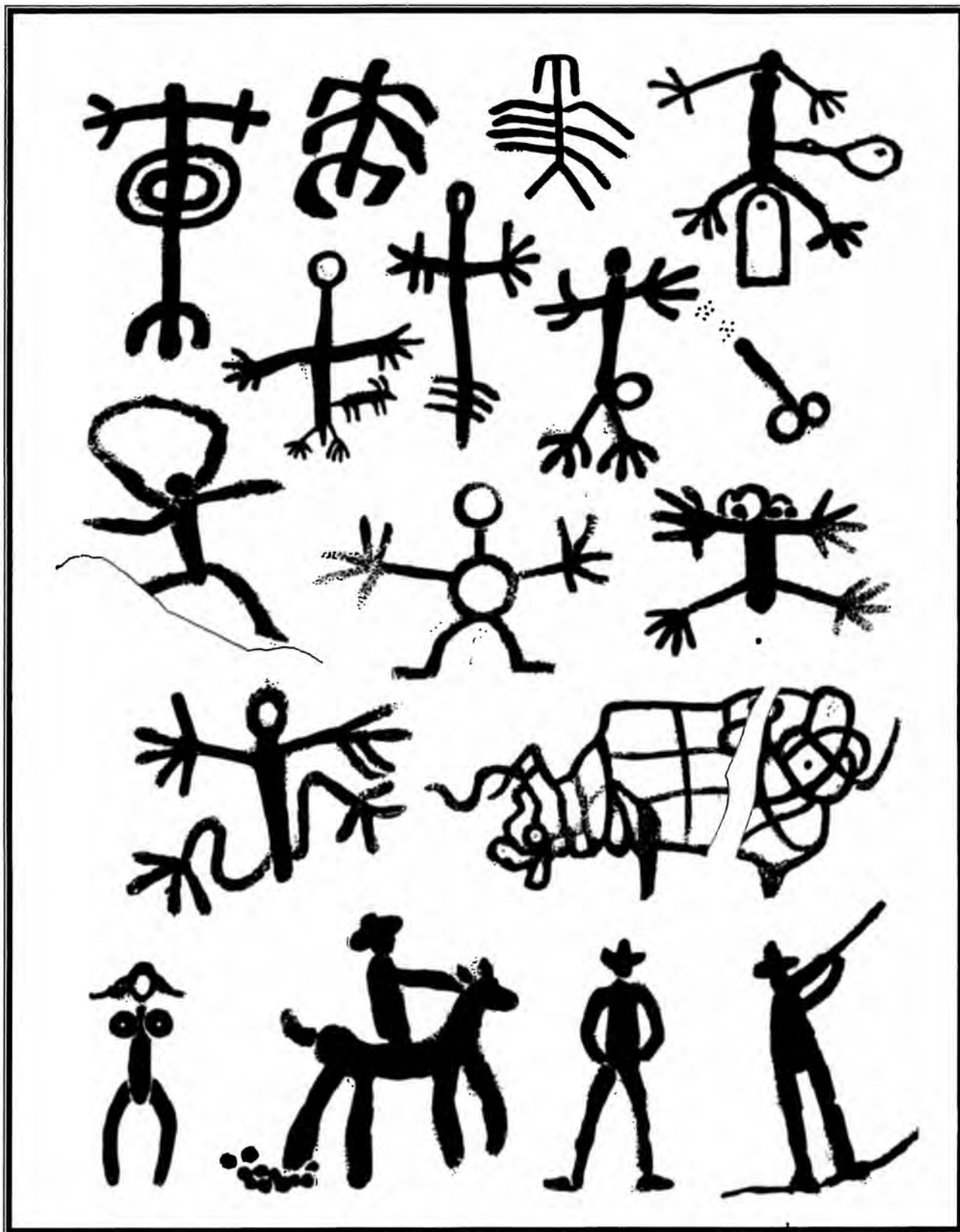


NEVADA ARCHAEOLOGIST

VOLUME 18 2000



NEVADA ARCHAEOLOGICAL ASSOCIATION

NEVADA ARCHAEOLOGICAL ASSOCIATION



The design for the NAA logo was adapted by Robert Elston from a Garfield Flat petroglyph.

Nevada Archaeological Association Officers

President	Anne DuBarton	702-434-2740
	Las Vegas, Nevada	
Secretary	Pat Hicks	702-293-8705
	Henderson, Nevada	
Treasurer	Oyvind Frock	775-826-8779
	Reno, Nevada	

Editor, Volume 18
William G. White
Las Vegas, Nevada

Board of Directors

The Board of Directors of the Nevada Archaeological Association is elected annually by the membership. Board members serve one year terms. The Board of Directors elects the Association's officers from those members elected to the Board. The Board of Directors meets five times a year. Twice in March, immediately prior to, and immediately following the Annual Meeting, once in June, once in September and once in December.

President	Anne DuBarton
	Las Vegas, Nevada
Treasurer	Oyvind Frock
	Reno, Nevada
Secretary	Pat Hicks
	Henderson, Nevada
Newsletter	David Valentine
	Las Vegas, Nevada
Membership	Christi Shaw
	Battle Mountain, Nevada
Member	Wallace Ward
	Fallon, Nevada
Member	Rene Kolvet
	Reno, Nevada
Member	Doug Dashiell
	Ely, Nevada
Member	Steve Daron
	Boulder City, Nevada

Membership

The Nevada Archaeological Association is an incorporated, non-profit organization registered in the State of Nevada, and has no paid employees. Membership is open to any person signing the NAA Code of Ethics who is interested in archaeology and its allied sciences, and in the conservation of archaeological resources. Requests for membership and dues should be sent to the Membership Chairman at the address below. Make all checks and money orders payable to the Nevada Archaeological Association. Membership cards will be issued on the payment of dues and the receipt of a signed Code of Ethics. Active members receive subscription to the *Nevada Archaeologist* and the NAA Newsletter *In Situ*. Subscription is by membership only; however, individual or back issues may be purchased separately.

Dues

Student	\$5
Active	\$12
Active Family	\$15
Supporting	\$25
Sponsor	\$50
Patron	\$100
Life	\$500
Benefactor	\$1000+

Future Issues

Manuscripts submitted for publication in the *Nevada Archaeologist* should follow the style guide of the January 1992 issue of *American Antiquity*. Manuscripts should be typed and double-spaced throughout, including notes and bibliography, and illustrations should be camera-ready with a caption typed on a separate sheet of paper, also double-spaced. Submissions from avocational archaeologists as well as professionals are encouraged.

Manuscripts should be submitted to *Nevada Archaeologist*, P.O. Box 73145, Las Vegas, Nevada, 89170-3145.

General Correspondence

Inquiries and general correspondence with the Nevada Archaeological Association should be directed as follows:

Nevada Archaeological Association
c/o Anne DuBarton (or other board member)
P.O. Box 73145, Las Vegas, Nevada, 89170-3145.

EDITOR'S CORNER

As we close out this millennium (contrary to those who think that year 2000 is the beginning of the next millennium), petroglyphs and/or pictographs, commonly referred to as rock art, have become a subject of much public interest. Rock art as a scientific research domain has been subjected to new hypotheses and methodologies to address posed questions long neglected by the archaeological community. Along with increased public interest and scientific study comes the concern of the Native Americans, often resulting in a clash of cultures and/or philosophies. The issues that affect the resource, whether it is casual appreciation, scientific scrutiny, or protection of the sacred, should be of concern to all native-born Americans for such sites are part of our common cultural heritage.

Featured within the covers of this Nevada Archaeological Association journal are six papers associated with some aspect of rock art research. The presented papers address only some of the many issues involved in understanding the resource. Although the articles specifically pertain to rock art found in Nevada, the information presented is also applicable to rock art sites found throughout the Great Basin. Each of the authors, whether avocational or professional, have extensive experience in this problem domain and are representative of only a handful of such researchers in Nevada.

I wish to thank the authors of this issue who answered my call for papers; I hope that I have done them justice. More of a compiler than an editor, responsibility for mistakes found within this volume rest with me and not with the authors. And so with that, please enjoy this volume, support the Nevada Archaeological Association, and the protection of rock art sites wherever they may occur.

William G. White

Cover: Some of the many anthropomorphs and an unusual zoomorph from the Sloan Rock Art Complex (26CK2240), illustrated by David Smee, 1998.

TABLE OF CONTENTS

Editor's Corner	
William G. White	i
Coming of Age: Rock Art and Reconciliation	
Alanah Woody	1
Something to Think About	
Grace Burkholder	9
Interpreting Nevada's Rock Art – The Balancing Act Between General Theory and Ethnography	
Angus Quinlan	16
Rock Art in the Homeland and on the Border: A Look at Washoe Territory	
Sue Ann Monteleone	26
Skepticism and the Shamanic Model in Rock Art	
William G. White	42
Tinajas at the Six Mile Flat Rock Art Site	
Dawna Ferris-Rowley, Mark Henderson, Farrel Lytle, Manetta Lytle, and Peter Rowley	51

Coming of Age: Rock Art and Reconciliation

Alanah Woody

Abstract

Rock art research has moved from relative obscurity to the cutting edge of archaeological research and is now at a crossroads as the new millennium approaches. Accompanying this rising prominence has also come a rise in academic rancor and intellectual bullying among professionals, in addition to the issues of cultural patrimony that plague archaeology in general. These growing pains suggest that now may be the time to re-evaluate our goals and objectives, as well as examine ways that differences can be reconciled and alternative views respected.

Introduction

The end of this millennium seems an appropriate time to review and evaluate the progress made in the field of rock art research over the last decade and to look ahead to the future. Over sixty years ago, Julian Steward (1936:406) urged archaeologists to begin the serious study of rock art by saying: "when competent archeologists can be enticed to set aside their spades long enough to ponder petroglyphs, we may expect a much better understanding of this interesting subject." Today rock art studies are enjoying a new phase of popularity and critical attention from within the archaeological community and the general public. Accompanying the dramatic increase in interest in the field, however, rock art research has become embroiled in many of the controversies that plague all of archaeology, and there seems to be growing division among the various communities with an interest in the past. If rock art studies are to fully develop their potential, debate must be conducted constructively, acknowledging the value of competing perspectives and also addressing

the interest and concerns of all the communities with a stake in rock art.

This paper is more of a personal narrative than an academic presentation, and deals with two topics that are both emotionally and politically sensitive, but which are fundamentally linked and critical to all archaeological research in the United States. First, the role of Native Americans in archaeological debate; and second, the value of multiple approaches in interpretation and the appropriate tone for discussion. Both are issues in which those with an interest in the past, Native Americans, professional and avocational archaeologists, and the concerned public, must become more actively involved.

As a personal note, I have been studying rock art for a little less than 10 years, and still consider myself to be a newcomer. Because of my sheltered academic career as a student, where alternative views have been encouraged, supported, and otherwise nurtured, I was little prepared for the grim realities of professional bullying, intellectual domination and "turf" guarding out in the "real world" of academic and professional archaeology. I remain optimistic, however, that an appreciation of rock art can transcend the boundaries that divide people. Rock art may prove to be an important locus of conciliation rather than contention, by allowing us all to understand our own humanity a little better and giving rock art's different communities a shared resource to protect, appreciate, and understand.

Like many American archaeologists, I am an anthropological archaeologist—something important for someone whose study domain has powerful resonance for Native Americans. The prehistoric

archaeological record of North America is almost exclusively one made by Native Americans. It should be remembered that our study of another culture's past is not necessarily welcome and frequently is regarded as intrusive and oppressive (Lippert 1996:58).

I recently took my students to a local museum to listen to the resident anthropologist talk about doing anthropology in a museum setting. Her sensitive discussion of both sides of an emotionally charged debate in which she currently finds herself struck us all, and every student commented on it in the short paper they were later required to compose about their museum visit. What impressed me most was why she said that she had become an anthropologist. She said simply that she loves people and loves the things that are different and things that all people share. She admires the culture of Native Americans where she works in the Great Basin, because some of their answers to the questions of being human had found special meaning to her. But she also said that she was shocked and hurt when she discovered that some felt that she was behaving without respect for Indian people in the research in which she was currently involved. I think that she spoke for many archaeologists; I know she did for me.

Native American Involvement

The recent history of North America has been one of colonization—first of the land and then of its indigenous cultures. Over the last 300 years, Native Americans have steadily been displaced from their traditional territories, murdered by settlers, and corralled onto reservations. Solemn treaties guaranteeing to Native peoples land that the U.S. government could find no other use for, have been broken with cynical regularity. Most recently, the attempt to

extinguish Native American culture saw, among other devices of acculturation, the establishment of 'Indian Schools' whose professed function was to turn Native American children into U.S. citizens, "for their own good."

Faced with this, the earliest American anthropologists believed that Native American culture would soon disappear from the world. They set out on a program of 'salvage ethnography' hoping to document indigenous cultures, languages and practices before their extinction (Heizer 1978:12), a very real threat given the devastating effects of Euro-American colonization of Native populations. Those anthropologists enlisted the help of Native people as consultants who were themselves trying to preserve their heritage and the memories of their ancestors. They shared with ethnographers the details of their lives and the stories of their people so that they would not be lost forever even if their own voices were silenced (Wheat 1967:vii). Native Americans today continue to be subjected to oppression and poverty, but, contrary to the expectations of early anthropologists, they did not become extinct, and their voices have not been stilled. Their lives are very different now from those of their ancestors, and some cultural groups have become extinct, but Native Americans are still here—they have not gone away and they have not been turned into white people.

Involvement and respect for Native Americans as custodians of the pre-colonial past has grown in recent years—and rightly so. My own shepherd for many years, Don Fowler, wrote a paper called "Uses of the Past: Archaeology in the Service of the State" (1987), and none of us can deny that archaeologists have contributed to (some might say caused) the schism that exists between themselves and Native people. American archaeologists are not alone in

this and archaeology has sometimes been used around the world to write history to reflect the agenda of the powerful in the present (e.g. Great Zimbabwe: Ndoro 1997:94). The current conflict between American archaeologists and Native Americans seems mostly to do with conflicts over a shared resource to which both believe they have an exclusive right—the product of what Christopher Chippindale (Personal communications, 1999) calls a “divided history.” In addition, Federal mandates contribute to an underlying dynamic for conflict by often putting archaeologists and the Indian people in adversarial positions. Distance and objectivity are perhaps what most Native Americans want from those who study the remains of the past and that of their ancestors. Respect for Native Americans by archaeologists and an awareness of the unjust treatment of Native peoples in the recent past can go a long way toward healing wounds.

