ARCHAEOLOGY SOUTHWEST

magazine

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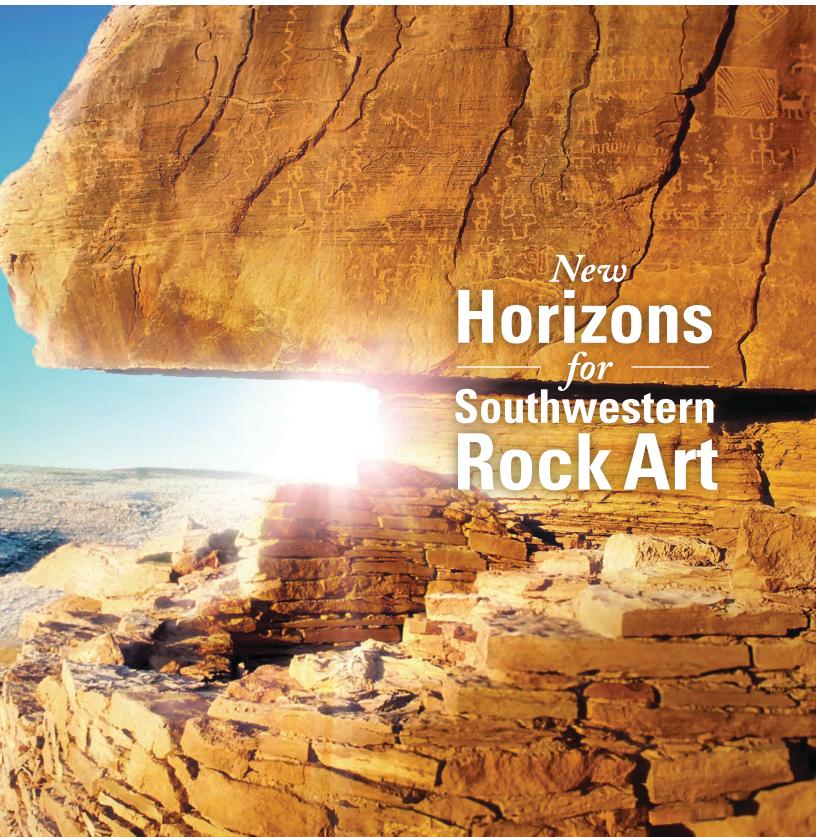
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- New Horizons for Southwestern Rock Art, Aaron M. Wright
- Reframing the Past: Rock Art Styles across the Southwest, Aaron M. Wright and Polly Schaafsma
- 12 In Brief: How Did People Make Rock Art? Aaron M. Wright
- 13 The Western Archaic Tradition in Context, Henry D. Wallace
- In Brief: But Is It Art? Aaron M. Wright
- Landmarks and Signalling: Rock Art of Southeastern Utah's Colorado River Region, Ralph Hartley
- 17 Ancestral Hopi Rock Art, Wesley Bernardini and Lee Wayne Lomayestewa
- 19 Cultural Diversity and Social Identity atop Perry Mesa, Will G. Russell
- **20** Rock Art and Mountain Ritualism in the Hohokam World, Aaron M. Wright
- **22** Comanche Aesthetics, Lindsay Montgomery
- 24 Rock Art and Accessibility: Examples from Northern New Mexico, Marit Munson
- 26 Soundscapes of Rock Art: Cultural Significance in the Past and Implications Today, Steven J. Waller
- 27 Portable X-ray Fluorescence Spectrometer Analysis of Pictographs, Chris Loendorf and Larry Loendorf
- 29 Pictograph at Quail Point, Robert Mark and Evelyn Billo
- Recent Rock Art Conservation Efforts at Hueco Tanks State Park and Historic Site, Tim Roberts and Wanda Olszewski
- 31 In Defense of Rock Art, Polly Schaafsma
- Preservation Spotlight: Mesa Prieta Petroglyph Project, Katherine Wells
- Back Sight, William H. Doelle

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Cover image: Petroglyph panels above Ancestral Pueblo architecture at Crack-in-the-Rock (also Crack-in-Rock) site on Wupatki National Monument. In this issue of Archaeology Southwest Magazine, we encourage readers to think of rock art within the physical and social contexts of its makers' lives. Image: © Elias Butler

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Archaeology Southwest

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New Horizons for Southwestern Rock Art

AARON M. WRIGHT ARCHAEOLOGY SOUTHWEST

Petroglyphs, pictographs, cupules, geoglyphs—in all its forms, rock art fascinates us. It seems to circumvent time, bringing us face-to-face with a deep and at times unfamiliar past. The allure is especially strong in the Greater Southwest, where diverse arrays of rock art are woven into dramatic and rugged landscapes. Southwestern rock art is renowned for its boldness, vibrancy, abundance, and raw texture, qualities that emerge with force and focus in this issue of Archaeology Southwest Magazine, the first dedicated entirely to rock art.

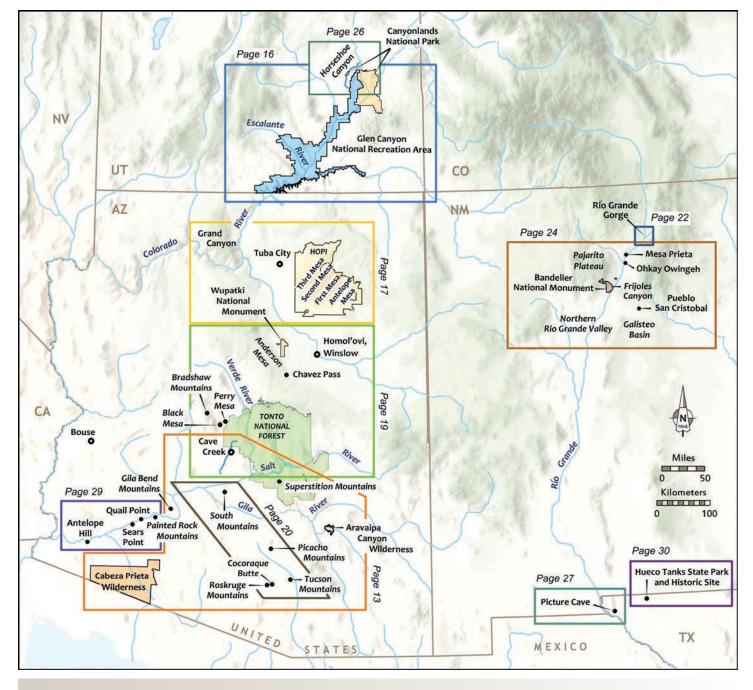
The research highlighted here continues a legacy of methodologically innovative and anthropologically relevant rock art scholarship in the American Southwest. Though often overshadowed by architecture and pottery, Southwestern rock art has received concerted academic study for well over a century. The list of pioneers in rock art research is a who's who of early Southwestern archaeology—Frank Hamilton Cushing, Adolph Bandelier, Jesse Walter Fewkes, Alfred Kidder, Harold Colton, Emil Haury, Julian Steward, Arthur Woodward, Malcolm Rogers, Clara Lee Tanner, Robert Heizer, Christy Turner, Julian Hayden—all of whom brought wonder and insight to the study of rock art.

The shoes of these giants are tough to fill, yet this issue's contributors proudly follow in those footsteps. A single issue of this magazine cannot reasonably accommodate all recent scholarship on Southwestern rock art. In order to cover a broad area (see map on page 4) and spotlight new approaches and insights, I invited authors based on their region of specialization, as well as the topical and technical ground they are breaking. A key advance in Southwestern rock art research over the past 20 years has been increased attention to context. As some articles show, this has enabled us to reach into new theoretical domains, such as cultural landscapes, social identity, and behavioral

Geoglyph along the bajada of the Gila Bend Mountains. Rock art includes not only petroglyph (carved, pecked, or scratched) and pictograph (painted or stenciled with pigments) imagery, but also deliberate arrangements of rocks and gravels and the removal of patina on stone pavements. IMAGE © ELIAS BUTLER ecology. Other articles demonstrate productive developments in recording techniques.

While planning this issue, we had (and have) a strong interest in Native perspectives on rock art. We are fortunate to feature two Native authors, as well as several articles that incorporate elements of Native voices. Still, it became strikingly clear that Native Americans—whether directors, partners, or participants in research, writing, and interpretation—remain underrepresented in rock art research. As Lee Lomayestewa and Wes



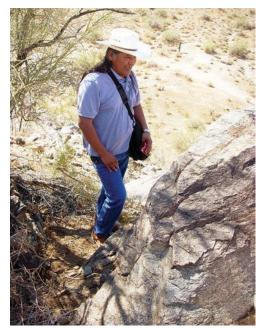


Major places mentioned in this issue. MAP: CATHERINE GILMAN

Bernardini demonstrate in their contribution, rock art is an area through which collaboration between Native Americans and archaeologists may coalesce into productive, respectful, mutually rewarding research.

My own experiences working with Native communities on matters related to rock art attest to the efficacy of such practice. Over the past year, I have been collaborating on a campaign to establish a Great Bend of the Gila National Monument in

southwestern Arizona. As part of that effort, Maren Hopkins (Anthropological Research LLC) and I have been working with the cultural committees of various tribes to better understand their historical and contemporary connections to the Great Bend. At least 13 federally recognized tribes are associated with this remote landscape and the inspiring cultural resources within it, the most notable of which is an abundance of world-class rock art (see *Archaeology Southwest Magazine* Vol. 25, No. 1).



Barnaby V. Lewis, an Akimel O'odham elder and Tribal Historic Preservation Officer for the Gila River Indian Community, examines a petroglyph panel atop a summit trail in Phoenix's South Mountains. IMAGE: ARLEYN SIMON

Of the myriad cultural resources promoted in the national monument effort, rock art resonates most profoundly with associated Native communities. Previously, archaeologists sought help in interpreting rock art symbolism, giving little weight or attention to rock art's significance to Native communities. Our collaborative approach has turned this question around,

asking what the tribes consider important about the rock art of their ancestors. Many understand it as messages about tribal histories and how to live in accord with traditional ways. For others, motifs are signs of their historical presence in the Great Bend area. Such connections are especially important for communities displaced from their traditional lands and compelled to "prove" their histories in order to garner respect on matters of cultural patrimony. Research such as this turns archaeology from an intellectual exercise to an endeavor with actual impacts on people's lives.

