyphs made?

There are several possible techniques that could have been used to make the park's petroglyphs. One method was using a direct blow from an angular palm-sized rock called a hammerstone.

Another method, indirect percussion, gave greater control by using a chisel-like rock in conjunction with the hammerstone.

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### What is that dark surface on the rock?

The dark coating found on many rock surfaces is a natural patina formed of iron and manganese oxides fixed with clay particles by microorganisms—a sort of weathering rind. Many petroglyphs are made by pecking or scratching through this thin patina to

reveal the original color of the interior of the rock. Eventually, the rock coating redeposits, also called repatination, darkening over time. Some researchers hope that repatination may help with dating petroglyphs.

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### How old are they?

Determining the age of petroglyphs is a difficult task. Archeologists might assign an age which correlates with a nearby habitation site; evaluate the subject matter and style to determine how it relates to a specific time period; compare the sequence of design

layering; or use analytical dating techniques such as X-ray fluorescence. Most of the petroglyphs in the park are thought to range between 600 to 1100 years old, with a few older ones. The oldest dated petroglyph in the park is 2000 years old.



The Hopi, Zuni, and Navajo of today have centuries of historic connections with this area, therefore different beliefs and practices may be represented by the petroglyphs. Researchers learn a great deal from these living people. Some meanings were not meant to be known or understood today. Some meanings were not meant to be known or understood by the uninitiated. Some images were possibly made for religious purposes. They probably all have a deep spiritual significance and may be considered prayers by some

people. Current speculation has led some researchers to believe that various petroglyphs may tell a story, mark a trail, or commemorate an event. Some images may have been made to ensure fertility or successful hunting, or may have also been used to keep track of the seasons. In some instances the image may represent a clan or family, many of which have been recognized by their descendents. The Hopi and Zuni have called the panels of petroglyphs a reference library left by their ancestors.

## Is that a poodle?



Researchers classify petroglyph and pictograph (images painted with mineral or vegetal pigment) styles according to elements, figures, compositions, and techniques that are consistent within a geographic area and time period. Once a style is defined, it may be used to associate images with specific cultural groups. There are very few pictographs in the park.

Archeologists have categorized the petroglyphs found in the park into six distinct groups: anthropomorph (human form), zoomorph (animal shape), Katsina (in Hopi) or Köko (in Zuni) are spirit shape, hands/ tracks, geometrics, and indeterminate. Many shapes represented by petroglyphs are familiar. Even the geometric and abstract figures may remind us of patterns in our own lives: water, stars, clouds, and the passage of time.

Anthropomorphs and spirits are represented by the human form. Anthropomorphic figures may have complete bodies but generally lack facial features. Hand and footprints appear on many panels. Cultural items sometimes associated with human figures include rattles, dance wands, pahos (prayer sticks),

and ceremonial staffs. Katsina figures and masks appear in petroglyphs by A.D. 1300 in this area. Katsinam are spiritual beings who are part of the land, bringing moisture to the Hopi villages and Zuni.

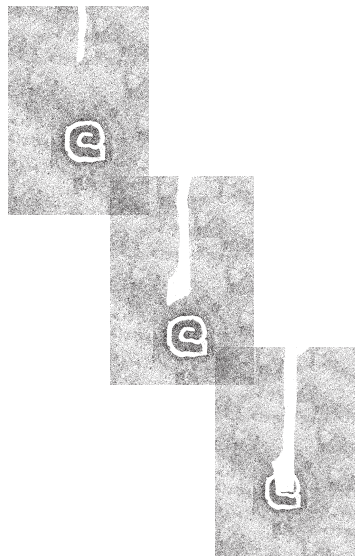
Zoomorphs include large and small animals, reptiles, and birds. You may see cougars, birds, lizards, snakes, bats, coyotes, and rabbits on the petroglyph panels in the park. Hunters are sometimes seen in conjunction with prey. Both animal and some geometric symbols can be linked to specific clans.

Geometrics consist of textile and pottery designs, spirals, circles, straight and wavy lines, “squiggle-mazes”, and other geometric shapes. Often, the same patterns are found in the artwork of living Pueblo people, such as the Hopi and Zuni.

Periods associated with the different styles of petroglyphs in Petrified Forest include Basketmaker (500 B.C. to A.D. 650) and Pueblo I, III, and IV (A.D. 650-1450). A few Navajo petroglyphs have also been found (A.D. 1750 to the present). Unfortunately, images on the petroglyph panels also include modern additions.



## Solar Calendar



The paved trail leading through Puerco Pueblo ends at an overlook to view a small circular petroglyph. Although it is not as complex or elaborate as some of the other images, this is a special petroglyph. It marks the summer solstice. For about a two week period around June 21, there is an interaction of light and shadow that passes across the rings of the petroglyph as the sun rises. Rangers will be available in the morning during the summer solstice at Puerco Pueblo.

Archaeoastronomy is the term used to describe the study of the heavens by the ancient people. More petroglyphs and pictographs such as the Puerco Pueblo

solar marker are found throughout the park and beyond. While some mark the summer solstice, others indicate winter solstice and both equinoxes. Evidence also indicates that some petroglyphs interact forty-five days before and after the winter solstice. Why did the ancestral Puebloan people make these special symbols? Did they have ceremonial purposes? Were they calendars for planting for these farming people? Researchers have many theories and continue to learn from the living indigenous people. The Zuni start an important fasting period around the summer solstice while the Hopi get ready for the Niman, one of the most important ceremonies of the year.

## How to visit a petroglyph site

A variety of factors contribute to the erosion of petroglyphs including natural forces such as wind, rain, extremes in temperatures, plant growth, and rock type. There may have been much older petroglyphs left by Archaic people, now lost to erosion. Perhaps the most devastating factor is human. Vandalism of rock art sites has escalated, including bullet holes, graffiti, and removal of petroglyphs or entire panels. Even the seemingly innocent touch can harm petroglyphs. Oils and acids from

your hands can damage the petroglyphs and desert varnish. For your own safety and the preservation of the petroglyphs, stay on the trails. Do not climb up or down to the petroglyphs. Altering, defacing, or damaging the petroglyphs is against the law—even if the damage is unintentional. Petroglyphs are fragile, non-renewable cultural resources that, once damaged, can never be replaced. Help protect and preserve this rich cultural heritage.