I recognize that I am the product of a Western scientific tradition, but I believe that a scientific approach is the best way to guarantee an accurate version of the past from which we can all learn. It must also be acknowledged, however, that there are different ways to know the past, not just Western scientific discourse. Many Native Americans think that archaeology is at best unimportant, because they already know their history. It was taught to them by their elders, as it had been taught to them by their elders, back through time to the beginning. At worst, to many, the practices of archaeology are offensive and sacrilegious, especially in relation to excavations of burials and other sacred places. In some cases, the information that might be acquired is not worth the offense to Native American religious beliefs, and archaeologists need to just walk away. Sometimes, however, it is justified in pursuing (e.g. Spirit Cave Man or

Kennewick Man) because the data may enable us all to better understand very complex questions about the earliest inhabitants of the New World. People have to work hard together to reach a resolution with which all involved can feel comfortable, without compromising the strongly held convictions of anyone. And as with all peoples (including archaeologists), there is a difference of opinion among Native Americans, and some tribes are becoming more actively involved in the scientific archaeology of their past and working through academia and scientific practices to elucidate the history of their people (e.g. the Omaha Nation).

I recognize the important political issues regarding land claims and that somehow whether a specific group has inhabited an area for ten thousand years or for one thousand years might be manipulated to mean that the “newcomers” have no claim to the land or materials on it, or have no rights whatever to be involved in judgements as to how that land should be treated. Such thinking to me is ridiculous—this was Indian land, every square inch of it, and whether their grandparents lived on it for one thousand or ten thousand years is to me immaterial. Issues of the scientific study of burials hinge to a very large extent on exactly who is *genetically* related to whom, a point, which many Native people think, is irrelevant. As Dorothy Lippert (1996:60), herself Choctaw, has so eloquently stated, modern Native Americans feel a “kinship that transcends tribal boundaries [with the] ‘prehistoric’ peoples of North America.” Here it is important to remember that one significant contribution archaeologists can make is “to expose their audiences to the concept of other ways of interpreting the past while at the same time identifying and exposing any deliberate misuse of the past” (Stone and Planel 1999:2). Part of the growing Native American interest in

archaeology may be driven by the fact that legislation has finally given Native peoples a role in determining access to the physical remains of the past, and so for the first time real political clout. It is without question a difficult situation when religion and science collide, but it is not insurmountable if we each begin by acknowledging the others rights and the need for open and honest discussion.

Native Americans must also be a part of the process of understanding rock art, hopefully more and more as principal researchers, but at the very least as advisors and consultants. In spite of some obviously historical Euro-American petroglyphs (e.g. Spanish signatures), the vast majority of rock art in the United States is of Native American origin. They, exclusively, inhabited the New World for a minimum of twelve thousand years, and now it is beginning to look like it may really be a lot longer (Meltzer *et al.* 1997). The prehistory of the New World may turn out to be very much more complex than ever thought before with early migrations from many different parts of the Old World. It is beginning to look like the "melting pot" of peoples is not a Euro-American concept, but may have been the "natural" condition of the New World from the very beginning. But wherever those original migrants came from or how many thousands of years ago it was, they were the First Americans, and their descendants are entitled to a voice in the treatment of the land and the material remains of all its past inhabitants. The descendants of the more recent immigrants, who came a few hundred years ago, have a responsibility to recognize that fact.

Whether or not every panel of rock art was created by the direct ancestors of historic and modern Native American populations in a specific location is irrelevant. Rock art is a particularly striking symbol of a time before the invasion that

would so dramatically change the lives of Native peoples, and so is *of course* significant to modern Native Americans in their efforts to re-construct a cultural heritage devastated by Euro-American colonization of their land. Human beings universally contemplate and ascribe significance to places in their landscape, no less Native Americans than anyone else (Sundstrom 1996), and like all people, where we live is an important part of who we are. In part because of the recent history of treatment of Native peoples, the past *itself* has become sacred to many Native Americans, but is perceived in a variety of ways (Anawak 1996). The attachment of meaning by historic or even modern Native American groups to special places (including rock art sites) in what was unquestionably *their* landscape, is an important part of the ongoing *living* process of building both self and cultural identity.

But we should not mistake this connection between modern Native peoples to the past and places in their landscape which represent that past, with the assumption that somehow modern Native populations "think like" those earlier inhabitants thousands of years ago. This assigns a timeless or unchanging, romantic quality to Indian people that further denies them of their humanity. Again Lippert's (1996:59) statements ring true, "This benevolent, though misguided, viewpoint again places Native Americans in a category other than human. At times it seems easier to contend with clear-cut ignorance rather than well-intentioned romanticization." Native American religious beliefs deserve the same respect given other religious beliefs, but the interest of indigenous peoples are also served if they are allowed access to an unbiased truth about the past (Windschuttle 1997:281). However difficult it might be to rid our thinking of our own biases, that is the ultimate goal of science.

I and others think that much of the rock art in Nevada was made prior to the arrival of historic Numic populations, or was done by the earliest Numic arrivals to socialize their new landscape. But as a large scale social practice, the production of rock art had died out long enough before the earliest ethnographies of Nevada were written for the memory of its significance to have faded. Many of these early ethnographies state that historic Paiute and Shoshone people and their ancestors did not produce the rock art, but rather Coyote or other being from the distant past had created it. My reading of that statement (although certainly not the only possible reading) is that it had been done long ago, during a mythic time when Coyote and other animals set the rules of the world into motion—during the Time When Animals Could Talk. Rock art was already a part of the landscape when the ancestors of modern historic groups arrived. This interpretation, by the way, also respects the oral histories of local Native people that explains that the Paiute and Shoshone came to where they now live from somewhere else. When they arrived, they encountered other people who were already here and drove them off (Fowler 1992:227-252 reviews some of these oral histories).

Some have recently accused those who adopt more literal interpretations of Native American belief and practice as 'racist' (Whitley *et al.* 1999). But I am not trying to "trivialize" Native American beliefs or make them look naïve or childish (Whitley 1998:37) by accepting as true the statements about the "Time When Animals Could Talk." In fact, I personally find such statements to be very similar to my own [Judeo-Christian] cultural myth in which a snake spoke to our first woman [Eve]. Most cultures around the world have similar stories, and the distinctions between humans and animals is often unclear in mythology.

Even the scientific theory of evolution includes a time when animals and humans were the same, before human beings began to diverge from the other animals in very special ways. As a scientist, I believe that all human beings evolved as a single species (in all likelihood in a single place) and are therefore ultimately related and fundamentally equal. My own scientific beliefs are sometimes thought to be in conflict with the religious traditions of my own cultural heritage, but as an anthropologist, I recognize the importance of religion in the lives of many people. I do not deny anyone the right to their profoundly held religious beliefs—whether Native American or not.

But modern Native Americans can no more "read" the meanings of rock art produced thousands of years ago than I can "read" cave art in Europe. Because I believe that Native populations have changed through time (like all human beings change) and do not "think like" Native peoples from thousands of years ago, does that mean that I think Native people have nothing to say about rock art or archaeology in general? Absolutely not. In some areas there is rock art that is clearly historic, some rock art sites were used by historic groups and in other areas ethnographies are rich with references to symbolic practices of all kinds, sometimes even including rock art. My point is that the perspective of Native people is critical to a fuller understanding of the past, and their involvement needs to be encouraged.

Value of Multiple Approach Interpretations and Appropriate Discussion

This brings me to my second point, the acute need for multiple voices in archaeological interpretations—as opposed to the monolithic domination of a single voice.

Progress in science is usually made when old problems are examined in new ways, with a new frame of reference or a new question in mind. Nearly everyone agrees that archaeology as a whole has benefited from the fact that it is no longer exclusively represented by only a small segment of society (i.e. white males). The increase in the number of archaeologists who are women or members of various minority groups has not only changed the face of the discipline, but has broadened and deepened the issues which archaeology can address. Not many would argue that this influx of new ideas and perspectives has hurt archaeology as a science. Whether Native people are themselves archaeologists (which I personally hope will increasingly be the case), their input and insights are valuable for introducing new perspectives. Not simply because they are Indians and embody some kind of non-human, changeless cultural past, but because they are human beings who bring with them a distinctive point of view and a distinctive way of seeing the world from which new questions can be asked and new insights offered. Native voices are critical in introducing new ways of thinking about the past and writing the prehistory of this land.

Several years ago, I was asked by a Native American man at a conference far from home, why we archaeologist didn't just leave Native Americans alone and study our own ancestors? At that time I could not answer the question and was genuinely puzzled by it, but now I think that I can. Although I was born a few hundred miles to the west, when I came to Nevada, like many others, I found my "place." The subtle colors of the Nevada desert starkly contrasted with snow capped peaks: the harshness of the land in some areas contrasted with the lushness of others, all topped off by the beautiful, clear blue Nevada sky make this place like no other.

This landscape now forms a part of who I am, and I have come to love it and its people—in the past and the present. In many ways I now feel that I can genuinely understand the love that Native people feel for the land. The awareness that it was "my ancestors" who took it from the people whose it was, is never far from my mind when I explore the material remains of the earlier inhabitants of Nevada. In some ways I agree with Lippert (1996:61) who suggests that doing archaeology may be a type of penance for those of us who abhor the treatment of Native peoples, in the past and present.

But the thing that I love the most about archaeology is the farthest thing possible from science and is something that avocational archaeologists can probably best appreciate. For me these material remains transcend the boundaries of time and culture. When I hold a piece of groundstone in my hands, I wonder if a woman like myself used this object to prepare a meal for her family, and did she worry over the health of her aging parents or the future of her children—like I do. And when I look at rock art I know that a human being much like myself created it, and the experience brings me closer to the shared human condition and to the things that make us all ultimately members of the same family—regardless of the color of our skin or the way we construct our histories. Rock art, maybe more than any other manifestation of the past, communicates to me this richly nuanced and intricately woven *human* story. For me, the perfect metaphor for understanding the human condition is a tapestry. It takes a lot of different threads to make a tapestry, different colors and different types, all woven together to tell the human story.

As we move into the new millennium, it is important that we work together in rock art research and in archaeology—

professionals, avocationals, and Native Americans. We cannot allow unprofessional behavior and name-calling to re-marginalize rock art research just as it is making such important strides into the mainstream of research. As anthropologists we need to continue to examine the widest and deepest questions about what it means to be human, and as archaeologists we need to involve as great a number of voices as possible—including Native ones, whose history we study. This can only bring more ideas to the table and alternative perspectives that will help us all to understand the past more fully.

Maybe the most sure sign that rock art is taking its place in the center of archaeological research is that it expresses so well the issues that archaeology faces in general. Multiple voices and ideas allow us to develop the richest interpretations, it makes archaeology stronger, but our debates must be carried out without animosity. That does not mean that we all have to agree or think alike. People *can* and *should* have different opinions, different theoretical perspectives, and different interpretive frameworks. Divergence of interpretation reflects the theory-laden nature of the archaeological record, not that those with whom we disagree are uninformed or sinister in their interpretation. If the study of rock art is to avoid a vicious climate of personal denunciation, then its participants must accept that competing theoretical approaches are a sign of a discipline's maturity, not a sign of weakness (Hodder 1991:x). There are different answers—sometimes to the same question—that's what makes human behavior so challenging to study, but also so rewarding.

Acknowledgments

I'd like to thank William White for the opportunity to participate in this volume, and Felton Bricker, Melvin Brown, Amy Dansie and Angus Quinlan for comments on earlier drafts.

References

- Anawak, J.
1996 Inuit Perceptions of the Past. In *Contemporary Archaeological in Theory: A Reader*, R.W. Preucel and I. Hodder, ed., pp. 646-651. Social Archaeology, Blackwell Publishers Inc., Oxford.
- Fowler, C.S.
1992 *In the Shadow of Fox Peak: An Ethnography of the Cattail-Eater Northern Paiute People of Stillwater Marsh*. U.S. Government Printing Office, Washington, D.C.
- Fowler, D.D.
1987 Uses of the Past: Archaeology in the Services of the State. *American Antiquity* 52(2):229-248.
- Heizer, R.F.
1978 History of Research. In *California*, Robert F. Heizer, ed., pp. 6-16. Handbook of North American Indians. Vol. 8. Smithsonian Institution, Washington, D.C.
- Hodder, I.
1991 *Reading the Past*. Second ed. Cambridge University Press, Cambridge.
- Kroeber, A.L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C.
- Lippert, D.
1996 In Front of the Mirror: Native Americans and Academic Archaeology. In *Lessons from the Past: An Introductory Reader in Archaeology*. Kenneth Feder, ed., pp. 57-61. Mayfield Publishing Co. Mountain View, California.
- Meltzer, D.J., Donald Grayson, Gerardo Ardila, Alex Barker, Dena Dincauze, Vance Haynes, Francisco Mena, Lautaro Nez, and Dennis Stanford
1997 On the Pleistocene Antiquity of Monte Verde, Southern Chile. *American Antiquity* 62(4):659-663.
- Ndoro, W.
1998 Great Zimbabwe. *Scientific American* November, pp.94-97.

- Steward, J.H.
1936 *Petroglyphs of the United States*. Smithsonian Institution: Bureau of American Ethnology.
- Stone, P., and P. Planel
1999 Introduction. In *The Constructed Past: Experimental Archaeology, Education and the Public*. Peter Stone and Phillipe Planel, ed., pp. 1-14. London: Routledge.
- Sundstrom, L.
1996 Mirror of Heaven: Cross-Cultural Transference of the Sacred Geography of the Black Hills. *World Archaeology* 28(2):177-189.
- Wheat, M.
1967 *Survival Arts of the Primitive Paiutes*. University of Nevada Press, Reno.
- Whitley, D.S.
1998 History and Prehistory of the Coso Range: the Native American Past on the Western Edge of the Great Basin. In *Coso Rock Art: A New Perspective*, E. Younkin, ed., pp. 29-68. Maturango Museum Publication No. 12. Maturango Press, Ridgecrest, California.
- Whitley, D.S., Joseph Simor, and Ronald Dorn
1999 The Vision Quest in the Coso Range. American Indian Rock Art, Volume 25, Steven Freers, ed., pp. 1-31.
- Windschuttle, K.
1997 *The Killing of History: How Literary Critics and Social Theorists are Murdering Our Past*. The Free Press: a Division of Simon & Schuster Inc., New York.



Something to Think About

Grace Burkholder

Abstract

Hesitate a moment. Take time to ponder and question. Archaeologists make educated guesses about rock art, but nobody really knows what the ancient artists had in mind. Many theories, popular 50 years ago, are being replaced by current research. Can we answer the questions? What do the symbols mean? Who made them and when? Posed are additional questions and short narratives.