Though it has been a long time coming, inclusive, collaborative research with indigenous communities is the future of archaeology—and rock art research is no exception. It will, in fact, play a substantial role in expanding dialogue about the future of the past. Exciting and promising times are on the horizon for rock art research in the Greater Southwest.



Hopi cultural advisors view petroglyphs at Little Black Mountain Petroglyph Site, Mohave County, Arizona, for the purpose of understanding Hopi history and culture in the region. Pictured are E. J. Satala, Gilbert Naseyowma, Wilson Huma, Sr., Donald Dawahongewa, and T. J. Ferguson, February 3, 2016. IMAGE: MAREN HOPKINS

Reframing the Past: Rock Art Styles across the Southwest

AARON M. WRIGHT, ARCHAEOLOGY SOUTHWEST
POLLY SCHAAFSMA, MUSEUM OF INDIAN ARTS AND CULTURE/LABORATORY OF ANTHROPOLOGY

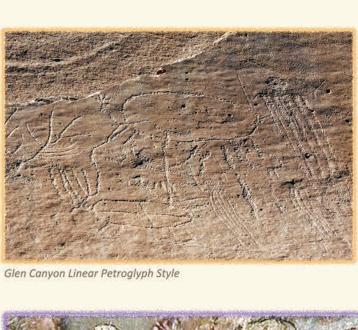
Style, *considered broadly*, is a fundamental tool in anthropological and historical research. Indeed, it is fair to say it is and always has been archaeology's bread and butter, at least in the

Greater Southwest. We recognize it—whether explicitly or not—in a wide range of material culture attributes, from the forms and decorations on pottery to the hafting techniques of projectile points, and from architectural technologies to the iconography and layout of rock art.

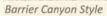
Early on, anthropologists learned that styles have geographic and temporal boundaries. This breakthrough enabled archaeologists to organize what would otherwise be a cumbersome mélange of artifacts and materials into regional and chronological frameworks. Their pioneering efforts set the foundation for what we now call "culture history." Continued refinements to methods and theories promote ever-finer resolution of meaningful nuances in material culture, all of which proffer greater insight into the lives of people we cannot observe firsthand.

Because it is such a powerful and proven tool, style has

Archaic rock art spans as far back as 7000 B.C. to approximately A.D. 500, a long era when most people in the Greater Southwest had not yet adopted a sedentary lifestyle centered on farming and village settlements. Not shown is the Western Archaic Tradition (pages 13-15). Its full distribution is not known, but it ranges over much of the American West and into Northwest Mexico. Early Agricultural rock art includes that of the Basketmaker Tradition (1000 B.C.-A.D. 150) and the San Pedro and Cienega phases (1200 B.C.-A.D. 150) in southern Arizona (not shown); the latter is indistinguishable from the Western Archaic Tradition. The Archaic Polychrome Abstract Style was formerly called the Chihuahuan Polychrome Abstract Style, and the Shumla Style was formerly called the Diablo Dam Petroglyph Style. The Little Colorado Archaic Style is sometimes called the Palavayu Style. IMAGES: POLLY SCHAAFSMA; MAP AND GRAPHIC: CATHERINE GILMAN





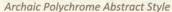






Glen Canyon Linear





Esplanade Style



Little Colorado Archaic Style







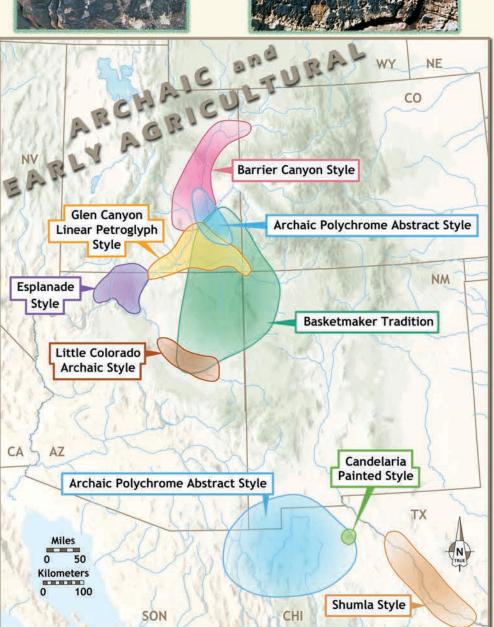


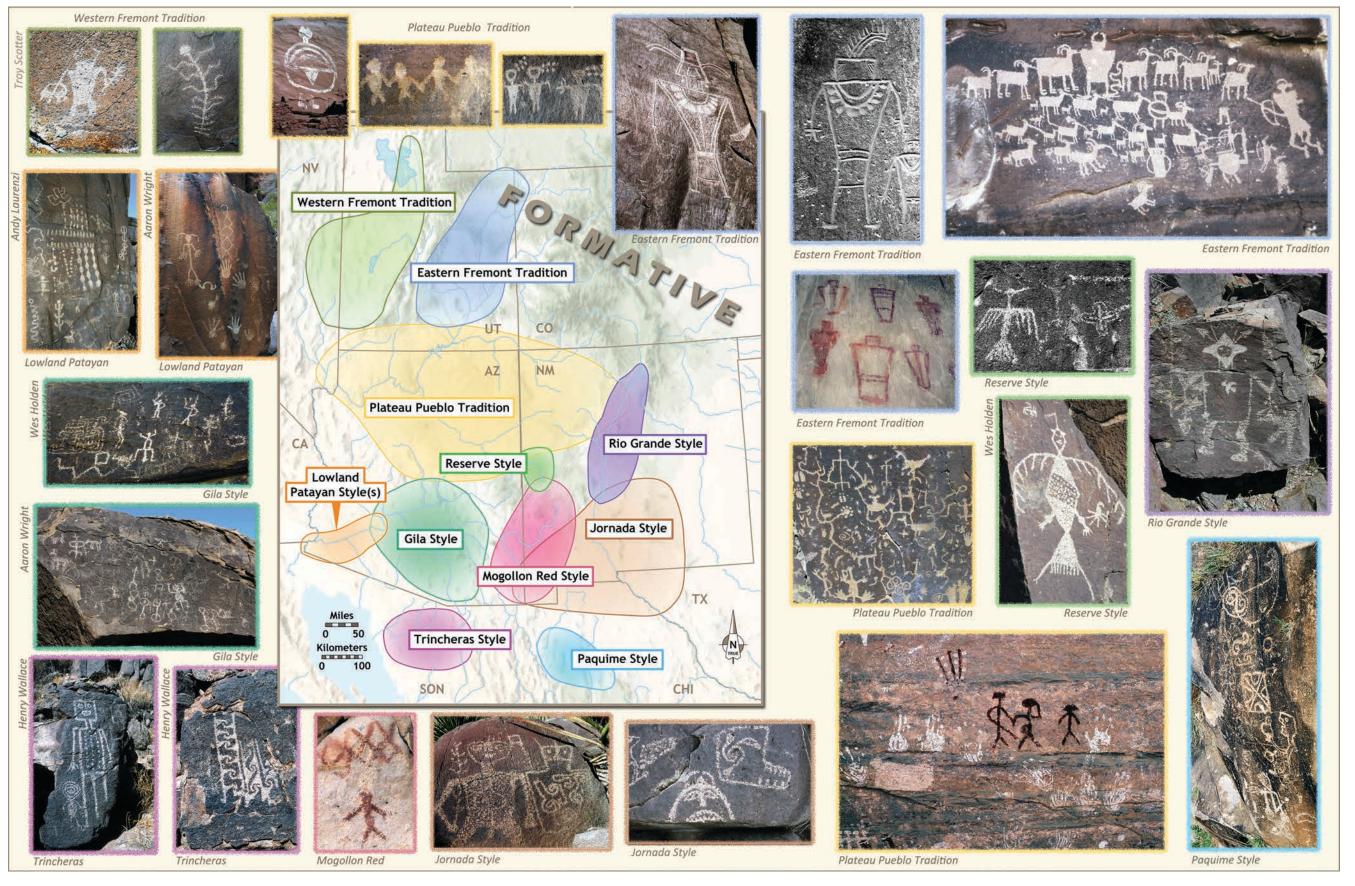
Basketmaker Tradition





Shumla Style





never fallen out of vogue in archaeological research, though questions have understandably changed over time. Today, attention to style helps us address topics of contemporary relevance: the development, retention, and negotiation of social identity at different scales; the intricacies and metamorphoses of social networks; and transformations of ideological and religious institutions, among other themes. Clearly, scholarly research on style continues to bear fruit, and probably will for years to come.

Nevertheless, defining, and thus studying, style in rock art is no easy task. Unlike most other archaeological materials, rock art is rarely found in datable contexts, so it is sometimes challenging to situate elements of style into a neat timeline. And when that is possible, the chronological resolution often pales in comparison to that of decorated pottery and other kinds of artifacts. The fact that rock art is parietal (fixed in place) and often located some distance from habitation areas compounds the challenge.

Still, scholars have recognized numerous rock art styles across the Southwest, and most of those characterizations have stood the

Formative rock art dates from about A.D. 500 to 1450 and corresponds with most early agricultural cultural traditions of the Greater Southwest. These include the Ancestral Pueblo, Mogollon, Mimbres, Fremont, Hohokam, Trincheras, Sinagua, Patayan, and Casas Grandes archaeological cultures. IMAGES: POLLY SCHAAFSMA, UNLESS OTHERWISE SPECIFIED; MAP AND GRAPHIC: CATHERINE GILMAN

test of time. Based primarily on Polly Schaafsma's career-long research, the maps in this article present the region's rock art styles as we currently understand them. These maps cover three broad time periods, so that visual similarities and differences among roughly contemporaneous styles may be discerned.