Presentation

Question 1: Did Native Americans use trail markers or were petroglyphs placed along a trail to insure a safe journey?

Petroglyphs have been found along aboriginal trails and some researchers have assumed that these symbols marked the trail (Hedges and Hamann 1972). However, the glyphs could have represented small shrines where travelers paused for a few minutes rest or to ask the guardian spirits for a safe journey. For example, in Bali there is a shrine adjacent to the highway, where vehicles may stop voluntarily to offer a prayer to the Goddess of Highway Safety. When a driver stops, an attendant comes out to bless the vehicle with sacred water sprinkled from a coconut shell.

Question 2: Could it be that some of the petroglyphs portraying sheep were really intended to be symbols that suggested virility?

Some authorities have suggested that sheep symbols depict the power of the animals: massive horns for protection, strong necks which permitted males to establish dominance, agile bodies that could climb almost vertical surfaces, and keen eyesight that could see up to five miles away (U.S. Department of the Interior n.d.; Hansen 1985). Perhaps, that is why nearly

all sheep petroglyphs are male animals. It might have been male virility that was being depicted.

Question 3: Did certain glyphs indicate the location of available water or were they placed there for another reason?

The human body cannot survive long without water. Anything as important as a water source in an arid environment would be so well known by all the group's members that there would be no need to mark the location with a petroglyph. If certain glyphs are identified as being found near water sources (Martineau 1973), whether they be streams or stone basins that collect rainwater, perhaps these glyphs represent small shrines where prayers were offered that the water may always be there when needed.

Question 4: Have you ever considered how a social group could manage without a calendar?

Some people believe that calendars were created by agriculturist who needed to establish dates for planting and harvesting. These dates were of utmost importance in regions where the number of frost-free days each year was very limited (Williamson 1987). But present day urbanites depend upon calendars even though they have no farming motives in mind. How would you know when to start preparations for the holidays or when the holidays were scheduled if you had no calendar to track the passage of the days? Native Americans had many rituals and ceremonies that were timed by solar observations. They could predict seasonal changes because they watched the sun's movement along the horizon. They were familiar with the night sky and the

orderly appearance of certain stars (Laird 1976). Even today some societies depend upon the appearance of the new moon to regulate their lunar calendars (Saudi Arabian Oil Co. 1995). Some petroglyphs may have been created to observe particular solar or lunar occurrences.

Question 5: Do petroglyph elements similar to the capital H or I [often found in extreme southern Nevada] represent the ballcourts of Mesoamerica or the struggle between the forces of good and evil?

Hundreds of ballcourts, either H or I shaped, have been identified throughout Mesoamerica. The game played on these courts was an important event in the lives of these people. Disagreement were frequently settled on the ballcourt because it was believed that the gods awarded victory to the just (Mayer 1978). From the very beginning mythological gods had engaged in games of chance that determined the outcome of many situations including weather. It was a good versus evil, life versus death, day versus night struggle. No god consistently won. The ballgame was viewed as an appropriate way for people to determine what was right (Kelly 1991; Wilkerson 1991).

Question 6: Are rows and dots or tally marks some kind of prehistoric numerical system?

Because our culture has many needs for notation it is easy to assume similar needs for early Native Americans concerning rows and dots or tally marks as rock art elements. However, notation is meaningless unless the language used has a word for each numeral. Most hunting-gathering people counted one, two, three, many, thus 27 or 41 had no value beyond many. It is much more likely that the rows of dots or tally marks represented a group of objects of unknown numerical value. Moreover, most of the tallies or dots in a

cluster appear to all have been made at the same time. This fact alone dispels the suggestion that they were a means of notation. However, we do have records of early South Americans tying knots along a cord to keep track of the days until the arrival of a special event. The knotted cord was hand carried to neighboring groups who were invited to participate in a ceremony, one knot being untied each day (Hudson 1985).

Question 7: Could fertility be enhanced through special rituals?

In some places cupules are considered 'baby rocks,' in other locations, 'rain rocks.' Although it seems as if 'baby rock' (Hedges 1982) and 'rain rocks' (Nissen and Ritter 1986) illustrate two different categories of cupules, they might both be included under the heading of 'fertility' or 'increase.' Contrary to present-day concepts, fertility or increase was a highly desirable factor included in many aboriginal prayers. Rain provided food for both grazing animals and mankind. If the animal population increased, hunting became a successful venture. If the human population increased, it was because the gods were pleased with the group. There would be more people to pay homage to the deities.

Question 8: If rocks contain 'power,' can some of that power be acquired by placing a petroglyph on the rock?

Early Native Americans believed that many inanimate objects contained power. Power could be found in rocks, plants, water and animals among other natural features. But this power was only a potential source. It needed to be activated by spirit (von Werlhof 1986). When rock art was applied to the stone surfaces, the power became available to man for his protection, reproduction and security

(Hudson 1985). Some rocks were literally covered with petroglyphs, while other smooth patinated surfaces nearby were left undecorated. The rocks selected, in some unexplained manner, must have contained more power (Grant 1987).

Question 9: Might it be possible that some of the animal familiars (shaman spirit helpers) are represented by petroglyphs?

If a shaman is the person responsible for creating the rock art, as a few researchers have proposed, it might just be that some of his spirit helpers or animal familiars are pictured in rock art elements (Hedges 1992). By pecking the images of bighorn sheep or mountain lions, the shaman possibly could obtain some of their power for himself. Likewise, he might be more readily assisted by these spirit helpers (Bean 1992).

Question 10: Are petroglyphs a form of writing?

If so, all we need to do is figure out the system. In Egypt the hieroglyphs were finally decoded after years of study. Maya picture writing, likewise, has revealed some of its secrets. Because these two remote areas have both produced picture symbols, some rock art researchers have attempted to classify the petroglyph panels as a yet undeciphered form of writhing (Mallery 1972). Archaeologists, however, tend to reject this hypothesis, claiming that a written language needs organization both horizontally and vertically. Writing cannot be established without a place to begin and a direction to proceed. Even if repeated elements are assigned meanings, a panel might say: sheep, dog, anthropomorph or sun. The verbs which control the action are missing along with a recognized starting point. In addition, it is necessary to remember that rock art incorporates elements made by many different cultures

over hundreds of miles and thousands of years (Grant 1981).

Question 11: Do some petroglyphs represent maps created on stone surfaces (Prescott 1994)?

A map is usually an illustration on a flat surface which shows all or part of the earth or heavens. One of its main values is that it is mobile. For example, a city street map or a road map need not be memorized; it can be taken along. Many different aboriginal groups possessed songs which were handed down from one generation to the next. Some of these songs described in lengthy detail the territory which belonged to that group (Laird 1984). The song was as mobile as the traveler. Maps of trails or stream beds would have been superfluous. Everyone knew where they were. Do you need a map to find your kitchen?

Question 12: Is Figure 1 meant to represent a lizard or an anthropomorph?

Some petroglyphs evoke different responses from viewers because, like Rorschach designs (inkblot images), the glyphs have no absolute values. Figure 1 may look like a lizard to some, while others believe it more nearly resembles a man (Schaafsma 1987). Still others refer to it as a lizard-man. This same lack of definitive determination can be applied to many southern Nevada petroglyphs [all of the Great Basin].

Question 13: Why are some petroglyphs hidden while others are readily visible?

In some areas of the world, rock art was considered to be so sacred that women, children and uninitiated men were not allowed to view it. To look without permission could bring serious punishment or even death (Knack 1988). This was a divine prohibition. A shaman might have

constructed rock art elements in hidden areas to help keep them secret. Many calendrical markers are tucked away in small openings under the rocks or in crevices between boulders.



Figure 1. Schaafsma (1980) tells us that this lizard-man design was frequently found in Texas where it has inspired different interpretations. The example shown here is from 26CK12, Grapevine Springs.

Question 14: How long does it take to peck a petroglyph onto a basalt boulder; 20, 30 minutes, or longer?

In west-central Nevada, some years ago, a team of researchers decided to replicate some petroglyphs to determine just how much time and energy it took to create a pecked design. Stone tools were manufactured and simple glyphs were duplicated. Direct percussion was used. A tailed circle measuring about nine inches in total length required 7,588 blows (Figure 2). At 189 blow per minute, the time required was over 40 minutes to duplicate this small, single glyph (Busby *et al.* 1978).

Question 15: Are the depiction of bighorn sheep and suspected hunting scenes representative of hunting magic?

Hunting magic was a popular theory in the 1960s that lasted several decades.

Because a sheep is considered the ultimate prize for a present-day hunter in southern Nevada, it was a long accepted theory that a petroglyph picturing a bighorn sheep somehow involved hunting magic. But sheep petroglyphs are found in areas where no evidence exists to indicate that bighorn sheep ever occupied the surrounding territory (Martineau 1973). Neither bones nor utensils made from sheep horns have been recovered from nearby excavations. Consequently, the hunting magic hypothesis has lost its interpretative magic.

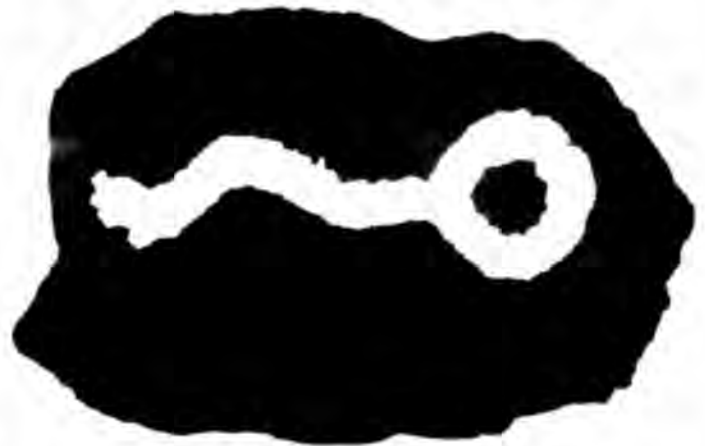


Figure 2. Several years ago, Busby *et al.* (1978) replicated petroglyphs, one depicted here, in north-central Nevada to determine how long and how much energy it required to produce a simple glyph.

Question 16: Why do so many pictographs use only red pigment?

It often has been mentioned that red was the most sacred of all colors. This belief may have had its origin in the long-distant past. Since both human and animal blood is red in color, it has been suggested that the red ochre might resemble this life source (Watson 1983). The red pigment used in pictographs was made from a red clay which was pulverized and then mixed with a binder to make it adhere to the rock surfaces. This clay was a highly prized

commodity, widely traded in prehistoric times (Trimble 1993).

Question 17: Could it be that snakes represent longevity?

Snakes represent symbols of everlasting life in many cultures (Grant 1981). This belief might have had its origin in the fact that even though they grow larger, snakes usually maintain a youthful appearance by regularly shedding their skins. Older animals and humans often display mouths with missing or broken teeth while the mouths of snakes have no such problems. Further, snakes are so secretive that dead specimens go unnoticed unless killed by a vehicle on the highway. In some pueblo societies, the plumed serpent was believed to be the guardian of sacred springs and waterfalls (Williamson 1984).

Question 18: Were petroglyphs still being created at the time of Euro-American contact?

A few scattered petroglyph designs picture men with mules or horses (Figure 3). There is even one glyph in southern Nevada showing a man with an animal drawing a wagon. Almost everyone agrees that these petroglyphs were created after the time of contact with Euro-Americans (Grant 1981). Horses are thought to have been reintroduced to the New World by the Spanish after A.D. 1700.

Question 19: Could this petroglyph element represent an extraterrestrial being (Figure 4)?

Historic Native Americans in the southwest have denied any knowledge concerning who made the petroglyphs or when they were created. This response has encouraged some individuals to suggest that aliens from outer space may have been the artists. At several sites in Lincoln County, Nevada, there are petroglyphs which

possibly could represent these artists. Their outstanding characteristics include antennae-like projection from the top of the head along with large eyes. However, many archaeologists believe that these petroglyphs really portray Native Americans with a single feather fastened in their hair (Schaafsma 1980).



Figure 3. At Stuart Ranch, 26CK40, a petroglyph depicting an animal hitched to a wagon clearly indicates that some glyphs were executed after the arrival of Euro-Americans into the region.

Question 20: When you look at some petroglyphs, can you tell immediately which lines are more recent and which ones are older?

Patina, also referred to as 'desert varnish,' develops over long periods of time on exposed rock surfaces as minute particles of windblown microorganisms and bits of clay are deposited. The depressions in the petroglyph designs slowly collect these materials to affect a gradual change in color from a sharp contrast, when first produced, to the same color as the original surface many thousand years later (Dorn 1990). Some petroglyphs were so important that they were reworked by ancient artists. Other glyphs have had additional features added. Careful examination will reveal older and

newer pecking areas on these glyphs (Grant *et al* 1987).



Figure 4 In Lincoln County, Nevada, similar elements, displaying large eyes and a projection from the head's top, have been recorded [Pahranagat Man].

References

- Bean, Lowell John
1992 Power and Its Application in Native California. In *California Indian Shamanism*, Lowell Bean, ed., pp. 21-32. Ballena Press, Menlo Park, California.
- Busby, C., R. Fleming, R. Hayes and K. Nissen
1978 The Manufacture of Petroglyphs: Additional Replicative Experiments from the Western Great Basin. In *Four Rock Art Studies*, pp. 89-108. Ballena Press, Socorro, New Mexico.
- Dorn, Ronald
1990 Rock Varnish Dating of Rock Art: State of the Art Perspective. *La Pintura* 17(2). American Rock Art Research Association.
- Grant, Campbell
1981 *Rock Art of the American Indians*. Outbooks, Golden, Colorado.
- Grant, Campbell, James Baird and Kenneth Pringle
1987 *Rock Drawings of the Coso Range*. Maturango Museum, Ridgecrest, California.
- Hansen, Charles
1985 Senses and Intelligence. In *The Desert Bighorn*, Gale Monson and Lowell Summer, ed., pp. 113-123. University of Arizona Press, Tucson.
- Hedges, Ken
1982 A Re-Examination of Pomo Baby Rocks. In *American Indian Rock Art*, Vol 9, Frank Brock, ed., pp. 10-21. American Rock Art Research Association.
1992 Shamanistic Aspects of California Rock Art. In *American Indian Rock Art*, Lowell Bean, ed., pp. 67-88.
- Hedges, Ken and Diane Hamann
1991 Look to the Mountaintop: Rock Art at Texas Hill, Arizona. In *American Indian Rock Art*, Vol. 17, Donald Weaver, Jr., ed., pp. 44-55. American Rock Art Research Association.
- Hudson, Travis
1985 Skywatchers of Ancient California. In *Earth and Sky*, Arlene Benson and Tom Hoskinson, ed., pp. 412-448. Slow Press, Thousand Oaks, California.
- Kelly, Charles
1991 The Known Archaeological Ballcourts of Durango and Zacatecas Mexico. In *The Mesoamerican Ballgame*, Vernon Scarborough and David Wilcox, ed. University of Arizona Press, Tucson.
- Knack, Manfred
1988 *The Forgotten Artist, Indians of the Anza-Borrego and Their Rock Art*. Anza-Borrego Desert National History Association, Borrego Springs, California.
- Laird, Carobeth
1976 *The Chemehuevis*. Malki Museum Press, Banning, California.
1984 *Mirror and Pattern: George Laird's World of Chemehuevi Mythology*. Malki Museum Press, Banning, California.