Readers should keep a few things in mind when considering these maps. We have classified rock art into traditions and styles. As noted, styles have fairly discrete geographic and temporal boundaries, whereas traditions are looser, more inclusive categories. We use tradition to group styles that, while distinct, have a lot in common. We also use it to subsume regional variations that might constitute different styles—areas where more research is sorely needed.

The maps also reveal regional gaps between recognized styles. Most of these are not actual lapses in the distribution of rock art across the landscape, but "blank spots" in our knowledge of rock art in those areas. These maps thus attest to the great progress that has been made in recognizing regional

Rock art of the Historic period was made after the first contacts with European explorers in the 1500s. This map only shows styles that have so far been identified and defined. There are ample examples of Historic period rock art made by other cultural traditions in the Greater Southwest, but more research is needed to characterize them and delineate their regional extent. IMAGES: POLLY SCHAAFSMA, UNLESS OTHERWISE SPECIFIED; MAP AND GRAPHIC: CATHERINE GILMAN





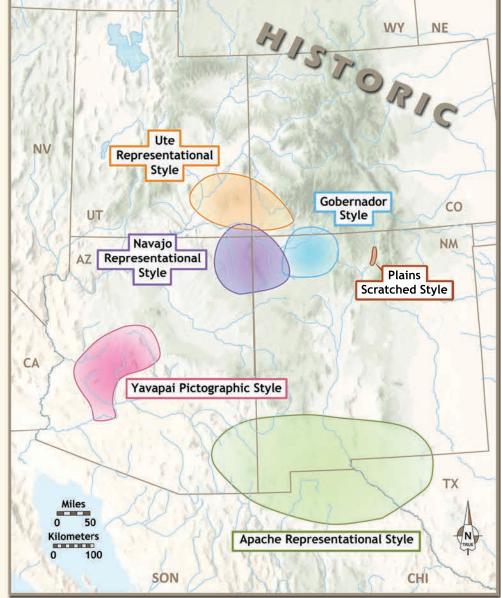




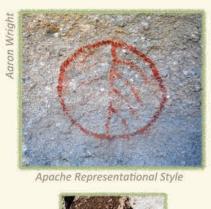
Plains Scratched Style







Ute Representational Style













and chronological variation in rock art, while highlighting productive locations for future research.

Rock art has a lot of style, so theoretically informed studies should continue to enrich our understanding of the past, and in ways other materials cannot. Keeping rock art in the archaeological fold offers a more holistic view of the textual social worlds people created and redefined over time. Much has been accomplished, and countless questions remain. Consideration of style is a good place to start, but it is just the beginning.

How Did People Make Rock Art?



There are many ways to create rock art—pecking, scratching, abrading, incising, painting—and every combination of these shows up in the archaeological record. At times, a maker's choice of technique may have been conditioned by the properties of the rock itself—but not always. Sandstone, for instance, tends to be a "soft" medium, so it is receptive to any of the aforementioned techniques.

In technological studies, the series of decisions someone makes as they create something is known as the *chaîne opératoire* (chain of operation). Choices along that sequence may tell us a lot about the maker, such as social status, cultural background, and the

conditions in which the person worked. Curiously, in most

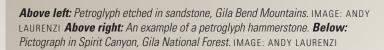
places and times, makers of rock art preferred one method, sometimes to the exclusion of others.

The fact that there were multiple ways to create rock art, yet many generations favored one technique over others, is significant. It implies that communities held social rules or customs about making rock art, that people learned these, and that most chose to follow them. Looking at rock art this way opens the door to exploring rock art as a meaningful social practice.

Pecked petroglyphs can be created through *direct* or *indirect* percussion. The former is when someone pounds a hard tool—usually a stone, but wood, bone, or antler can work in some instances—directly onto a rock's surface. The latter means someone directed the force of the hammer through an intermediate tool, such as a chisel or punch. Indirect percussion offers greater control and precision over design execution, though it is less practical for harder rock surfaces such as granite and basalt.

Discerning direct versus indirect percussion from imagery alone is not always possible. Examining the artifacts below and around rock art panels helps in this regard. The presence of hammerstones with concentrated battering on their acute edges, and spalls from such tools, are strong evidence for direct percussion. Hammerstones showing diffuse battering, ideally in association with punch-like implements, point toward indirect percussion.

-Aaron M. Wright





The Western Archaic Tradition in Context

HENRY D. WALLACE DESERT ARCHAEOLOGY, INC.

The most widespread—and in some respects, universal—style of art is also the oldest documented style of rock art in the Greater Southwest. This style probably has much to do with what it means to be biologically human.

Depending on whether it is depicted in petroglyph form or as pictographs, the style goes by various names, all of which fit under the label *Western Archaic Tradition* in the western United States and northwest Mexico. The style is not restricted

to rock art; it has been found on a wide variety of portable canvases, including bone objects, stone bowls and trays, atlatl-dart foreshafts, and pottery. The tradition is characterized by abstract, largely curvilinear designs and low overall stylistic variability.

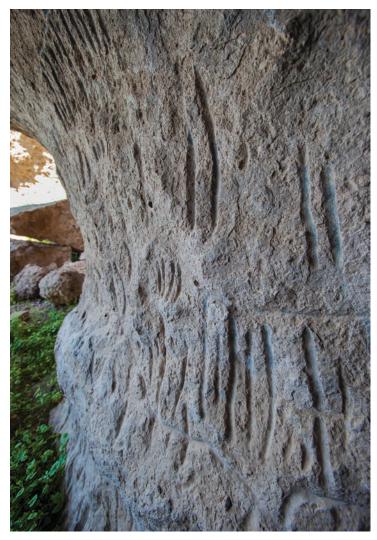
Western Archaic petroglyph designs usually follow the shape and surface upon which they were placed, sometimes wrapping around rock corners, unlike many later styles. People used a hammerstone (page 12) to carefully peck designs into the rock, and some designs were also ground. Common motifs include amorphous curvilinear shapes, meandering lines, and (so-called) grids, rakes, ladders, circles, and parallel lines. Interestingly, given the predominance of abstract forms, human footprints are not uncommon.

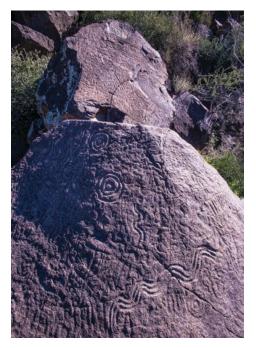
There is overwhelming evidence that the Western Archaic Tradition traces back to at least 3000 B.C. in the Southwest. This is based on its presence on portable artifacts in dated contexts, dated deposits overlying rock art, superpositioning of styles where the tradition is consistently the oldest, and other evidence. Support for an even earlier date derives from a range of Paleoindian sites in Texas, Washington, and New Mexico, where the style occurs on ivory, stone, and bone artifacts. One of the best-dated early sites is in Oregon, where ash from the circa-5700 B.C. eruption of Mount Mazama covered a portion of a very large panel that had already been partly buried in sediment.

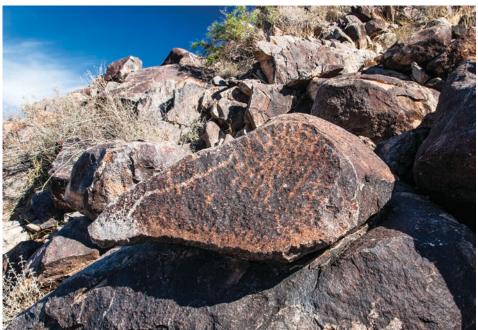
Large sites with Western Archaic designs in Arizona tend to be located along ancient trails and are in very "public" settings. IMAGE: HENRY D. WALLACE In most areas, the Western Archaic Tradition was supplanted or augmented by later styles. In the Hohokam region of southern Arizona, it is subsumed within the distinctive Gila Style, which people developed around A.D. 800. In some areas, such as the Great Basin and west Texas, where hunter-gatherers continued to inhabit landscapes into historic times, the style continued much later in time.

There is a good reason why Western Archaic designs were produced over thousands of years, occur over such a large region, and are present all over the world at various points in time: the design motifs are hardwired into our brains. The precise way in which the designs end up as art is a point of contention among archaeologists, neurologists, and art historians, but there is general agreement that human brains are preset to see and draw a wide range of geometric shapes—the very shapes replicated all over the world and comprising the core of the Western Archaic Tradition.

Right: Deeply ground Western Archaic designs within a small rock shelter in the Aravaipa Wilderness. This is the only known example of the designs in petroglyph form in a shelter. Below right: The complex meandering forms of many Western Archaic designs often wrap around and continue onto multiple rock faces. In this example, the rock, heavily pecked along the lower margins, was also used as a "bell" or "ringing" rock. Such activity suggests public ceremonies took place at the site, as the sound would have carried over long distances (and see page 22). Below: A deeply pecked/ground variant of the Western Archaic that might date very early in the sequence, extending as far back as 6000–7000 B.C. This example is located in the Cave Creek drainage system in central Arizona. IMAGES: HENRY D. WALLACE







Why we draw the shapes or engrave them in stone, bone, wood, and ivory, is another question. Some researchers see art creation as something hardwired, as well—a point supported by its universal occurrence. Others focus on shamanism and trance states that might result in visions, wherein such shapes are seen and transferred to solid media. A neurological theory posits that motor patterns of the human arm and hand are integral factors. Given the universal aspect of these designs across time and space, a range of factors must be involved.

In southern and central Arizona, sites with Western Archaic rock art are often situated along trails and in prominent "public" locations. The intricacy of some of the designs suggests they were much more than doodles or graffiti, and most evidence points to people producing and using them in rituals. Subsequent re-pecking of the designs during the Hohokam era is common, possibly indicating that people considered the earlier designs to be powerful and meaningful.