- Mallery, Garrick
1972 *Picture-Writing of the American Indians*, Vol. 1-2. Dover Publications, New York.
- Marineau, La van
1973 *The Rocks Begin to Speak*. K.C. Publications, Las Vegas, Nevada.
- Mayer, Dorothy
1978 H Figures as Possible Ballcourt Indicators. Unpublished paper, U.C.L.A. Rock Art Archives, Los Angeles, California.
- Nissen, Karen and Eric Ritter
1986 Cupped Rock Art in North-Central California: Hypotheses Regarding Age and Social/Ecological Content. In *American Indian Rock Art*, Vol. 2, William Hyder, Helen Crotty, Kay Sanger and Frank Bock, ed., pp. 59-75. American Rock Research Association.
- Prescott, Miles
1994 A Unique Map in Stone. In *Rock Art Papers*, Vol. 11, Ken Hedges, ed., pp. 137-144. San Diego Museum Papers 31. San Diego Museum of Man.
- Saudi Arabian Oil Company
1995 *Saudi Arabia and Its World, Arabia and the Middle East*. Saudi Arabian Oil Company, Dhahran, Saudi Arabia.
- Schaafsma, Polly
1980 *Indian Rock Art of the Southwest*. School of American Research, Santa Fe, New Mexico.
1986 Rock Art. In *Handbook of North American Indians, Great Basin*, Vol. 11. Warren D'Azevedo, ed. Smithsonian Institution.
- Tremble, Stephen
1993 *The People: Indians of the American Southwest*. School of American Research, Santa Fe, New Mexico.
- U.S. Department of Interior
n.d. American Desert Bighorn Sheep in Nevada. Bulletin of Bureau of Land Management. Las Vegas, Nevada.
- Von Werlhof, Jay
1987 The Rock in Rock Art. In *Rock Art Papers*, Vol. 4, Ken Hedges, ed., pp. 1-4. San Diego Museum Papers 21. San Diego Museum of Man.
- Watson, Lyle
1983 *Lightning Bird*. Simon and Schuster, New York.
- Wilkerson, Jeffrey
1992 And Then They Were Sacrificed: The Ritual Gallgame of Northeastern Mesoamerica Through Time and Space. In *The Mesoamerican Ballgame*, Vernon Scarborough and David Wilcox, ed., pp. 45-71. University of Arizona Press, Tucson.
- Williamson, Ray
1984 *Living the Sky: The Cosmos of the American Indian*. University of Oklahoma Press, Norman.



Interpreting Nevada's Rock Art – The Balancing Act Between General Theory and Ethnography

Angus Quinlan

Abstract

Archaeological interpretation relies on a careful mix of general anthropological theory and ethnographic analogy. Rock art studies involve the interpretation of the remains of past symbolic systems; materials, which considered in isolation, are not resistant to flawed interpretive models. A reconsideration of hunting-magic and shamanistic approaches illustrate that the study of Nevada's rock art should be approached from the anthropology of ritual, making clear the interpretive power of Native American commentaries.

Introduction

The study of rock art represents one of archaeology's most challenging fields. It is always easier for archaeologists to deal with material culture made or used in some way with economic reproduction in mind (Hawkes 1954). Understanding such material is not completely reliant on having a detailed knowledge of the cultural practices structuring their production and use. In contrast the anthropological study of symbolism has usually been predicated on the necessity of indigenous exegesis (e.g., Turner 1967). In the absence of such 'informed' sources (Tacon and Chippindale 1998:6) archaeological interpretation needs to be securely grounded in anthropological theory since rock art considered in isolation is not able to resist inappropriate interpretive models. Since the 1960s, Nevada's rock art has been interpreted from the standpoint of hunting-magic (Heizer and Bauhoff 1962) and, more recently, neuropsychological/shamanistic models (Whitley 1992). These two approaches are illustrative of problems faced by rock art studies regarding the role of ethnography and anthropological theory in interpretation.

Hunting-magic

Heizer and Baumhoff's *Prehistoric Rock Art of Nevada and Eastern California* (1962) represents the first major attempt to interpret Nevada's rock art from the standpoint of a general model (Clewlow 1988:13). Heizer and Baumhoff proposed that the rock art of the western Great Basin functioned as a magical device to ensure success in the hunt. They sought to support their interpretation by demonstrating rock art's association with hunting equipment (e.g., the presence of projectile points at rock art locales), game trails, draws and hunting blinds (Heizer and Baumhoff 1962: Table 6).

This approach has been criticized on both theoretical and empirical grounds. The rare ethnographic observation of the making and/or use of rock art for hunting-magic purposes have been cited in arguments against the model (Rector 1985:127). This criticism loses some of its force when it is recognized that there is little ethnographic information concerning the contexts of rock art production and use anywhere in the world, with the exception of Australia and few other isolated cases (Ucko and Rosenfeld 1967:159-160). Further, since magic is often deployed as an aid to economic reproduction in both farming (e.g., Malinowski 1935:61-68) and hunter-gatherer societies (e.g., Steward 1938:34), the model is theoretically plausible. Although by the late 1960s the hunting-magic approach was out of favor amongst most anthropologists, ethnographers did occasionally report shamans making rock paintings depicting game animals desired by hunters (e.g., Reichel-Dolmatoff 1967:111).

Others have undermined Heizer and Baumhoff's approach by pointing out that the hunting-magic model finds no support in Great Basin ethnography (e.g., Whitley 1994a:84). However, this issue was explicitly addressed by Heizer and Baumhoff (1962:11) who argued that the meager ethnography relating to rock art production and use in the Great Basin was best explained as evidence that it was not part of historic Basin cultural practices. Indeed, Julian Steward (1963) believed that the character of Great Basin rock art was largely 'Un-Shoshonean' and further evidence that it had been made by groups different in cultural affiliation from the Numic populations who historically occupied the Desert West. Consequently, it was quite legitimate for Heizer and Baumhoff to regard the absence of any direct ethnographic references to the association of rock art with hunting-magic rites as supporting their approach.

A more telling criticism of the hunting-magic approach is its misinterpretation of archaeological data. In Europe the model's leading proponents at times based their claims for hunting-magic in the cave art of the Upper Palaeolithic on selective use of archaeological data and misinterpretation of it (Bahn 1991). Similarly, subsequent researchers have questioned the accuracy of Heizer and Baumhoff's treatment of the archaeology associated with Nevada's rock art. The presence of plant processing equipment and other habitation debris was frequently overlooked and a larger number of rock art sites are not associated with game trails or hunting blinds (Cannon and Woody in press; Ricks 1996; Ricks and Cannon 1993). Despite these problems, Heizer and Baumhoff's hunting-magic model made a lasting contribution to Great Basin rock art research by focussing attention on the landscape and archaeological context of rock art sites. Theirs represents one of the

first attempts to connect rock art with mainstream archaeology, and it stimulated important research by other archaeologists (Clewlow 1981:80, 1998:14).

Neuropsychology and Rock Art

Today the neuropsychology or shamanistic model (Lewis-Williams and Dowson 1988) is the leading interpretive approach to Nevada's rock art. Largely through the vigorous efforts of David Whitley (1992, 1994a, 1994b, 1998a, 1998b) the rock art of the Great Basin is regarded by researchers in other regions as illustrative of the interpretive power of this approach (e.g., Lewis-Williams and Dowson 1998:204-205; Lewis-Williams 1997:325; Stephenson 1997:129). The neuropsychological model argues that certain geometric motifs and figurative compositions portray imagery (entoptic phenomena or phosphenes) experienced in trance states (Lewis-Williams and Dowson 1988). It is believed that shamans made rock art to record their vision imagery (Whitley 1994a:83, 1994b:4-5, 1998b:148). This approach has a number of problems, particularly its apparent inability to satisfactorily define motifs in rock art that can only signify entoptic phenomena—and thus trance states (Bahn 1998; Davis 1988; Layton 1988; Quinlan in press, n.d.).

However, since the neuropsychological approach claims to be grounded in ethnographic observation, theoretical considerations have not much affected its general popularity. Yet, it is now becoming clear that the shamanistic model has even less ethnographic support than the hunting-magic model. In South Africa, researchers have pointed out that there is little direct support for a shamanistic reading of the ethnographies and alternative approaches to San rock art are equally viable (Solomon 1997, 1998). Likewise, in the

Great Basin researchers are beginning to expose the weak ethnographic foundation of Whitley's (1992, 1994a, 1994b, 1998a, 1998b) shamanistic interpretations (e.g., Monteleone 1998; Quinlan in press, n.d.). Although Whitley (e.g., 1992:96, 1994a:81-82) argues that strong, direct ethnographic support for a shamanistic interpretation of Great Basin rock art was overlooked by previous researchers it is clear that the orthodox view, outlined below, is the more accurate (see also discussion in Monteleone 1998; Quinlan in press, n.d.).

Historic Great Basin attitudes and explanations of rock art illustrate that rock art did not play a significant cultural role. Rock art in Nevada is rarely associated with places of supernatural power (Monteleone 1994, 1998). Rock art locales where shamanistic powers could be acquired are the exception rather than the rule, and at certain of these locales it is the place itself that is important—the rock art is a landmark (e.g., Hultkrantz 1987:54-55). Native consultants generally disclaimed authorship of, and knowledge of the use of, the rock art in their areas (Steward 1929:224; 1937:412-413, 419) and frequently explicitly denied shamanistic authorship (e.g., Driver 1937:86).

Some consultants attribute rock art to mythological figures (e.g., Kelly 1932:137; Stewart 1941:418, 1942:321) and/or other supernatural entities such as Water Baby and Rock Baby (e.g., Driver 1937:86; Hultkrantz 1987:49, 53; Irwin 1980:32; Zigmond 1977:71). By placing rock art in mythic time, consultants seem to have been signaling its perceived antiquity and its general non-incorporation in cultural practices. For example, the Northern Paiute ascribed a variety of archaeological materials, including rock art, to previous mythological inhabitants (Kelly 1932:137, 1964:31) and Coyote (Fowler 1992:106; Stewart 1941:418).

The Kawaiisu and Eastern Shoshone believed that rock was still being made by supernatural agencies. The Kawaiisu believed that rock art was the work of Rock Baby, a supernatural entity tirelessly at work making rock art. Consequently the Kawaiisu "commonly react to a description of a certain group of pictographs by saying, 'It wasn't like that when I last saw it'" (Zigmond 1977:71). Hultkrantz's (1987:49) Eastern Shoshone consultants believed that rock art was made by spirits drawing their own picture, "Indians have told me that in the spring and the summer they have discovered new drawings on the rockface, apparently pecked by spirits since their last visit." However, these were not metaphorical expressions that rock art was being made by shamans or other members of the group, but logical explanations necessitated by the perceived observation of change.

Judging by the contorted arguments and misreading of ethnographic data, Whitley finds necessary to impose a shamanistic interpretation on the rock art of California and the Great Basin, it is clear that his approach lacks support from 'informed sources' (see Quinlan in press, n.d.). Perhaps, the most serious error found in such a direct and uncritical use of ethnography is its denial of the cultural dynamism of Native American societies. Whitley (1998a:14-15, 1998b:161-163) argues that all rock art, irrespective of date or location in the Great Basin and California, was shamanistic in the context of its production and use. As Monteleone (1998:25) succinctly puts it, this implies that "the far west has been stagnating for 10,000 years." Further, by arguing that the only valid interpretations are those that are directly attested in ethnography Whitley fails to recognize the limitations of ethnographic analogy in archaeological interpretations (Binford 1981:197-198). As

Bailey (1983:174) noted, an over-reliance on ethnographic analogy implied that "we can never discover in the data of the past any generalizations that we do not already now."

Rock Art and Ritual

Clearly rock art interpretation relies upon striking a careful balance between general theory, ethnography and archaeology. In general, attempts to recover prehistoric theology have failed, suggesting that a focus on explanation rather than understanding would be most profitable (Quinlan 1993:50-51). This is not to imply an approach that privileges the individual subjectivity of the archaeological observer. Rather, we should seek to approach rock art from the perspective of anthropological observers for whom ritual and symbolism plays a critical role in understanding the social order of the cultures they study (Bloch 1977:286). In addition, the emotional force of symbolism and ritual are potentially an important mechanism by which the social order is accepted (Turner 1969:49). Consequently, by concentrating on the social dimensions of rock art we are at least capable of capturing some of the connotations that it may have evoked for its original makers and subsequent users.

Rock art can reasonably be regarded as a residue of the symbolism that is articulated within ritual. Ritual frequently plays a critical role in the social reproduction of non-western societies (Durkheim 1926 [1915]; Radcliffe-Brown 1952:154, 159; Turner 1957:289-292). Ritual and the symbolism deployed within it do not necessarily have clearly defined 'meanings' (e.g., Lewis 1980:19, 51). Few societies provide a full commentary on their symbolism and a range of symbolic behavior remains tacit and difficult to explicate, although individuals may have fairly systematic intuitions about it (Sperber

1975:20-22). Although ritual is frequently perceived as expressing deep truths (Boyer 1990:79-80) it does not necessarily have much prepositional force (Bloch 1974:75-77). However, this ambiguity permits ritual and its symbolism to be capable of evoking numerous interpretations and responses, increasing its emotional force. The authority and veracity of ritual is guaranteed by behavioral, oral and material indices of the presence of the supernatural entities or forces (Boyer 1990:88). Ritual frequently provides a context for competing and contested social representations to be negotiated. Consequently, ritual and its symbolism can be said to function as a kind of light source—not to be looked at but to illuminate (Sperber 1975:70) the social world (Strecker 1988:30).