But Is It Art?

"Art" is a complicated term, raising questions of subjectivity, ownership, commercialization, commodification, and cultural appropriation. Thinking about indigenous visual culture as "art" may be misleading or—even worse—offensive. Indeed, many sensibilities about art are enmeshed in a Western perspective not necessarily shared by those who created the objects and symbols we examine and appreciate.

Pictographs and petroglyphs are central to ongoing consideration of what is "art," who is entitled to experience it, and who has the standing to explain it. To sidestep this delicate impasse, some propose alternative labels—rock drawings, rock writing, or rock pictures, among others. Yet these also induce peculiar and potentially inappropriate

assumptions about symbolism, grammar, and creativity, not to mention the artists' intentions.

Ample ethnographic research shows that indigenous people often consider crafted imagery as something other than two-dimensional representations. To many, it is not art in a Western sense, but something that affects their lives and the world they live in. It is part of their lived experience, not just a depiction of it. Some even afford it qualities of life and personhood. Unfortunately, our language lacks a term to effectively describe this.

So, when authors in this issue refer to "rock art," they are not necessarily adhering to an art-historical, representational understanding of it. Instead, they implicitly acknowledge

that "art" is affective, impacting people in various ways, past and present. This conceptualization implies that rock art is not merely portrayals of ancient times, but something that played (and plays) an active role in people's lives.

-Aaron M. Wright



A petroglyph emerges from a tinaja (a naturally occurring basin where rainwater collects) on Mellinger Mesa along the lower Gila River.

IMAGE: WES HOLDEN

Landmarks and Signalling: Rock Art of Southeastern Utah's Colorado River Region

RALPH HARTLEY UNIVERSITY OF NEBRASKA-LINCOLN

In the Colorado River area of southeastern Utah, in the centuries just before about A.D. 550, people's hunting and gathering lifeways transformed through increasing investment in domesticated plant foods, especially corn and squash. Over time, groups (probably extended kin) began living among seasonally inhabited sites, where they built pithouses. Storing or caching surplus food, and sometimes tools, helped groups maintain mobile lifestyles.

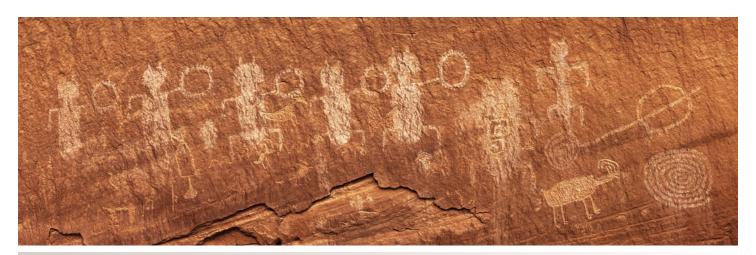
As population density increased over the next two centuries, people's marking of places with petroglyphs and pictographs, especially those depicting anthropomorphic (human-like) and other representative images, appears to have become a common means of creative and communicative expression. Although ancient and protohistoric rock art is found throughout the world, incentive for nearly all such creations appears to be grounded in memories, stories, and histories, in belief systems, and in immediate social or biophysical surroundings, including children's play and expression.

Anthropomorphic imagery created during this early period in southeastern Utah, stylistically and spatially defined to include rock art attributed to Ancestral Pueblo and Fremont groups, draws much attention today. Nearly three decades ago, we began to ask, why, in this highly dissected landscape, is

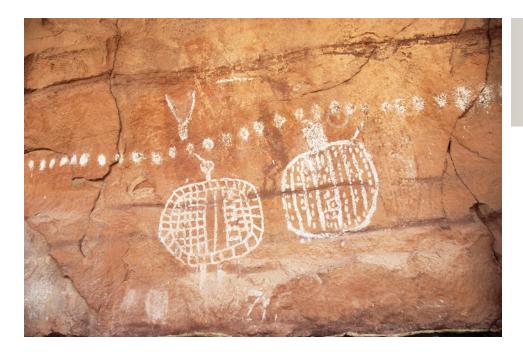
petroglyph and pictograph imagery found in some places, and not others? Might the positioning of rock art tell us something about the interdependent social and biophysical conditions that influenced decision-making among its creators?

By marking immobile surfaces, people modified this rugged landscape. Their marks are imbued with measurable information for a viewer to extract. Creation and placement of rock art in this setting is a signaling behavior that, not unlike marking behaviors of other mammals, often occurs in the absence of an audience. Subsequent viewers assess the visual information and continue to process it well after the initial viewing. By doing so, they are better positioned to evaluate the qualities, characteristics, and intentions of the creator(s), influencing the viewers' decisions and future interactions.

Interest in exploring potential relationships among the rock art's topographical context, its content, and its proximity to residential sites and storage facilities in the region led me and my team to investigate data collected by Northern Arizona University in the rugged Escalante River basin of Glen Canyon National Recreation Area. Northern Arizona University had surveyed almost 19,000 acres of Glen Canyon in the 1980s, documenting habitat and subsistence activity in the Escalante River basin from about A.D. 100 to 1300.



White pictographs of shield-bearing figures, some of which are superimposed over earlier zoomorphic and geometric petroglyphs. This panel is located in an overhang in Natural Bridges National Monument. IMAGE: JACOB W. FRANK, COURTESY NATIONAL PARK SERVICE



White pictographs of shield-bearing figures superimposed over earlier red and white pictographs. This panel is located in an overhang along Peekaboo Trail in Canyonlands National Park. IMAGE: NEAL HERBERT, COURTESY NATIONAL PARK SERVICE

Using software-generated modeling of human mobility and range of visibility, we assessed whether some rock art was situated prominently to enhance spatial orientation, not unlike landmarks delineated by other highly mobile animals. Other rock art, not associated with residential sites, might have been positioned so as to be readily visible to those approaching stored or cached goods. The content of this rock art appeared to have far less symbol- and image variability.

When small groups are competing for resources, creative production by individuals can serve to signal the collective interest of one group to another. As population increased in the Escalante River basin, proprietary symbolling through rock art might have developed in response to an increased

chance of others encountering stored or cached food. In light of greater population density, coupled with mobility demands, the rock art situated throughout this region provides insight into the complexity of visual communication systems and its influence on viewers' behavior.

Ancestral Hopi Rock Art

WESLEY BERNARDINI, UNIVERSITY OF REDLANDS
LEE WAYNE LOMAYESTEWA, HOPI CULTURAL PRESERVATION OFFICE

There is a staggering volume of rock art present on the Hopi Reservation. The cliffs below the village of Orayvi alone contain 180 panels featuring more than 2,000 elements. As part of an ongoing, decade-long collaboration between the University of Redlands and the Hopi Cultural Preservation Office, the Hopi Archaeology Project has documented rock art at more than 20 sites on the Hopi Reservation. These sites span the period from A.D. 600 to 1900 and include all of the major villages on Antelope, First, Second, and Third Mesas that were inhabited in the protohistoric period (that is, in the century prior to European contact in 1540). Our work has also recorded sites away from the Hopi Mesas, such as the impressive Tutuveni Petroglyph Site near Tuba City, Arizona.

The unprecedented access of the Hopi Archaeology Project to rock art on the Hopi Reservation is an outcome of two practices. First, our partnership is based on principles of equality, respect, and reciprocity. Second, and largely as an outcome of the first practice, we have identified common, complementary goals of cultural resource preservation and historical tribal research—that is, each side of the partnership is motivated to create a permanent record of Hopi petroglyphs and to discover how patterns in material culture contribute to an understanding of Hopi history.

In practice, this means year-to-year decisions about where to conduct fieldwork are determined not so much by formal research agendas as by immediate concerns about threats to resources, village politics affecting site access, and the availability of Hopi cultural advisors who assist with documentation. Over the long term, however, the result is a rich body of work that may be used to address significant research questions. Such cooperative endeavors, involving methods of inquiry quite different than those taught in graduate schools, are rightly becoming the "new normal" in Southwestern academic archaeology.

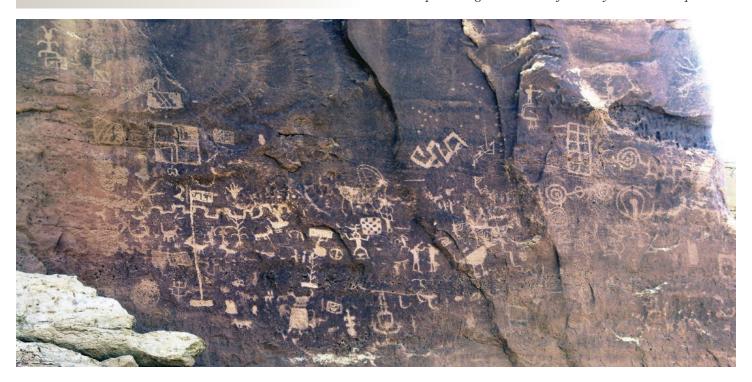


Above: Lee Wayne Lomayestewa and crew recording a rock art panel on Second Mesa. **Below:** Rock art panel on Third Mesa. IMAGES: WESLEY BERNARDINI

Previously published work on Hopi rock art focused on the distribution of Hopi clan symbols, preserved in spectacular abundance at the Tutuveni Petroglyph Site, in order to track the convergence of ancestral Hopi groups on the Hopi Mesas. Current work with colleagues from Arizona State University examines the distribution of more than 700 katsina petroglyphs from ancestral Hopi sites. The project is assessing similarities and differences in religious practice among the mesas and tracing the evolution of katsina ritual across the pre- to post-contact threshold. Additional research with colleagues from James Madison University focuses on stylistic parallels among rock art, pottery, and kiva murals that may reveal clues about the immigrant origins of artists. This would, in turn, help identify communities of practice across the Hopi Mesas.

The Hopi Archaeology Project is also using technological advances to record and digitally preserve Hopi petroglyphs. We recently partnered with CyArk, a nonprofit digital preservation organization, to use laser scanning, LiDAR, and high-resolution digital photography to record the Tutuveni Petroglyph Site. Tutuveni was a stop on a pilgrimage route to Öngtuvqa—the Grand Canyon—where Hopi men pecked their clan symbols to mark their participation in the journey. Hundreds of years of use produced an extraordinary record of Hopi clan symbols. Our CyArk team created a visually rich, multimedia web site that serves as an educational portal for Hopi students and a repository for researchers seeking access to primary data.

Learn more at http://archive.cyark.org/hopi-petroglyph-sites-intro and http://bulldog2.redlands.edu/fac/wesley_bernardini/hopi/



Cultural Diversity and Social Identity atop Perry Mesa

WILL G. RUSSELL ARIZONA STATE UNIVERSITY

Separated by the Agua Fria River, Perry Mesa and Black Mesa lie about 60 miles north of Phoenix, near the eastern flank of the Bradshaw Mountains. The cultural landscape here is amazingly well preserved, thanks to the stewardship of the U.S. Bureau of Land Management and Tonto National Forest (in particular, Connie Stone and J. Scott Wood, respectively). There are more than 600 known archaeological sites across the two mesas, dating from Archaic times (if not earlier) into the 1800s. Relatively few of these have been recorded, and little excavation has taken place. Existing data suggest the mesa tops were only sparsely inhabited prior to the mid-1200s, and then population exploded over the following century.

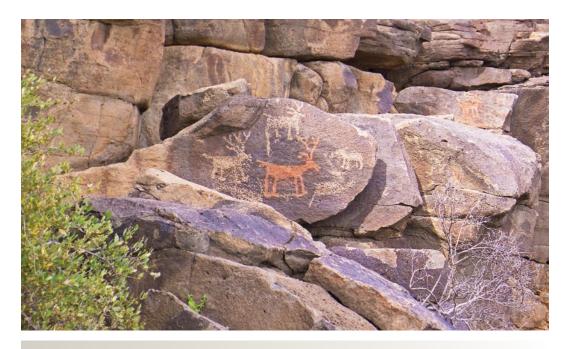
Nearly every site on Perry Mesa dating before the arrival of Europeans includes rock art, ranging from one element to thousands, predominantly petroglyphs and cupules (small, bowl-shaped depressions that have been pecked or ground into a rock surface). In the mid-twentieth century, archaeologist Ned Danson noted that some petroglyphs along the eastern edge of Perry Mesa were painted red. Many are still visible, but the question of when this pigment was applied remains open.

These large circular petroglyph designs on Perry Mesa bear strong likeness to shield designs in Ancestral Pueblo rock art in the northern Rio Grande valley, more than 250 miles away. IMAGES: MICHAEL HOOGENDYK

Efforts to inventory rock art at large sites include projects led by Grace Schoonover, Jerry Mead, Glen Dotson, Linda Dorsey, Jennifer Huang, Kyle Napton, Elizabeth Greathouse, and Barbara Gronemann. Michael Hoogendyk has located an impressive number of rock art panels, including Masonic symbols left by William H. Perry, the pioneer for whom Perry Mesa is named.

Archaeologists increasingly appreciate the diversity in Perry Mesa's rock art, including methods of manufacture, compositional styles, and specific motifs. Such variability probably corresponds to differences in cultural background and social identity,





Some of the petroglyphs on Perry Mesa were subsequently painted red. This shows that descendant communities continued to visit and interact with ancestral sites into the relatively recent past. IMAGE: ANDY LAURENZI

complementing other lines of evidence that point to multicultural coalescence atop Perry Mesa in the late Pueblo III and early Pueblo IV period (that is, 1250–1375). For example, Jennifer Huang, Tina Hart, Arleyn Simon, and others have documented significant differences in motif types among contemporaneous villages, indicating a level of intervillage social differentiation.

Researchers have also compared designs in Perry Mesa rock art to potential analogs elsewhere, raising questions of migration, long-distance social connections, and cultural continuity. For instance, Rebecca Harkness recently examined a series of large circular petroglyphs on Perry Mesa and Black Mesa and found similarities to shield designs in the northern

Rio Grande region of New Mexico. These large circular motifs also co-occur with Rio Grande-style racetracks on Perry Mesa, further suggesting ties to spatially distant Pueblo communities.

Social connections reach in other directions, as well. Much of the rock art on Perry Mesa is stylistically and contextually similar to well-known Hopi clan symbolism found to the north. Wesley Bernardini (see pages 17-18) documented many of the same motifs in the Anderson Mesa and Chavez Pass areas, including two that may have symbolized nowextinct proto-Hopi clans. To the south, Aaron Wright and I have identified the same motifs at Hohokam sites in the lower

Salt River valley. This widespread distribution—in which Perry Mesa is centrally located—is consistent with Hopi migration stories that tell of clans moving north from Palatkwapi (an unspecified southern location), through Nuvakwewtaqa (Chavez Pass area) and Homol'ovi (Winslow area), and ultimately arriving at Tuuwanasavi (the Hopi Mesas).

The rock art of Perry Mesa offers opportunities to study social identity, population movement, and cultural change. The sites we know of are impressive, well preserved, and remarkably diverse. The ones yet to be found will surely offer new insight into one of the Southwest's most promising landscapes for research. The surface, we might say, has only been scratched...

Rock Art and Mountain Ritualism in the Hohokam World

AARON M. WRIGHT ARCHAEOLOGY SOUTHWEST

As irrigation agriculturalists, Hohokam communities set deep roots within the valleys of the middle Gila River and its major tributaries, fertile landscapes in which ancient peoples could harness large volumes of water in one of the driest environments

on earth. Villages along canals cooperated in managing their collective water supply, and residents invested great time, effort, and emotion in developing and maintaining massive irrigation infrastructures. Daily life focused on the rivers and their terraces,

the level ground on which Hohokam people lived and worked, played and slept, raised their children, and buried their dead.

The topography of the Hohokam cultural landscape was not entirely flat, however, nor was it limited to the valley floors. Ranges of dark, craggy mountains rise from the desert, flank the river valleys, and define the horizon in nearly every direction. Always visible from villages' courtyards and plazas, these mountains were part of the everyday landscape of Hohokam people. Countless trails headed from villages into nearby mountains, leading to places where people hunted, harvested wild plants, and extracted minerals and other geological resources. Rock piles and terraces along the lower slopes show that these people were also accomplished dry farmers who grew agave and useful cacti beyond their fields of corn, cotton, and beans.

Mountains have long proved economically important to local communities, but they were also vital places in the religious lives of Hohokam people. Petroglyphs are the materialization of the spiritual relationship Hohokam communities fostered and nurtured with their surroundings. Hohokam petroglyphs depict loose arrangements of figurative and geometric designs, many of which crossed into other media, including

buffware pottery, shell jewelry, and ground stone objects such as censers and palettes.

The iconography is difficult (and often impossible) to interpret with any surety. These symbols almost certainly meant different things to different people, and meanings probably changed through time and shifted among media. Nevertheless, the high frequency of lifeform petroglyphs, especially humans, reptiles (snakes, lizards, and tortoises), and large mammals (deer and elk) coupled with a complete absence of small game foods, such as rabbits, squirrels, quail, and fish, distinguishes the canon of Hohokam petroglyph iconography from that of decorated buffware pottery.

Rather than the type and nature of the symbols alone, it is the deliberate and repeated placement of petroglyphs at key locations and in overt association with unique landscape features that evidences the ritual use and religious importance of mountains to Hohokam communities. Petroglyphs were crafted in myriad places, but careful attention to context reveals a structure—a quasi-grammar, if you will—to their distribution within the mountains and arrangement on particular landforms. Dense clusters of petroglyphs recur around springs and *tinajas*, often in secluded settings at the mouths of canyons. They are



Elaborate panels of Hohokam petroglyphs above a spring and several natural water tanks in the Superstition Mountains. IMAGE: AARON M. WRIGHT



Hohokam petroglyphs atop an inselberg (isolated hill rising from a plain) near Cocoraque Butte in the Roskruge Mountains. IMAGE: AARON M. WRIGHT

also found on boulder piles atop low rises with expansive viewsheds. Summit trails in the South Mountains near Phoenix link springs and petroglyphs with shrines on hilltops.

Repeated episodes of petroglyph manufacture resulted in smaller clusters around other landscape features, such as curiously shaped boulders and outcrops, above and occasionally inside rockshelters, and on rock faces with peculiarly shaped and oddly colored vugs (small cavities) and mineral veins. Near Cocoraque Butte in the Roskruge Mountains, for instance, more than one thousand Hohokam petroglyphs were placed amid and upon boulders that ring like bells when struck. In other places, petroglyphs adorn caves and rockshelters near springs, indicating such retreats were part of the ritual choreography of mountain landscapes.

How descendant communities conceptualize natural water sources and mountaintops informs on the significance of dense clusters of Hohokam petroglyphs in such settings. For O'odham and Pueblo peoples, springs and summits are liminal (in-between, transitional) places where people can commune with spiritual beings and

transcend worlds. They are places of historically and spiritually significant events, and people visit them to perform rituals that reinforce connections to ancestors, a primordial past, and the religious principles that naturalize the complex worlds in which they live. It is reasonable to consider that their ancestors, including Hohokam people, related to their landscapes in a similar manner. The petroglyphs testify that mountains must have figured prominently in Hohokam histories, memories, and creation stories, just as they do among descendant communities today.

Comanche Aesthetics

LINDSAY MONTGOMERY DENVER MUSEUM OF NATURE AND SCIENCE

The mounted Plains warrior adorned in beaded buckskin and streaming headdress is an iconic image in the minds of many Americans. Although a great deal of popular and scholarly attention has focused on the war exploits and narrative drawings made by Plains men, the iconography of their female counterparts has often been overlooked.