Rock art provides important evidence regarding changing patterns of ritual in Nevada. Historically, rock art was not generally incorporated into ritual practices, with the exception of a small number of 'Doctor Rocks' used to relieve illness. Depictions of cowboys and horses illustrate that some rock art was made historically. However, this rock art's production and use was not linked to any wider cultural practice. Consequently, prehistoric rock art has been regarded by a number of researchers (e.g., Bettinger and Baumhoff 1982; Heizer and Baumhoff 1962; Steward 1940:478) as important evidence of pre-Numic populations. While rock art cannot directly address the linguistic and cultural affiliation of its makers, it does provide evidence of social organizations requiring some degree of formal public ritual to facilitate their reproduction (Woody and Quinlan 1998). This contrasts with the ritual life of Numic populations that are characterized by a general lack of public ceremony (Fowler and Fowler 1971:8). Seasonal dances were the only large-scale group rituals to be performed, and these

were not held primarily or exclusively to resolve social disputes (Steward 1938:45-46, 1941:265). This lack of public ritual in historically known Great Basin societies is a direct result of the lack of conflict concerning social organization. Dissatisfaction with leadership or other social tensions were simply resolved by band members switching allegiance to another band or family cluster (Steward 1938:246-253). Hence, the sparse ritual of the Great Basin and the non-incorporation of rock art into ritual routines is unsurprising. The making and use of rock art 'affords' a context for protected social communication to take place—a context that historic Great Basin groups did not need to exploit (Woody and Quinlan 1998).

The frequent association between rock art and domestic materials, such as grinding slicks, groundstones etc., also implies changing patterns in settlement structure. In contrast to historic Native American settlements, which generally did not incorporate rock art, many rock art locales were not places set apart from the routines of daily life. This observation has been used to undermine shamanistic interpretations, which suggest that rock art was made in sacred locales visited by shamans alone (Cannon and Woody, in press). This association may imply that rock art locales lacked sacred or supernatural connotations for their original makers and users prior to the production of rock art. The presence of rock art at sites used in the ordinary seasonal round suggests that rock art originally served to create an appropriate locale for the performance of ritual. In this sense the location of rock art sites was not deliberate or meaningful since their locales were not visited for the primary purpose of making rock art or incorporation into ritual. It seems that rock art was made because people were already there.

The spatial proximity of sacred and mundane space, and the incorporation of ritual materials and structures into the routines of daily life has often been used to infer a weak discrimination between the supernatural and social worlds (e.g., Quinlan 1993:153-157). This is not an unreasonable inference given that anthropologist frequently note that social actors do not discriminate between their social and religious worlds (e.g., Bloch 1985:34). This is not to imply that the original makers of rock art did not regard certain natural features in the landscape as of sacred significance—but in the absence of any material expressions of such status we obviously cannot recognize such features.

The veracity and emotive power of religion and ritual are guaranteed by their putative generation by the supernatural entities and/or forces, in contrast to the veracity of ideology which is guaranteed by its supposed rationality (Quinlan 1993:49). Consequently, for rock art to become associated with supernatural forces either knowledge of human agency in its production would have needed to be forgotten, or those active in its production would have been conceived as 'triggered' by the supernatural (see Boyer 1990). Coupled with the proximity of domestic routines, it would seem that to its original makers and users rock art locales were fitting backdrops for ritual performance. Particularly dense concentrations of rock art may have acted as a magnet for people, for example the Coso Range, California (Monteleone and Woody 1999).

Further suggestions that rock art functioned as a backdrop for ritual includes scratched rock art which superimposes other rock art in attempt to enhance or embellish it (Woody 1996:60). This may imply a desire to conserve cultural tradition not add to it and would be consistent with a notion of rock art as ritual locale. However,

elsewhere scratched art has been interpreted as an act of deliberate defacement by incoming populations wishing to cancel the power of the art made by those who preceded them (Bettinger and Baumhoff 1982).

The idea that rock art was made to provide an appropriate ritual backdrop would suggest that its production should be episodic in character. However, it is not really possible to be able to determine whether rock art production was restricted to discrete episodes or was continuous in nature. Even where one can seemingly identify distinct phases of production there still remains the problem of translating a relative chronology into a real one. Woody (1996) has argued that useful relative chronologies can be constructed by observing differing degrees of patination in panels with clear superpositioning, providing some temporal information for superimposed styles. This avoids the failings inherent in other methods of relative chronology that assume that stylistic variations are unproblematic indicators of temporal variation (McGlade 1999:143-144). However, whilst such an approach might be able to identify phases or sequences of rock art production, it remains unable to clarify the temporal significance of such phases of production. Woody's (1999:130) constructed four phase chronology for the Massacre Lake rock art site (Oregon) could refer to punctuated rock art production, fitting in with a model that rock art was made and retouched when necessary to maintain an appropriate ritual stage. In this scenario rock art would have been used continuously. Alternatively, the same relative chronology could imply that rock art was only used at the time it was made. The same difficulties apply to sites where distinct phases of production cannot be readily identified—does this indicate

continuous or episodic rock art production or usage?

Conclusion

Clearly, rock art studies represent a challenging interpretive field and requires that a careful balance is struck between ethnography and general theory. Ethnography frequently provides a valuable starting point for analysis, but very direct uses of it to elucidate the context of prehistoric rock art should be resisted. The shamanistic model illustrates the problems of an over-reliance on ethnography in archaeological interpretation—past cultures are portrayed as pale, static copies of their ethnographic counterparts. In contrast, the hunting-magic model illustrates the problems that can result from an over-enthusiastic use of a general theory—archaeological data not amenable to one's preferred theory can be overlooked. However, the latter did generate valuable research by encouraging research-driven studies of the environmental context of rock art locales. In contrast the shamanistic model, with its aversion to quantification and exploration of the structural relationships between rock art elements (e.g., Lewis-Williams 1991:159), currently does not generate much empirical research. Without detailed documentation of the frequency and distribution of rock art imagery, and the spatial and environmental contexts of rock art locales, our interpretations can only be, at best, broad and speculative. It is therefore important that rock art theories be securely grounded in general anthropological theory and produce empirical data. One example, not discussed here, are landscape approaches (e.g., Bradley 1997; Hartley 1992; Tacon 1994) which add to our understanding of how rock art locales developed their special attachment for their makers and subsequent

users, whilst generating data on the spatial and environmental contexts of rock art sites. Hopefully, the ritual approach to rock art outlined here provides a more common-sense use of ethnography to elucidate the social contexts of rock art production and use.

Reference

- Bahn, P.G.
 1988 Comments on *The Signs of All Times*, by J.D. Lewis-Williams and T.A. Dowson. *Current Anthropology* 29:217-218.
 1991 Where's the Beef? The Myth of Hunting Magic in Paleolithic Art. In *Rock Art and Prehistory: Papers Presented to Symposium G of the AURA Congress, Darwin 1988*, P.G. Bahn and A. Rosenfeld, ed., pp. 1-13. Oxbow Monograph 10. Oxbow Books, Oxford.
- Bailey, G.N.
 1983 Concepts of Time in Quaternary Prehistory. *Annual Review of Anthropology* 12:165-192.
- Bettinger, R.L. and M.A. Baumhoff
 1982 The Numic Spread: Great Basin Cultures in Competition. *American Antiquity* 47:485-503.
- Binford, L.R.
 1981 Behavioral Archaeology and the 'Pompeii Premise.' *Journal of Anthropological Research* 37:195-208.
- Bloch, M.
 1974 Symbols, Song, Dance and Feature of Articulation: Is Religion an Extreme Form of Traditional Authority? *Archives Europeennes de Sociologie* 15:55-81.
 1977 The Past and the Present in the Present. *Man* (n.s.) 12:278-292.
 1985 From Cognition to Ideology. In *Power and Knowledge: An Anthropological and Sociological Approach*, R. Fardon, ed., pp. 21-47. Scottish Academic Press, Edinburgh.
- Boyer, P.
 1990 *Tradition as Truth and Communication*. Cambridge University Press. Cambridge.
- Bradley, R.
 1997 *Rock Art and the Prehistory of Atlantic Europe: Signing the Land*. Routledge, London.
- Cannon, W. and A. Woody
 In press Were They Throwing Groundstone at the Deer? In *Invisible No More: Women's Roles and Activities in the Archaeological Record of the Great Basin*, K. Lupo and M. Leach, ed. University of Utah Press, Salt Lake City.
- Clewlow, C.W.
 1981 Rock Art Research in the Great Basin: Some Historical Comments. *Journal of California and Great Basin Anthropology* 3(1):78-83.
 1988 The History of California Rock Art Studies. In *Coso Rock Art: A New Perspective*, E. Younkin, ed., pp. 11-26. Maturango Museum Publications No. 12 Maturango Press, Ridgecrest, California.
- Davis, W.
 1988 Comments on *The Signs of All Times*, by J.D. Lewis-Williams and T.A. Dowson. *Current Anthropology* 29:222-224.
- Driver, H.E.
 1937 Cultural Element Distributions. VI-Southern Sierra Nevada. *University of California Anthropological Records* 1(2):53-154.
- Durkheim, E.
 1926 [1915] *The Elementary Forms of the Religious Life*. 2nd ed. Allen & Unwin, London.
- Fowler, C.S.
 1992 *In the Shadow of Fox Peak: An Ethnography of the Cattail-Eater Northern Paiute People of Stillwater Marsh*. U.S. Government Printing Office, Washington D.C.
- Fowler, D.D. and C.S. Fowler
 1971 Anthropology of the Numa: John Wesley Powell's Manuscripts on the Numic People of Western North America, 1868-1880. *Smithsonian Contributions to Anthropology* 14.
- Hartley, R.J.
 1992 *Rock Art on the Colorado Plateau: Variability in Content and Context*. Avebury, Aldershot.

- Hawkes, C.F.C.
1954 Archaeological Theory and Method: Some Suggestions From the Old World. *American Anthropologist* 56:156-168.
- Heizer, R.F. and M.A. Baumhoff
1962 *Prehistoric Rock Art of Nevada and Eastern California*. University of California Press, Berkeley.
- Hultkrantz, A.
1987 *Native Religions of North America: The Power of Visions and Fertility*. Harper and Row, San Francisco.
- Irwin, C.N.
1980 *The Shoshoni Indians of Inyo County, California: The Kerr Manuscript*. Ballena Press, Independence.
- Kelly, I.
1932 Ethnography of the Surprise Valley Paiute. *University of California Publications in American Archaeology and Ethnology* 31(3):67-210.
1964 *Southern Paiute Ethnography*. *University of Utah Anthropological Papers*, No. 69, Salt Lake City.
- Layton, R.
1988 Comments on *The Signs of All Times*, by J.D. Lewis-Williams and T.A. Dowson. *Current Anthropology* 29:226-227.
- Lewis, G.
1980 *Day of Shining Red: An Essay on Understanding Ritual*. Cambridge University Press, Cambridge.
- Lewis-Williams, J.D.
1991 Wrestling with Analogy: A Methodological Dilemma in Upper Paleolithic Art Research. *Proceedings of the Prehistoric Society* 57:149-162.
1997 Harnessing the Brain: Vision and Shamanism in Upper Paleolithic Western Europe. In *Beyond Art: Pleistocene Image and Symbol*, M.W. Conkey, O. Soffer, D. Stratmann and N.G. Jablonski, ed., pp. 321-342. *Memoirs of the California Academy of Sciences* No. 23, San Francisco.
- Lewis-Williams, J.D. and T.A. Dowson
1988 The Signs of All Times: Entoptic Phenomena in Upper Paleolithic Art. *Current Anthropology* 29:201-245.
- McGlade, J.
1999 The Times of History: Archaeology, Narrative and Non-linear Causality. In *Time and Archaeology*, T. Murray, ed., pp. 139-163. Routledge, London.
- Malinowski, B.
1935 *Coral Gardens and Their Magic*. Kegan Paul, London.
- Monteleone, S.A.
1994 *Rock Art in Context: The Pictographs of the Eleana Range Southern Nevada*. Unpublished M.A. thesis, University of Nevada, Reno.
1998 Great Basin Rock Art: Numic Tradition or Multicultural Diversity? In *American Indian Rock Art*, Vol. 22, S.M. Freers, ed., pp. 19-28. American Rock Art Research Association, Tucson.
- Monteleone, S.A. and A. Woody
1999 Changing Light on the Cosos. In *American Indian Rock Art*, Vol. 24, S.M. Freers, ed., American Rock Art Research Association, in press.
- Quinlan, A.R.
1993 *Towards an Archaeology of Religion*. Unpublished Ph.D. thesis, Department of Archaeology, University of Southampton.
1998 Shamanism and the Rock Art of Far Western North America: A Critical Re-appraisal. Paper presented at 63rd Annual Meeting of the Society for American Archaeology, Seattle.
In press. The Ventriloquist's Dummy: A Critical Review of shamanism and Rock Art in Far Western North America. *Journal of California and Great Basin Anthropology*.
n.d. Shamanism and the Rock Art Interpretation: Flying High? MS available from author.
- Radcliffe-Brown, A.R.
1952 *Structure and Function in Primitive Society*. Cohen and West, London.
- Rector, C.H.
1985 Rock Art as Hunting Magic: Anthropological Fact or Fiction? In *Rock Art Papers* Vol. 2, K. Hedges, ed., pp.127-132. San Diego Museum of Man.

- Reichel-Dolmatoff, G.
1967 Rock Paintings of the Vaupes: An Essay of Interpretation. *Folklore Americas* 27:107-113.
- Ricks, M.F.
1996 *A Survey and Analysis of Prehistoric Rock Art of the Warner Valley Region, Lake County, Oregon*. Department of Anthropology, University of Nevada, Reno.
- Ricks, M.F. and W.J. Cannon
1992 A Preliminary Report on the Lake County, Oregon, Rock Art Inventory: A Data Base for Rock Art Research. In *American Indian Rock Art* Vol. 12, W.D. Hyder, ed., pp. 93-106. American Rock Art Research Association, San Miguel.
- Solomon, A.
1997 The Myth of Ritual Origins? Ethnography, Mythology and Interpretation of San Rock Art Research. *South African Archaeological Bulletin* 52:3-13.
1998 Ethnography and Method in Southern African Rock Art Research. In *The Archaeology of Rock Art*, C. Chippindale and P.S.C. Tacon, ed., pp. 268-284. Cambridge University Press, Cambridge.
- Sperber, D.
1975 *Rethinking Symbolism*. Cambridge University Press, Cambridge.
- Stephenson, C.M.
1997 Shamanism and the Rock Art of Bigelow Crossing. In *American Indian Rock Art* Vol. 23, S.M. Freers, ed., pp. 127-136. American Rock Art Research Association, San Miguel.
- Steward, J.H.
1929 Petroglyphs of California and Adjoining States. *University of California Publications in American Archaeology and Ethnology* 24(2):47-238.
1937 Petroglyphs of the United States. In *Annual Report of the Board of Regents of the Smithsonian Institution for 1936*, pp. 405-425. Smithsonian Institution, Washington, D.C.
1938 *Basin-Plateau Aboriginal Sociopolitical Groups*. Bureau of American Ethnology Bulletin 120. Smithsonian Institution, Washington, D.C.
1940 Native Cultures of the Intermountain (Great Basin) Area. In *Essays in Historical Anthropology of North America, Published in Honor of John R. Swanton*, pp. 445-502. Smithsonian, Washington D.C.
- 1941 Culture Element Distributions: XIII – Nevada Shoshoni. *University of California Anthropological Records* 4(2):209-360.
- Stewart, O.C.
1941 Culture Element Distributions: XIV – Northern Paiute. *University of California Anthropological Records* 4(3):361-446.
1942 Culture Element Distributions: XVIII – Ute-Southern Paiute. *University of California Anthropological Records* 6(2):231-356.
- Strecker, I.
1988 *The Social Practice of Symbolization: An Anthropological Analysis*. Athlone Press, London.
- Tacon, P.S.C.
1994 Socializing Landscapes: The Long-term Implication of Signs, Symbols and Marks on the Land. *Archaeology in Oceania* 29:117-129.
- Tacon, P.S.C. and C. Chippindale
1998 An Archaeology of Rock Art Through Informed Methods and Formal Methods. In *The Archaeology of Rock Art*, C. Chippindale and P.S.C. Tacon, ed., pp. 1-10. Cambridge University Press, Cambridge.
- Turner, V.W.
1957 *Schism and Continuity in an African Society*. Manchester University Press, Manchester.
1967 *The Forest of Symbols*. Cornell University Press, Ithaca.
1969 *The Ritual Process*. Routledge Kegan Paul, London.
- Ucko, P.J. and A. Rosenfeld
1967 *Paleolithic Cave Art*. McGraw-Hill, New York.
- Whitley, D.S.
1992 Shamanism and Rock Art in Far Western North America. *Cambridge Archaeological Journal* 2:89-113.
1994a Ethnography and Rock Art in the Far West: Some Archaeological Implications. In *New Light on Old Art*, D.S. Whitley and L.L. Loendorf, ed., pp. 81-93. University of California, Los Angeles.
1994b Shamanism, Natural Modeling and the Rock Art of the Far Western North American

- Hunter-Gatherers. In *Shamanism and Rock Art in North America*, S.A. Turpin, ed., pp. 1-43. Special Publication No. 1. The Rock Art Foundation, San Antonio.
- 1998a Finding Rain in the Desert: Landscape, Gender and Far Western North American Rock Art. In *The Archaeology of Rock Art*, C. Chippindale and P.S. C. Tacon, ed., pp. 11-29. Cambridge University Press, Cambridge.
- 1998b Meaning and Metaphor in the Coso Petroglyphs: Understanding Great Basin Rock Art. In *Coso Rock Art: A New Perspective*, E. Younkin, ed., pp. 109-174. Maturango Museum Publications No. 12. Maturango Press, Ridgecrest, California.
- Woody, A.
1996 *Layer by Layer: A Multigenerational Analysis of the Massacre Lake Rock Art Site*. University of Nevada, Reno.
- Woody, A. and A.R. Quinlan
1998 Marks of Distinction: Rock Art and Ethnic Identification in the Great Basin. Paper presented at the 26th Bi-Annual Meeting of the Great Basin Anthropological Conference, Bend, Oregon.
- Zigmond, M.L.
1977 The Supernatural World of the Kawaiisu. In *Flowers of the Wind. Papers on Ritual, Myth and Symbolism in California and the Southwest*, T.C. Blackburn, ed., pp. 56-96. Ballena Press, Socorro.



Rock Art in the Homeland and on the Border: A Look at Washoe Territory

Sue Ann Monteleone

Abstract

The ethnographic record for the Washoe provides little information about rock art. Many areas within Washoe territory are apparently devoid of rock art, while areas in closer proximity to the boundary have large concentrations. This paper looks at the archaeological record in order to enhance the ethnology. It focuses on whether or not the rock art distribution reflects ethnic identity, and on variations in context, content and distribution. This paper was first presented at the 1998 Great Basin Anthropological Conference, Bend, Oregon.

Introduction

This research began as an attempt to correlate the occurrence of rock art in Washoe territory with the existing ethnographic record and with the archaeological record, to determine if any explanations could be derived from patterns of distribution or style. The study is still in a preliminary phase, and of course, raises far more questions and enigmas than it began with.

Washoe nuclear territory occupies approximately 4,000 square miles along the eastern Sierra Nevada front (the homeland), and also includes at least 10,000 square miles of peripheral seasonal exploitation range (the borderland) as shown in Figure 1. Rock art in Washoe territory has an unusual distribution (Figure 2). While present in some quantity in the Truckee Meadows, Mt. Rose fan, Peavine Mountain, and Donner Summit, approximately 75% of the Washoe heartland has virtually no rock art. Pitted boulders and cupules are found at a variety of locations in the Lake Tahoe basin, but not petroglyph designs. Pictographs (painted rock art) are virtually non-existent.

In contrast, along the eastern border area with the Northern Paiute, rock art sites

become more numerous, and include some of the most important petroglyph sites in northwestern Nevada—such as Lagomarsino and the High Basins, as well as the only pictograph site in the greater Washoe territory. This paper investigates the phenomenon of this distribution, using available information from the ethnographic and archaeological records. It is also focused largely on the Nevada portion of Washoe territory, since records for that were most accessible to the author.

The Homeland

Rock art that occurs within the nuclear territory takes dominantly the form of petroglyphs. Cupule boulders are known at a few locations in the high country—Lake Tahoe basin (Rabe Meadow, Spooner Lake) and at Martis Creek, but no other designs are known in the higher elevations except at a large site at Donner Pass. In the lower valleys of the heartland, where populations wintered, petroglyphs are known only along the Truckee River corridor and in the southern Truckee Meadows. No rock art is reported in published literature from the northern area through Sierra Valley to Honey Lake, and only three boulders are reported from the southern area, none of which have been relocated (d'Azevedo 1956:10,18; Heizer and Baumhoff 1962:35). A historic Euro-American petroglyph site near Genoa recorded by d'Azevedo is being studied by Hilbish and McLane and will not be discussed here.

The Donner Pass site (CA-NEV-4) is the most westerly rock art within Washoe territory, nearly on the western border. It is also the highest rock art in the territory, on an open expanse of sloping granite, along

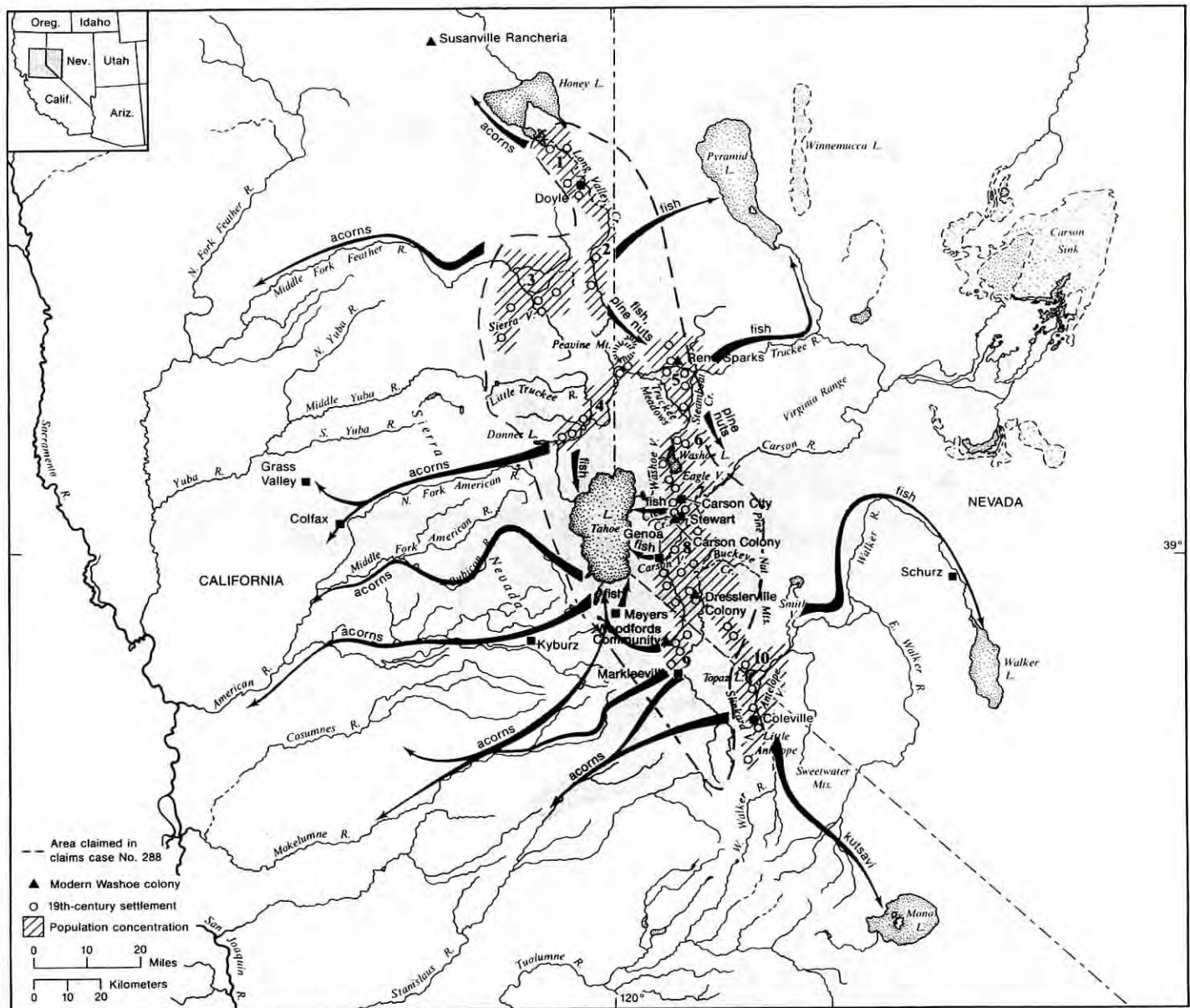
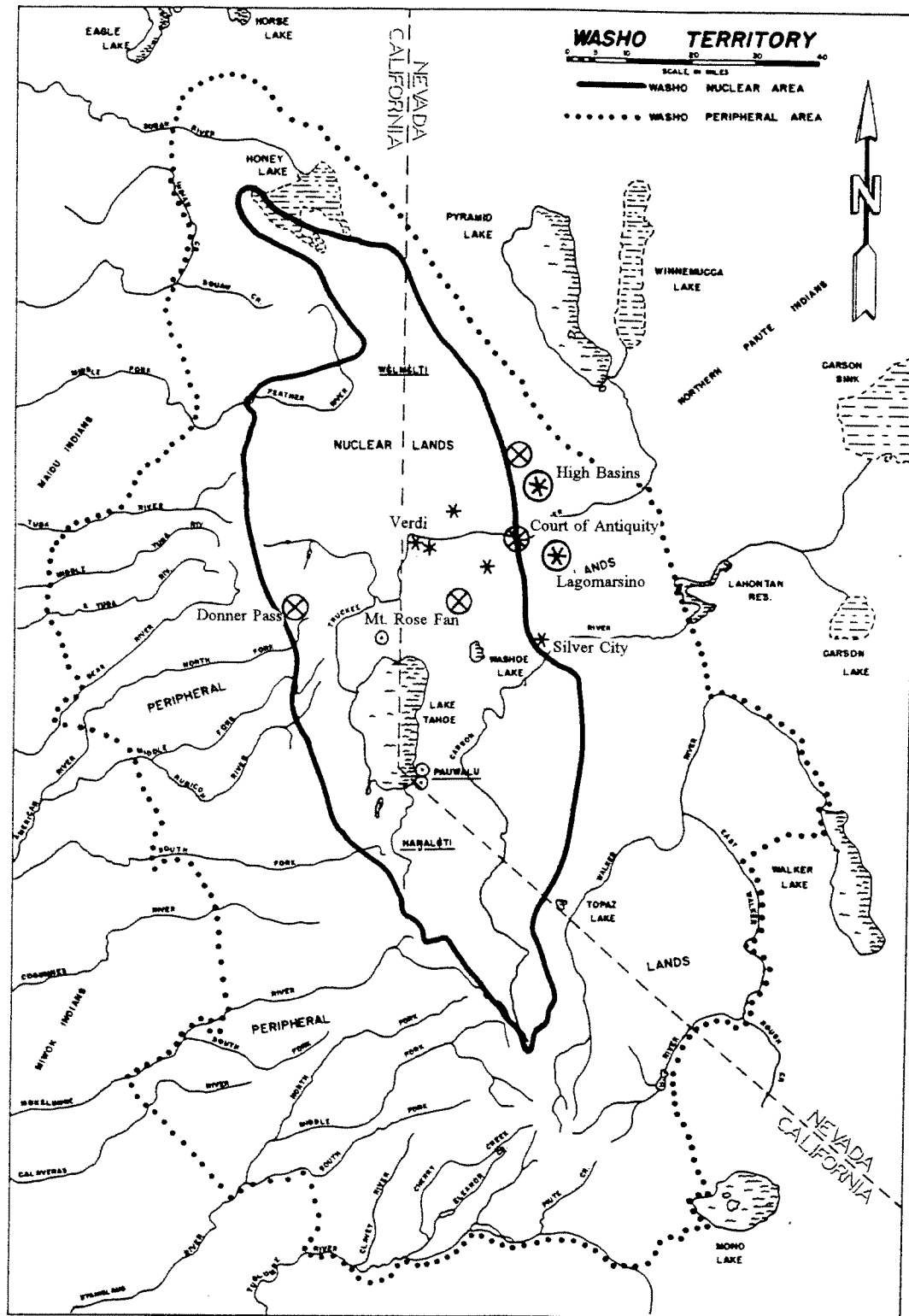


Fig. 1. Early 19th-century Washoe core area (tone) with regional communities: 1, *dísem dá'aw detdé'yi*? 'seepweed(?) lake dwellers'; 2, *čó'ya' wála detdé'yi*? 'tule river dwellers'; 3, *?múčim detdé'yi*? 'grass-place dwellers'; 4, *?álabi' wála detdé'yi*? 'fish river dwellers'; 5, *?á'waku wála detdé'yi*? 'cui-ui river dwellers'; 6, *čó'ya' dá'aw detdé'yi*? 'tule lake dwellers'; 7, *?ušéwi wála detdé'yi*? '(rabbit-) drive river dwellers'; 8, *pá'wa detdé'yi*? 'valley dwellers'; 9, *dačilgáš dewbeyúme' detdé'yi*? 'dwellers in the corner where rivers flow away out'; 10, *?uná-biya detdé'yi*? 'salt-place dwellers'. Arrows show routes to important resources within the total Washoe range. Dashed line delimits the area claimed for the Washoe before the Indian Claims Commission (Docket No. 288), after O.C. Stewart (1966:map 21). Southwestern extension of the core area after Barrett (1917: map1) and Kroeber (1925: pl. 37, 570).