The practice of decorating rawhide containers, clothing, and horse gear with geometric designs was shared across many

tribal communities on the northern and southern Plains, including the Comanche. These items were exclusively produced by craftswomen who learned the relevant skill set and designs from other women. The practice of ornamenting materials with geometric designs was not limited to portable objects, such as moccasins and bags, but is also found etched into the surface of basalt boulders within the Rio Grande Gorge. These panels are part of an interconnected landscape of scratched imagery dili-

gently documented by the Rio Grande Gorge Project, directed by Severin Fowles.

To date, the project has identified 33 panels at the con-

fluence of the Rio Grande and Rio Pueblo. The panels depict elements of Comanche material culture, including tail bags and rawhide containers called parfleches (below). Images are spatially clustered around the main entrance into a large grassy basin in which tipi rings and hundreds of other petroglyph panels are located. Geometric images are always depicted facing the viewer, and they often appear alongside other Plains-style iconography, particularly tipis and horses (right). The triangles, arcs, lines, diamonds, and squares adorning these containers are combined to create unique art pieces.

Although early ethnographers often decried the low status of Plains women, female labor was vital to the maintenance of an equestrian lifestyle. This was formally recognized in women's ownership of the tipis, containers, and clothing they produced, as well as the specific design elements found on such items. Within this tradition, stylistic variations in design motifs enabled individuals, families, and nations to identify themselves.

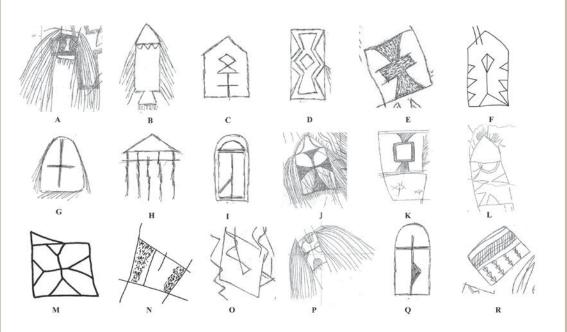
The depiction of abstract geometric icons on boulders stands in stark contrast to the highly animated

scenes typically associated with Plains rock art. This tradition is typified by narrative scenes of heroic deeds conducted in battle or on raids. As part of a complex system of graded war honors, the public archiving of a man's deeds was critical to obtaining status and wealth in society. The structural and iconographic differences between women's geometric art and men's narrative art reflect a gendered division of labor. Whereas men provided the raw materials of everyday life through hunting, raiding and warfare, women reproduced the basic components of social life by constructing the

tipi lodge, birthing new generations, and producing the essential material objects of nomadic life.

The parfleches depicted in the Gorge rock art were part of an evolving socioeconomic system in which female craftsmanship was increasingly significant. Over the course of the 1700s, horses became an individually controlled form of wealth, which





Upper: Scratched Comanche parfleche icon displayed alongside tipis and tripods with shields. (Enhanced to show detail.) **Lower:** Examples of scratched Comanche parfleche iconography. IMAGES: COURTESY OF THE RIO GRANDE GORGE PROJECT

spurred the formation of new socioeconomic divisions. Though Comanche women maintained their gender-specific role as reproducers of cultural commodities, during the colonial period these cultural commodities assumed a new function as status symbols. Objects with intricate designs signaled the wealth of the family and brought prestige to the individual artist. Within this gendered division of labor, women's decorative objects served a similar function to the etching of war exploits on stone by men. Both forms of art produced a public record of an individual's skill and status.

The parfleche panels from the Rio Grande Gorge are part of a distinctly female art tradition that is entangled with the historic integration of the horse into Comanche culture. These images point to the use of geometric designs as calling cards. Culturally literate viewers would have known who had visited the area, as well as the visitor's status in society. Although there is still much to learn about the particular families or societies which the Gorge parfleches represent, they offer one way of tracing Comanche women within an iconographic tradition dominated by men. \square

Rock Art and Accessibility: Examples from Northern New Mexico

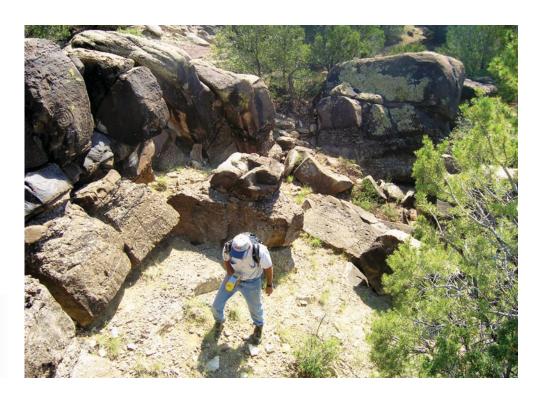
MARIT MUNSON TRENT UNIVERSITY

Researchers often treat rock art as images, a series of engaging and meaningful pictures. Understanding how people made and used rock art, however, requires attention to the accessibility of the site for artists and audiences.

Accessibility consists of the basic physical access needed to produce or rework rock art, plus visual access for individuals who might be able to see, but not necessarily touch, the images. Accessibility also includes auditory access—whether or not people could hear the sound of artists pecking the stone and any associated activities at the site, such as singing or speaking. All these aspects are affected by the local topography of boulders and cliffs, the size and location of any nearby buildings, and the size and contrast of the images against the background rock.

Some of the San Cristobal locales are relatively small; this one could comfortably hold about a dozen people. IMAGE: MARIT MUNSON

The significance of greater or lesser degrees of accessibility becomes clear when considering rock art in the northern Rio Grande valley of New Mexico. Some Pajarito Plateau sites, such as those in Bandelier National Monument, have petroglyphs



on cliffs immediately within villages. Much of the rock art was made by people standing on the rooftops of rooms built against the cliff face. This very public location suggests that anyone within the village could observe associated activities; if some of the petroglyphs were originally painted, they would have been visible even to people looking down from the opposite side of the canyon. In contrast, some Pajarito rock art is inside cavates, or rooms carved into the soft volcanic tuff of the cliffs. Access to these enclosed locations is restricted, accommodating fewer artists and much smaller audiences.

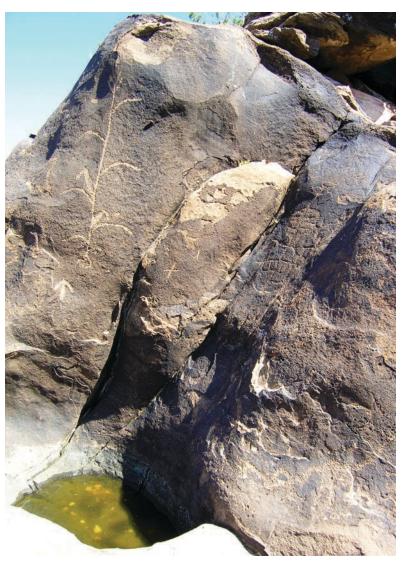
The question of accessibility becomes even more interesting in the rock art of the Galisteo Basin, an area east of the Rio Grande that is known for its large villages, many dating from the Pueblo IV period (1325–1550) up to the Pueblo Revolt of 1680. At Pueblo San Cristobal, hundreds of petroglyphs cluster on a series of low cliffs and boulders that spill down a talus slope toward the village. The layout of the rock art site is distinctive, for the enormous boulders and cliffs combine to create a series of locales, like exterior rooms enclosed on all sides but open to the sky. Some locales could hold a dozen people, but the largest is the size of a tennis court.

Individuals who made their way into these locales had physical, visual, and auditory access to the petroglyphs; some people produced images, while others may have participated by watching, singing, or dancing. Each locale seems to emphasize particular images out

Above: The cliffs of Frijoles Canyon shelter a village of cavate rooms, visible here as rectangular doorways cut into the cliff face. A National Park Service walkway can be seen in the lower left. The black arrow indicates the location of pecked and painted rock art, made by brave persons willing to perch on a narrow ledge high above the village. **Right:** This corn plant at the San Cristobal site was carefully pecked above a small natural basin that collects water. It is surprising that such an important plant was seldom depicted in northern Rio Grande rock art. IMAGES: MARIT MUNSON

of the shared repertoire of the site as a whole: one features multiple cranes or herons; another, owls. All of the rock art is effectively screened from the pueblo by topography, preventing villagers from touching, viewing, or participating. These factors suggest that the San Cristobal rock art was made and used by a variety of small groups—perhaps members of the kinds of religious societies present in today's pueblos. At the same time, all villagers would have been able to see people pick their way up the slope, and they would have overheard at least some of the activities.

The situation is quite different for painted rockshelters, which are located farther afield from San Cristobal. The rockshelters are so small and enclosed—sometimes just a few feet in any dimension—that only a handful of people could have been physically present within them. Far removed from visual or auditory access from the village, these are clearly sites that offer the possibility of complete privacy, even secrecy. Most of these



secluded rockshelters were painted and repainted, with multiple layers of imagery superimposed upon each other, sometimes almost obscuring the images in a wash of pigment. These details suggest that, for these most private of sites, artist and audience were one and the same, returning again and again to add paint to the rock walls. Perhaps these painters were communicating with an audience that was not physically present—a supernatural audience, ready to receive the artist's prayers.

Soundscapes of Rock Art: Cultural Significance in the Past and Implications Today

STEVEN J. WALLER INDEPENDENT RESEARCHER

It began when the mouth of a Paleolithic painted cave in France "spoke back" to me! I realized the reflected sound might have been important to the painters, as well. Rock art is typically found in reverberant spaces, and ancient reverence for sound reflection is preserved in echo and thunder myths. Might sound be used as a tool to understand why people made pictographs

and petroglyphs? If so, how might that help us understand human cognition?

Archaeoacoustics is a relatively new field of interdisciplinary studies that examines the role of hearing in the distant past, applying acoustic technologies and psychoacoustics to archaeological and anthropological investigations. In contrast to traditional and usually subjective methods used to investigate the visual properties of rock art, archaeoacoustic approaches objectively measure the sonic properties of

soundscapes surrounding rock art.