Figure 1. Map of Washoe territory and resource exploitation (after d'Azevedo 1986:468).



○ cupule boulder * small rock art site ⊗ large petroglyph site ⊛ major petroglyph complex

Figure 2. Map of Washoe nuclear and peripheral territory (after Price 1980:Plate I) with rock art sites added.

what is probably a natural travel route.

Stylistic studies by Foster *et al.* (n.d.:5, Fig.1) attribute the Donner site petroglyphs to a style found on the western side of the Sierra—'Style 7' as described by Payen (1966). It is one of only two sites of that style on the eastern side of the Sierra crest. Foster *et al.* (n.d.:27-30) associate Style 7 rock art with the Martis archaeological complex, placing it between 4000 and 1500 before present (B.P.). The abstract designs seen at Donner Pass indeed fit Payen's (1966) description of Style 7, including circles and wavy lines (Figure 3), rarity of anthropomorphs, and especially emphasis and incorporation of natural rock features such as the outlined inclusions seen in Figure 4.

Where the Truckee River crosses the eastern border of the Washoe homeland (as shown on the claims map from 1951, Nevers 1976:90) there is an unusual petroglyph site known as 'The Court of Antiquity' (26Wa2). While the Donner Pass site is on sloping bedrock, the petroglyphs at the Court of Antiquity are predominantly on a broad horizontal ledge on the north bank above the Truckee River. A break in the ledge also provides a vertical surface for designs.

This location appears to be excellent for fishing—large cui-ui can be seen in the shallows of the river from above on the rock ledge. I had thought that there might be similarities between sites along the Truckee corridor, but the designs at the Court of Antiquity are very different from those at Donner Pass. They tend to be smaller in scale and composed of finer details (Figures 5 & 6). Designs on vertical faces appear to be somewhat larger than those on horizontal surfaces, and have been more impacted by modern vandals (Figure 7).

A few boulders with petroglyphs and others with cupules are known near Verdi close to the Truckee River, and on the slopes

of Peavine Mountain. The Washoe apparently permitted use of Peavine Mountain and access to the Truckee River to the Northern Paiute (d'Azevedo 1956; Folwer 1969:12; Price 1980). Clearly, the river was a valuable resource, both for its food and water, and as a travel and trade route. This area along the river and up over Donner Pass can be referred to as the Truckee corridor.

Among rock art researchers, Heizer and Baumhoff (1962) and Heizer and Clewlow (1973) said little specifically regarding the Washoe and rock art, although they described sites within Washoe territory. Heizer and Baumhoff (1962:65) cite a historic account in which Washoe people told George James (1921) that the petroglyph boulder near Verdi was made by ancestors as a warning to the Paiute not to trespass beyond that sign, and that the Paiute had similar signs on boulders near their boundary. Heizer and Baumhoff dismissed this explanation since the site is not on the Washoe-Paiute boundary. However, one should consider the travel and trade corridor that the Truckee River represented—perhaps the petroglyphs are a reminder that one is *within* Washoe territory.

Price (1980:1-2) included rock art in his summary of his work with the Washoe:

There are about two dozen sites of rock art in Washoe territory. These are petroglyphs that have been pecked, scratched, and rubbed into rock surfaces, apparently more than one thousand years ago. They are similar in design to others along the east slope of the Sierras, in Nevada, and in southern California, an area occupied primarily by Shoshoneans at White contact times. The designs are usually geometric, especially curvilinear, but include some naturalistic elements. The general study of petroglyphs in this area



Figure 3. Donner Pass petroglyph site, CA-NEV-4.



Figure 4. Donner Pass petroglyph site, CA-NEV-4 (left side up).



Figure 5. The Court of Antiquity petroglyph site, 26Wa2 (left side up).

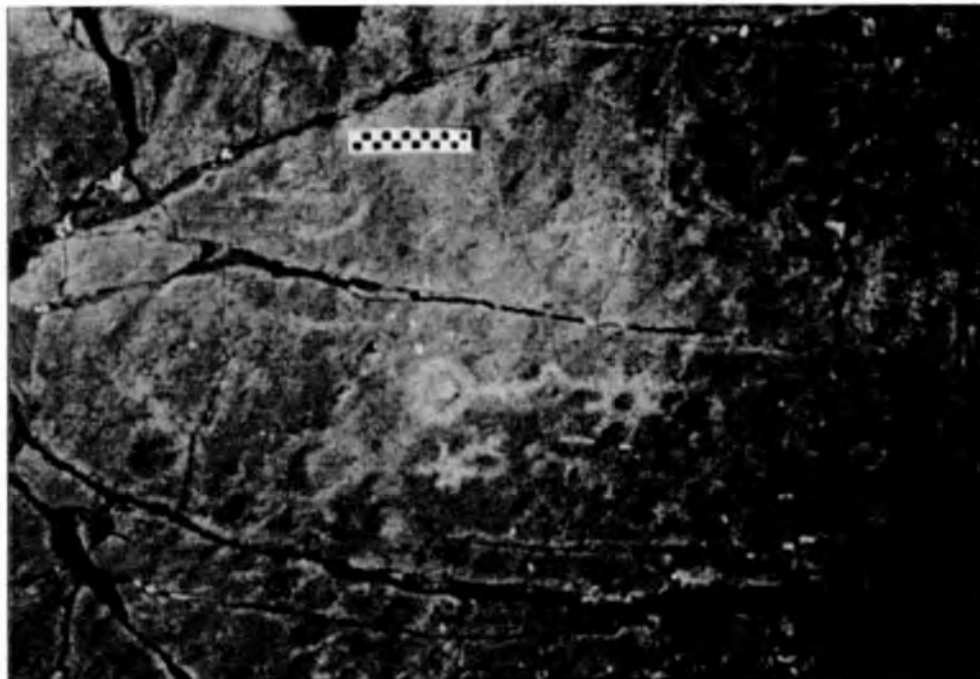


Figure 6. The Court of Antiquity petroglyph site, 26Wa2 (left side up).



Figure 7. The Court of Antiquity petroglyph site, 26Wa2.



Figure 8. Mt. Rose Fan petroglyph site, 26Wa99, faint designs with pecking along cracks.

indicates some evolution of forms, with some forms, sun, star, and several curvilinear forms being generally made thousands of years earlier than such forms as the gridiron, rake, cross-hatching, and other angular forms. Some sites seem to have been used for long periods of time so that the art styles from different time periods are now found on the same rock surface. The rock art sites seem to be in areas where there is sloped bare rock and where one can get a good view of the movements of game animals.

In the Truckee Meadow to the south of the river there is one petroglyph boulder on Rattlesnake Hill, and a large area of numerous petroglyph and cupule boulders on the Mt. Rose fan near Thomas Creek (26Wa99). The Thomas Creek area is a rich occupation complex with dense lithic debris, groundstone, abundant plant and animal resources, year-round water, a nearby tool material source, and rock art. Special note should be taken of the boulders with designs and with natural cracks enhanced by pecking (Figure 8, above).

In addition to the many large boulders and bedrock with petroglyphs, a smaller boulder covered with cupules was found at this site (Kautz et al. 1995). Known as the Effigy Rock, it also has grooves carved in it giving the suggestion of frog-like face (Figure 9). Two offering rocks in southern Washoe territory were reported by d'Azevedo's (1956:10) informants; one was said to be full of little holes and star marks. Offerings were dropped in holes in the rocks. Perhaps this effigy boulder may have had a similar function.

Several petroglyph boulders from a portion of 26Wa99 less than a mile from the Effigy Rock are now located at the Washoe

Senior Center in Dresslerville. They each show unique geometric designs (Figures 10 & 11). The Effigy Rock was also removed under an agreement between the land owner and the Washoe tribe, and is currently housed at the Nevada State Museum awaiting installation at a location to be chosen by the tribe.

Site 26Wa99 is most clearly within the Washoe homeland, the petroglyphs are part of an occupation area with recent archaeological evidence where people lived, prepared food and made tools. Although Washoe ethnographic informants did not describe this site, it is impossible that they did not know of it. Of the sites discussed in this paper, the art at this site could most justifiably be called 'Washoe.' To carry this idea further, one could then say that Washoe rock art consists of cupule boulders and lightly pecked geometric designs of stars, zig-zags, diamond chains, connected circles, line patterns, and includes enhancement of natural rock features such as cracks. However, all of these elements are fairly common throughout the Great Basin, so an exclusive Washoe style cannot be defined at this time.

The Borderland

Along the eastern border of the Washoe homeland, where contact and interaction took place with their Northern Paiute neighbors, and both groups shared resources, several large petroglyph sites and a number of smaller sites are found. This border is also the location of a small but unique site near Silver City (26Ly103) where pecked petroglyphs, paintings and scratched designs occur together (Rogers 1992). This is the only pictograph site in the greater Washoe territory, and one of very few in the Great Basin where the three techniques appear together.

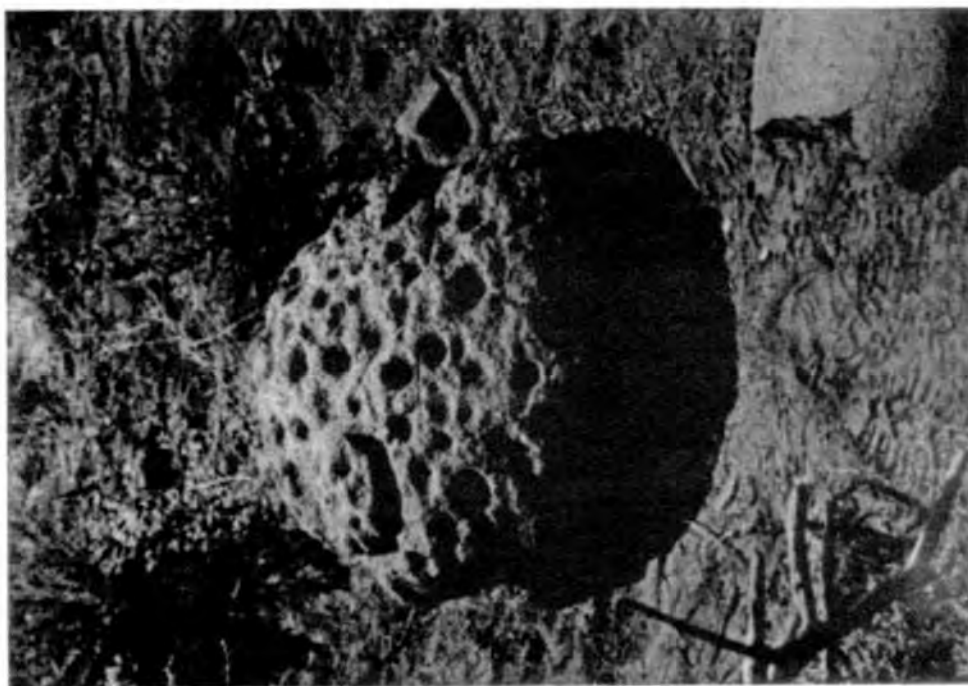


Figure 9. Effigy Rock at 26Wa99 (left side up).



Figure 10. Petroglyph boulder from 26Wa99 (left side up).

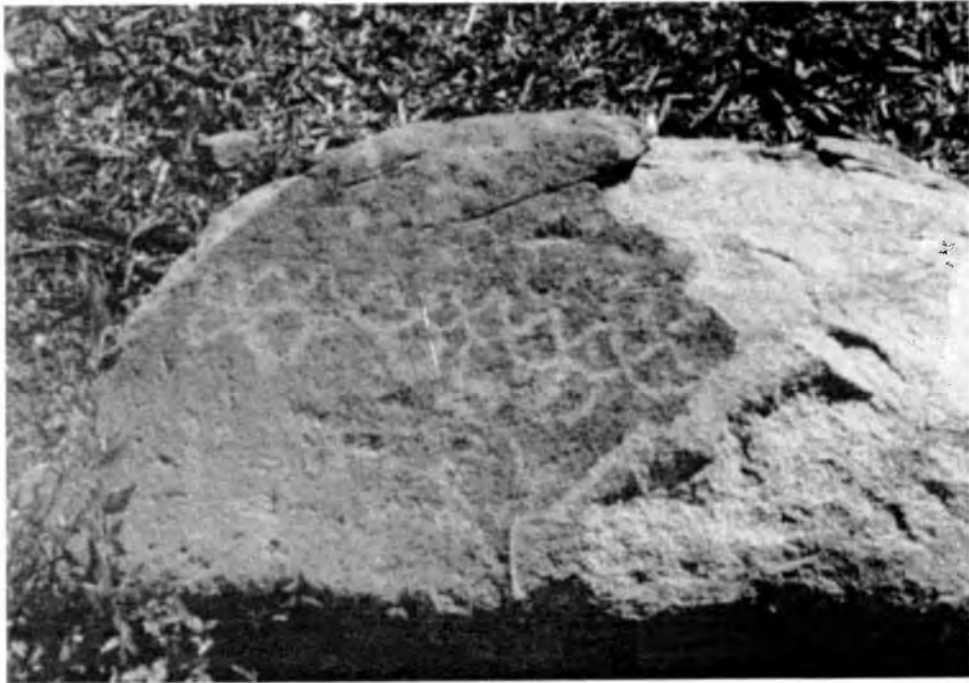


Figure 11. Petroglyph boulder at 26Wa99.



Figure 12. Rock 'rooms' at the High Basins Complex (left side up).

The eastern Washoe borderland is most significantly the location of two of the larger petroglyphs complexes in northwestern Nevada, the High Basins and Lagomarsino. Interestingly, both sites are in high country only a few miles north and south respectively of the Truckee River. However, both the terrain and the art are distinctly different.

The High Basins Complex (26Wa 1604-1614, 2848-2852) is set in a high, dry, rocky region that may have provided antelope and seed resources in the past. Rock rings and large rock rooms built against bedrock outcrops are the dominant archaeological feature here (Figure 12, above), with grinding stones associated with virtually every room. Petroglyphs are also closely associated with the rooms, including a panel of anthropomorphs on an outcrop face forming the back of a room structure (Figure 13).