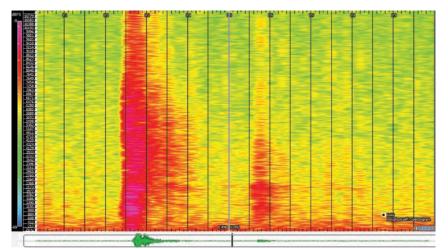
Quantitative archaeoacoustic techniques include impulse response, in which a percussion sound is generated by a repro-

ducible sound source. The sound is recorded and analyzed to determine the presence of any delayed reflections from the stone surfaces at the rock art site. These recordings, including any "extra" sounds, constitute objective data for standard measurement parameters such as intensity, delay time, reverberation decay time, and so on.

An equally important aspect of archaeoacoustic studies involves psychoacoustics—that is, the way in which sounds are perceived. In the absence of a Western scientific understanding of the wave nature of sound, people may have explained echoes and reverberations as the utterances of spirits in the rocks or as thunder deities, as stories from many cultures attest. Rock art motifs often seem to depict such supernatural beings.

Southern Utah's Horseshoe Canyon offered an exemplary case study of the

relationship between sound and rock art. Systematic acoustic recording and analysis throughout the canyon showed a statistically significant correlation of rock art placement and sound



Echogram showing sound reflection, with time on the x-axis (about one second), sound frequency on the y-axis (from about 100 to 10,000 Hz), and sound intensity indicated by color. The vertical bar of red on the left is the percussive impulse sound generated by a spring-loaded device, and the smaller vertical bar of red to the right is the resulting echo from the decorated rock wall. COURTESY OF STEVEN J. WALLER



The "Holy Ghost" pictograph in Horseshoe Canyon, Utah, speaks back. ABOVE: SURFSUPUSA AT ENGLISH WIKIPE-DIA [GFDL (HTTP://WWW.GNU.ORG/COPYLEFT/FDL.HTML) OR CC BY 3.0 (HTTP://CREATIVECOMMONS.ORG/LICENS-ES/BY/3.0)], VIA WIKIMEDIA COMMONS RIGHT (DETAIL): NEAL HERBERT, COURTESY NATIONAL PARK SERVICE

reflection. Hundreds of other examples of echoing rock art sites are found globally, including in California, Nevada, Arizona, New Mexico, and Mexico.

Clearly, it is not just rock art, but also its soundscapes that should be preserved for appreciation and study.

Portable X-ray Fluorescence Spectrometer Analysis of Pictographs

CHRIS LOENDORF, GILA RIVER INDIAN COMMUNITY CULTURAL RESOURCE MANAGEMENT PROGRAM LARRY LOENDORF, SACRED SITES RESEARCH, INC.

Portable X-ray Fluorescence (pXRF) is one of few methods available for studying rock paintings on site, and it is also nondestructive. Using this method, it is possible to determine whether paint ingredients are modern, as in studies of sheep-branding paint on rock surfaces. It is also possible to identify pigments used by artists in the distant past, such as determining whether

black paint was made with manganese or charcoal. The latter application can also be used to record variation within similarly colored paints used at rock art sites.

The pictographs in Picture Cave, Fort Bliss, Texas, consist exclusively of red designs of the Jornada Mogollon tradition (circa 1300–1450). Recent compositional analysis using a Bruker

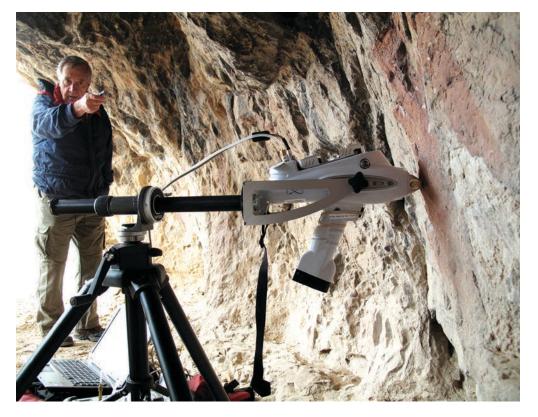
Tracer III-V pXRF showed that the paint contains iron, arsenic, copper, and zinc. These elements are common constituents of ochre, one of the oldest paints used by humankind.

Ochre derives from natural iron-bearing sediments intermixed with various materials, and these impurities vary among

sources. Furthermore, because ancient artisans mixed the ochre with other substances to make the paint, the chemical composition of ochre paints varies, making it theoretically possible to distinguish among figures at a site.

All of the paint used at Picture Cave appears visually

similar, but the compositional analysis identified previously unrecognized chemical differences, suggesting artists used at least two distinct paint batches. This implies that people created the pictographs at different times, or that different people created them at the same time. Further, because we found similar paints in different locations, we can begin to infer how the pictograph assemblage developed over time and across the cave's interior.



Left: Larry Loendorf directing pXRF analysis at Picture Cave. **Below:** Pictograph Panel 1 at Picture Cave, Fort Bliss, Texas, enhanced by DStretch.

IMAGES: CHRIS LOENDORF



Pictograph at Quail Point

ROBERT MARK AND EVELYN BILLO RUPESTRIAN CYBERSERVICES

Together with the late Donald E. Weaver Jr. and more than 50 volunteers, we documented 2,000 panels of petroglyphs at Sears Point, Arizona, from 2008 to 2011—and found no pictographs. In fact, to our knowledge, pictographs have not been reported along the lower Gila River below the Painted Rock Mountains.

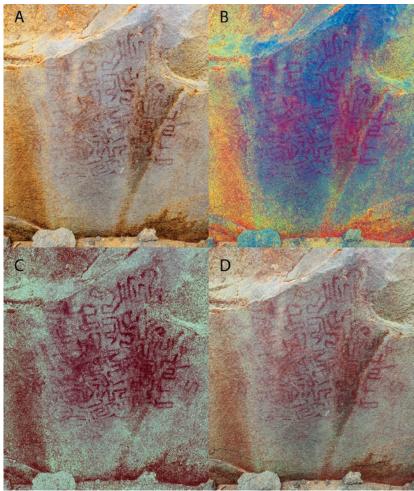
During a 2013 rock art reconnaissance trip to Quail Point, just upstream from Sears Point, we saw a hint of faded red color. The image below shows the surface we photographed. The geometric pictograph design was confirmed in the field through the use of a Canon camera with DStretch, a tool developed by Jon Harman. Computer enhancement of the original digital photograph displays the details of the panel.

Photoshop enhancements take advantage of alternative color space, whereas DStretch uses the decorrelation stretch algorithm. These tools can be combined, using Photoshop layer combination modes, to great effect. The image at right shows

Above: Quail Point pictograph panel as photographed. **Right:** Four enhancements of the original image using: a) Photoshop (slLABa); b) DStretch (Ids); c) DStretch (yre); d) combined Photoshop and DStretch (sl_yre). IMAGES: ROBERT MARK

results of four enhancements, using Photoshop, DStretch, and a combination of both.

Sears Point and Antelope Hill are the only lower Gila River rock art sites to have been reported in detail. We have briefly visited 11 other sites where we saw only petroglyphs. Careful mapping and documentation of these other sites with the aid of image enhancement may reveal additional pictographs. Even if no more paintings are found, detailed documentation of the carvings will provide data about the distribution of design elements, which might help archaeologists unravel the history of human presence along the lower Gila River.



Learn more about DStretch at www.dstretch.com. The apps iDStretch (by Jon Harman) and LabStretch (by Robert Mark) are now available for iOS.

Recent Rock Art Conservation Efforts at Hueco Tanks State Park and Historic Site

TIM ROBERTS AND WANDA OLSZEWSKI TEXAS PARKS AND WILDLIFE DEPARTMENT

Hueco Tanks State Park and Historic Site, near El Paso, Texas, centers on four large rock outcrops that rise up from the surrounding desert. Eroded basins in these rocks can hold water for months following rainstorms, and the water source has attracted people for millennia. Past visitors and residents marked their presence in rock imagery, contributing to more than 275 known panels with over 3,000 individual figures. Most of these figures are pictographs, some of which are several thousands of years old.

Unfortunately, vandals targeted Hueco Tanks for many years before the implementation of a Public Use Plan in 1998. The plan introduced measures that have nearly halted new occurrences of graffiti. Existing graffiti has remained a challenge to treat, however. Conservators relied on conventional techniques, such as the application of solvents and abrasives, to remove much of the graffiti, but this approach is too risky for treating graffiti directly overlying pictographs.

In 2010, Texas Parks and Wildlife Department personnel and a team of conservators and scientists from Illinois-based Conservation of Sculpture and Objects Studio, Inc., the Philadelphia Museum of Art, and the Bruker Corporation of Massachusetts began a treatment plan that uses portable lasers to remove graffiti superimposed over older rock art. We first used noninvasive techniques (X-ray Fluorescence, Raman Spectroscopy, and Fourier Transform Infrared Spectroscopy) to analyze the geochemistry of pictograph

pigments and binders. We also sampled graffiti paints and tested them in a laboratory to determine their composition.

We used the results to create test samples and calibrate portable

lasers for treating the graffiti. Then, in 2011, after tribal consultations, we used the lasers to successfully remove the overlying spray-painted and brush-painted graffiti, without harming any of the underlying pictographs.



Above: Pictograph panel N15A, also known as the Thunderbird site, prior to the removal of the black graffiti. **Below left:** The Thunderbird site after lasers were used to remove the black graffiti, revealing the faint red pictographs beneath. **Below right:** A DStretch-enhanced image of the Thunderbird site showing the pictographs in greater detail. IMAGES: TIM ROBERTS





In Defense of Rock Art

POLLY SCHAAFSMA MUSEUM OF INDIAN ARTS AND CULTURE/LABORATORY OF ANTHROPOLOGY

The proclivity for making pictures and other visual marks and symbols is distinctly human. Throughout the world, inscribed on landscapes and hidden in deep caves, rock art is a lasting document of cosmologies, belief systems, social concerns, and cultural change. Differences in styles and traditions define ancient social boundaries and patterns of interaction, casting a palimpsest of meanings across the landscape and supplementing data acquired through excavations. In the Greater Southwest, these images on stone were created by hunter-gatherers, by village farmers, and by mobile groups displaced due to pressures exerted by European immigrants.

Reasons for making rock art were diverse. Whether carved and painted near campsites, made in the "backyards" of farming villages, located along trails, or marking shrines and places where rituals were performed, rock art defines cultural landscapes within which people lived and traveled. Its function was communication—with people in public or private contexts, or with resident supernaturals, toward beneficial ends.

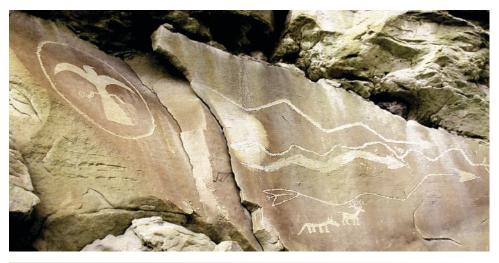
Although rock art has the potential to make an enormous contribution to our knowledge of the past, archaeologists—traditionally occupied with potsherds, stone tools, and architecture—have largely ignored rock art produced by the very people

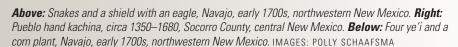
whose pottery and buildings they find so fascinating. Rock art research often has been relegated to "specialists" whose work is mostly read by other such specialists. Nevertheless, over the last 50 years or so, professionals and dedicated members of avocational groups have recorded a vast amount of rock art. Yet these data often reside in storage, unattended and unexplored.

In 2016, however, this situation is changing. Archaeologists are increasingly incorporating religions, cosmologies, and cultural

Synthesizing human and eagle elements, this shield-bearing warrior kachina wields a knife. Northern Tewa, north-central New Mexico, circa 1350–1600. IMAGE: POLLY SCHAAFSMA









landscapes into discussions of the past. Along with paradigm shifts within the discipline of archaeology, technological advances in dating and recording are contributing to rock art's cause. Instead of being "lost in time," or away from habitation sites and "out in the wild," so to speak, rock art can sometimes be dated to specific time frames, strengthening associations among it and other cultural remains. This ability also grants imagery in the landscape much more credibility within the spectrum of archaeological practice.

In addition to their importance to archaeology, petroglyphs and rock paintings have a long and complicated existence. Whether they are thousands of years old or only a few hundred, their

meanings and functions are subject to differing interpretations through time. As rock art garners more attention among archaeologists and the public, it also draws the attention of tribal communities, many of whom are heir to these images. The resulting social ramifications among Native American stakeholders, Euro-American scholars, and the general public are complex, and pose a number of ethical challenges. Collaborations between scholars and Native Americans often provide valuable interpretations that expand archaeologists' views, which are typically framed within Western perspectives. Perceived inherent powers in rock art images elicit responses by Native Americans



that may challenge archaeologists' perceptions, and even strategies for site preservation and management. Indigenous people's understandings of ancient rock art may be subject to revisionist interpretive enterprises, usually appropriate to the present, and often conflicting with the goals of archaeology, which seeks to understand the past.

Regardless of dynamic controversy, the future of rock art studies looks bright. Petroglyphs and rock paintings are there, after all, demanding attention, evaluation, and interpretation. Rock art will prompt inquiries well into the future, testifying to its enduring impact.

PRESERVATION SPOTLIGHT

THIS PLACE IS PROTECTED



If you want to preserve something, it helps to start with a villain, and the Mesa Prieta Petroglyph Project had one ready-made. In 1999, partly because of our villain's mining activities, a group of concerned neighbors undertook a project to record and protect the petroglyphs on Mesa Prieta (also known as Black Mesa) in northern New Mexico. Although our villain's disregard for these amazing images made it easier to engage archaeologists and other petroglyph enthusiasts at the outset of our project, the fact that Mesa Prieta was not well known did not help our cause.

Our initial group comprised archaeologists and citizen petroglyph-buffs. We developed a mission statement and goals: record, to know what is there;

> and educate, to share its value with others and enlist them in efforts to preserve it. Because we are in reasonable proximity to Santa Fe and Taos, hotbeds of archaeological interest, we were able to attract a handful of volunteers. We also worked to involve people from the local pueblos. Through that effort, we met Herman Agoyo, a respected elder from Ohkay Owingeh. Mr. Agoyo felt that we might be able to help preserve part of his community's heritage, and he gave us his wisdom and blessing.

As with most nonprofits, financing was and continues to be one of our biggest challenges. To get started, we needed money for equipment and supplies, and before long, we also needed a person to coordinate everything. We were very fortunate to have a generous donor help us get our program up and running, and now, through endless hard

work, we are fortunate to have Janet MacKenzie as our full-time director. As in the beginning, however, the Mesa Prieta Petroglyph Project is run almost exclusively by volunteers. Candie Borduin and her husband, Lee, oversee the recording program and train teams of volunteers, who must commit to at least 12 field sessions each year. In all, there are nearly 100 of us who accomplish a gargantuan amount of work annually. It takes a lot of friends, blood, sweat, tears, and just plain luck to build and sustain a preservation effort, but we are doing it. (The Mesa Prieta Project also manages the Wells Petroglyph Preserve, a 181-acre parcel on Mesa Prieta now owned and preserved by the The Archaeological Conservancy.)

Our recording program began with visits to local landowners whose property we knew contained petroglyphs. We sought permission to work on their land, promising to be unobtrusive and respectful. We decided to inventory every artifact and feature so that, in addition to rock images, we would document the archaeological record as thoroughly as possible. We also agreed to provide landowners with copies of our records. When the project began, we estimated there might be 20,000 petroglyphs and other archaeological features on the 36-square-mile mesa. In 15 years, we have recorded more than 55,000, and we believe there may be at least 100,000, making it the largest petroglyph site in New Mexico.

We knew from the beginning that the most important audience to reach with our education initiative was the area's radically underserved children, some of whose ancestors created most of the petroglyphs, after all. To this end, we have operated

our national-award-winning Summer Youth Intern Program for 14 continuous years, which brings youth face-to-face with the past. We also created a 400-page STEM-based curriculum for grades 4-7, Discovering Mesa Prieta, which is used in schools from Santa Fe to Taos.

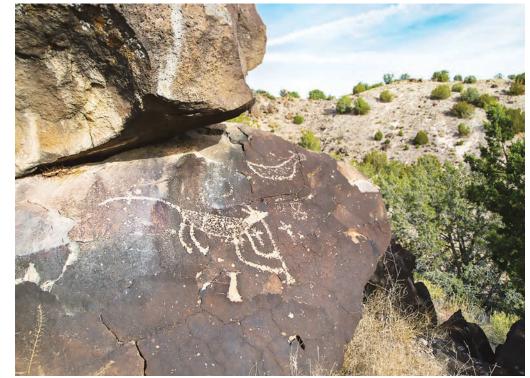
Another, more tangible measure of our educational success is the fact that there is little vandalism at Mesa Prieta, even though a public road runs alongside part of the site.

And the villain? We are now recording petroglyphs on his property.

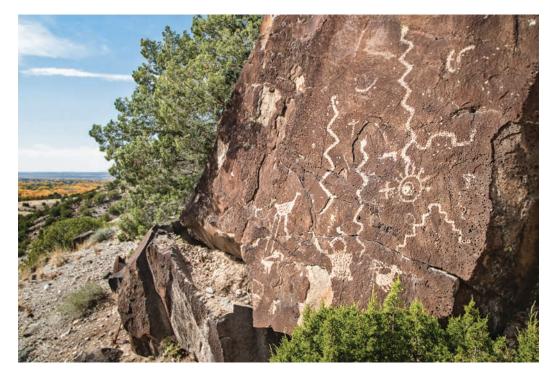
-Katherine Wells Mesa Prieta Petroglyph Project



Above: Summer Youth Intern Program students learn GPS skills. IMAGE: MESA PRIETA PETRO-GLYPH PROJECT STAFF **Below:** Cloud terrace and lightning-like snakes might relate to the importance of rain. IMAGE: CHARLES MANN



Top: Probable Pueblo shield and ceremonial figure. Bottom: One of Mesa Prieta's unique animal flute-players.



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back sight

A picture is worth a thousand steps... Steps?

Yes. Most rock art awaits us well off the beaten path, in distant places that were special to people who came well before us. It is not in urban art galleries or along the city streets where many of us travel.

This issue presents some excellent science. It also shares some perspectives from Native peoples, and is rich with engaging images. But print can only hint at the in-person experience of seeing rock art. To experience rock art in its setting is to share the creative space of persons from another time. It serves as a special entry point to the past. The images I share here represent cherished moments I had in the presence of rock art.

Archaeology Southwest's mission is to explore and protect the places of the past. The density and diversity of rock art in the

Great Bend of the Gila—and the countless generations of peoples it speaks









Top left: Grand Gulch, UT. **Top right:** Rock Art Ranch, Winslow, AZ. **Middle (left):** Sears Point, AZ. **Bottom:** Butler Wash, UT. IMAGES: WILLIAM H. DOELLE

of—are key reasons we are fervent advocates for establishing a national monument on federal lands in the region. We want to protect that rock art and make it possible for everyone to respectfully explore it.

So, I urge you: when you are finished reading this issue, go outdoors, take those thousand (or more) steps, and experience the wonder of rock art—leaving only footprints, of course. Aaron Wright has a list of rock art-rich state and national parks in the Southwest at archaeologysouthwest.org/asw30-2.

hack sight (băk sīt) n. 1. a reading used by surveyors to check the accuracy of their work. 2. an opportunity to reflect on and evaluate Archaeology Southwest's mission.