The petroglyph designs at the High Basins Complex display wide variety, and also varying ages of manufacture (Figures 14 & 15). Curvilinear abstract elements are predominant, but there are also rectilinear designs, and most visually impressive although not really most numerous are the anthropomorphs. These are highly animated, diverse anthropomorphs, and are probably the largest quantity of human figures at any northwestern Nevada site.

The other famous petroglyph complex in the borderland (26St1) is set in the upper reaches of Lagomarsino Canyon on the south side of the Truckee River. Here in a rich resource area with a usually year-round stream and in sight of Pinyon trees is a mile-long stretch of volcanic rimrock covered with petroglyphs. The talus slopes below the rim face are also covered with petroglyphs, and there are many smaller sites in the surrounding few miles.

The first impression of the Lagomarsino site is of the large bold

rectilinear designs on panels of the vertical rimrock (Figures 16-18). A multitude of designs appear on the talus boulders below, and show several generations of manufacture. Although not dominant, there are numerous anthropomorphs scattered on the boulders also, and at least one bighorn sheep. Among the petroglyph boulders at the base of the hill are scattered milling surfaces, and occupational debris is found on the flats along the stream.

Discussion

It has been suggested by archaeologists that the petroglyphs were made by inhabitants of the region prior to the Washoe presence (Heizer and Baumhoff 1962), while at the same time others suggest that the Washoe have been present in their homeland for thousands of years (Elston 1971). Whether made specifically by the Washoe or not, the distribution pattern remains curious—why were no petroglyphs made in large areas of this territory? And why do large, notable sites occur on the border? Does this represent deliberate cultural behavior?

The ethnography records numerous named rock formations that feature in Washoe creation tales. The place names and other linguistic evidence suggest long occupation in the region (d'Azevedo 1956; Price 1963, 1980; Dangberg 1968; Nevers 1976). If petroglyphs were already here when the Washoe arrived in the region, why have they not been given distinct names, or incorporated into the tales of the land?

Several places, most notably Cave Rock at Lake Tahoe, are known to be the special places of shamans or doctors who communicated with the spirit world. While magical phenomenon is described as happening at these places, there is no rock art at these sites, and no mention of shamans making rock art at them. At one location



Figure 13. Anthropomorphs at rear wall of room at High Basins petroglyph site (left side up).



Figure 14. Large anthropomorphs and curvilinear designs at High Basins petroglyph site.



Figure 15. Varying ages of petroglyphs, High Basins.



Figure 16. Bold rectilinear petroglyphs at Lagomarsino.



Figure 17. Rectilinear grid and Elko point petroglyph designs at base of rimrock, Lagomarsino.



Figure 18. Wide variety of designs including zoomorphs and anthropomorphs at Lagomarsino.

between Woodfords and Sorenson's a doctor was said to make drawings, but this place has not been relocated by researchers (d'Azevedo 1956). Washoe religion and shamanism were strongly developed, but there is no evidence that shamans made petroglyphs.

This situation is in considerable contrast to the dominant interpretive theory on rock art which propounds that most rock art was made by shamans as part of their vision-power quest (Hedges 1983; Whitley 1992). Here in Washoe territory we have good records of shaman's activities, and very little rock art occurs, certainly not at their primary spiritual sites. It is apparent that the making of rock art was not necessary to the Washoe shaman's practice and success.

Perhaps other explanations would be better in Washoe territory. Maybe rock art occurs in the Truckee Meadows/Truckee River corridor because it was a travel route long used by many groups. Rock art may have been made when groups met, to show outsiders that this was Washoe territory, or by the outsiders as they passed through. Some could have been made by peoples who may have preceded the Washoe and Paiute in the region.

The large sites along the border and in the borderland are in rich resource areas—seeds and game at the High Basins; seeds, game, Pinyon and water at Lagomarsino; fish and riverine resources at the Court of Antiquity. In these border and shared resource areas it may have been more necessary to show presence and ownership than in the secure homeland. On the other hand, perhaps the making of rock art was a result of ceremonies and activities when larger groups of diverse people congregated in these resource areas.

This paper has not covered every Washoe territory rock art site in detail, nor have I cited every report available, but rather

I have tried to present some of the impressions that have developed during my research. More detailed comparisons of the sites are needed, as well as input from Washoe people regarding the place of rock art in past and present life.

Summary

Petroglyphs in Washoe territory occur primarily along the Truckee corridor and along the eastern border. No cohesive 'style' could be recognized by this preliminary research, each site has a unique character. Each of the sites are in unique resource locations or travel routes. Based on both ethnographic and archaeological information, petroglyphs in Washoe territory are probably more related to resource and group activities or contact, than to individual shaman's activities.

References

- Dangberg, G.
1968 Washo Tales: Three Original Washo Indian Legends. *Nevada State Museum Occasional Paper 1*. Carson City.
- d'Azevedo, W.L.
1956 Washo Place Names (Manuscript, Department of Anthropology, University of Nevada, Reno).
1986 Washoe. In *Handbook of North American Indians*, Vol. 11, Great Basin, W. Sturtevant, ed., pp. 466-498.
- Elston, R.G.
1971 A Contribution to Washo Archaeology. *Nevada Archaeological Survey Research Papers 2*. Reno.
- Foster, D.G., J. Betts, and L. Sandelin
n.d. The Association of Style 7 Rock Art and the Martis Complex in Northern Sierra Nevada of California. California Department of Forestry and Fire Protection, in press.
- Fowler, C.S.
1969 The Black Springs Site (26Wa1200), Washoe County, Nevada. *Miscellaneous*

- Paper 1, Nevada State Museum Anthropological Papers 14. Carson City.*
- Hedges, Ken
1983 The Shamanic Origins of Rock Art. In *Ancient Images on Stone*, J. Van Tilburg, ed., pp. 46-61. Los Angeles: UCLA Rock Art Archives.
- Heizer, R.F., and M.A. Baumhoff
1962 Prehistoric Rock Art of Nevada and Eastern California. Berkeley: University of California Press.
- Heizer, R.F., and C.W. Clewlow, Jr.
1972 Prehistoric Rock Art of California. 2 vols. Ramona, Calif.: Ballena Press.
- James, G.W.
1921 The Lake in the Sky. Radiant Life Press, Pasadena, Calif.
- Kautz, R., D. Tuohy and J. Hutchins
1995 A Saurian Effigy from Washoe County, Nevada. *Nevada Archaeologist* 13:42-52.
- Mallery, G.
1893 Picture Writing of the American Indians. Tenth Annual Report of the Bureau of American Ethnology. Washington, D.C.
- Nevers, J.A.
1976 Wa She Shu: A Washo Tribal History. Reno: Inter-Tribal Council of Nevada.
- Payen, L.A.
1966 Prehistoric Rock Art in the Northern Sierra Nevada, California. Unpublished Master's thesis, Sacramento State College, Sacramento.
- Price, J.A.
1963 Washo Prehistory: A Review of Research. In *The Washo Indians of California and Nevada*, W.L. d'Azevedo, ed. *University of Utah Anthropological Papers* 67. Salt Lake City.
1980 The Washo Indians: History, Life Cycle, Religion, Technology, Economy and Modern Life. *Nevada State Museum Occasional Papers* 4. Carson City.
- Rogers, C.L.
1992 The Silver City Petroglyphs: A Descriptive Report. Manuscript on file, Nevada State Museum Site Archives. Carson City.
- Whitley, D.S.
1992 Shamanism and Rock Art in Far Western North America. *Cambridge Archaeological Journal* 2:89-113.



Skepticism and the Shamanic Model in Rock Art

William G. White

Abstract

Questions resulting from skepticism play a necessary role in the scientific process. Recently proposed, the shamanic model is questioned as to its applicability as an interpretive rock art tool. Data from six southern Nevada rock art sites is presented in comparison with the three mental imagery steps of the shaman's altered states of consciousness, a proposition of the shamanic model. The results are less than conclusive in support of the shamanic model as an interpretive framework for southern Nevada petroglyphs.

Introduction

"When any model becomes an Idol its advocates begin to act like priests and inquisitors" Robert Wilson (1987).

Skepticism as a mental process and the questions derived from it are central to good scientific practice. Despite this, many rock art researchers have accepted the shamanic model over the last decade as a one-size-fits-all interpretation for Great Basin rock art depictions. This has been without question for many researchers, both professional and avocational, as if it were a matter of blind faith. The purpose of this paper is not to reject the shamanic rock art model outright, but to question the validity of its interpretative powers as a single, all encompassing explanation for rock art creation based on suspected practices of Great Basin shamans, either prehistoric or ethnographic. This is briefly accomplished by comparing the petroglyphs of six rock art sites located within the geopolitical boundaries of southern Nevada with the three mental imagery phases perceived during a shaman's altered state of consciousness, a premise of the model. Other researchers have also begun to question the applicability of the model in

their areas of interest (see Quinlan, Monteleone this issue; Matheny *et al.* 1997).

Skepticism and Science

We have been taught, and have hopefully learned, that logic and reasoning, are central to valid science. Two additional modes of thought of equal weight are wonderment and skepticism. Carl Sagan (1997:304) writes that "at the heart of science is an essential balance between two seemingly contradictory attitudes—an openness to new ideas, no matter how bizarre or counterintuitive, and the most ruthlessly skeptical scrutiny of all ideas." Questions are derived from curiosity and skepticism alike; without them we suffer as scientists, and the successive improvement of our understanding and efforts falter. While science thrives and requires new ideas and the free exchange of information in open forum, we as scientists must exercise self-criticism, both individually and collectively, for if we become "self-indulgent and uncritical, when we confuse hopes and facts, we slide into pseudoscience and superstition" (Sagan 1997:27). To accept new ideas, whether in rock art or astrophysics, without question is to foster gullibility, to become complacent in our profession or research interests, counter to good science.

Shamanic Model

Promoted by Heizer and Baumhouff (1962), it has been a long-held assumption that Great Basin rock art functioned as sympathetic "hunting magic" in a socioeconomic context. More recently, Whitley (1992, 1994, 1997, 1998) has

actively promoted a new interpretive rock art model for the Great Basin. The shamanic model consists of the following assumptions: (1) rock art was made solely by shamans or shaman initiates; (2) rock art sites are shamans' vision quest locales; (3) rock art depicts hallucinatory images perceived by the shaman during an altered state of consciousness; (4) rock art is invested with supernatural potency; and (5) rock art is a mnemonic device used to help the shamans remember and/or replenish their supernatural powers (Whitley 1998:148).

Whitley's (1992, 1998) assertions are based on his review of Numic ethnographic literature in combination with a neuropsychological model of altered states of consciousness (ASC) advanced by Lewis-Williams and Dowson (1988; also see Hedges 1982). Based on the assumptions offered by the neuropsychological model, three progressive steps of mental imagery occur during an ASC. First, simple sets of geometric abstract design elements are perceived as entoptic, "within the eye," patterns. Next, representational elements are construed as culturally meaningful images. Complex representational elements incorporating abstract designs are the last perceptual phase of an ASC.

Focusing primarily on rock art sites in the Coso Range, California, where there is a high percentage of simple and complex representational petroglyphs compared to abstract designs, Whitley's (1998) contention that what was perceived during an ASC by a Great Basin shaman or shaman initiate was then translated and used in the creation of petroglyphs and/or pictographs. Use of the shamanic model at any given Great Basin rock art site implies that all three ASC mental imagery stages will be depicted and that such graphic icons are the result of shamanistic practices. An all-too-simple question can then be formulated: Are

the three progressive stages of mental imagery resulting from an ASC represented at rock art sites in southern Nevada, being part of the Great Basin cultural area? Based on the neuropsychological component of the shamanic model, it is expected that all three stages (abstract, simple representational, and complex representational incorporating abstract designs) are graphically depicted as petroglyphs at southern Nevada rock art sites. Additionally, it is expected that representational elements are equal to or greater in depiction than abstract designs, similar in percentages as accounted for in the Coso Range (representational designs are approximately three-quarters of all petroglyph elements [Whitley 1998; Gilreath 1999]).

Study Sites

To address the question, six rock art sites located in separate areas of southern Nevada were selected. In southern Nevada, the crossroad of numerous past cultures, the most common representational rock art elements include anthropomorphs and zoomorphs, while abstract designs are of the curvilinear and rectilinear variety in unlimited expression and combination. Each study site has been exhaustively recorded by the author with help from additional crew members as part of cultural resource management projects for the Bureau of Land Management and the U.S. Air Force. Only prehistoric petroglyph elements are considered in this paper.

Keyhole Canyon (26CK123):

Situated in the Eldorado Valley south of Boulder City, this unique rock art site contains six loci concentrations of petroglyphs (White 1997). A sparse amount of cultural material is present, the site being highly disturbed from active recreational use. Plant processing is evident based on the presence of several bedrock milling

slicks. Water is present only during the rainy seasons captured in a sand filled plunge pool at the base of a waterfall.

Approximately 586 petroglyph elements are depicted on 92 rock panels. This count does not include 172 cupules recorded at four locations. Seventy-six percent of the elements can be classified as being geometric abstract patterns of the curvilinear (n=310) and rectilinear (n=133) classes. The remaining elements are classified as representational (n=143) being bighorn sheep, stick figure anthropomorphs, lizard-like elements, and vulvaforms in descending order of depiction. Unique to southern Nevada, this site includes over 250 ovals, circles, rectangles, and squares containing assorted abstract designs. A few of the patterned ovals, circles, rectangles, and squares resemble facemasks, wrapped bundles, and/or baskets. Petroglyph elements represented at this site are of possible Patayan/Yuman (Colorado River) origin.

Sloan Petroglyphs (26CK2240/2621): This rock art site extends for approximately 1300 meters in a north/south trending canyon of volcanic rock draining into the southern reaches of the Las Vegas Valley (White 1998). Listed on the National Register of Historic Places, the site consists of 318 rock art panels concentrated in eight loci on both sides of the canyon. Depicted are both prehistoric and native historic elements; prehistoric depictions are scattered throughout the canyon, but historic petroglyphs are concentrated in the upper reaches. Red pigment pictographs are present in the lower canyon section as well as 15 cupules placed on a boulder above the narrows. Temporary habitation is evident including 27 bedrock and/or boulder milling slicks. Water runoff is captured in several eroded bedrock pools, presently filled with sand. Bighorn sheep are known to frequent this location.

Review of the site record indicates that there are roughly 897 petroglyph images, with abstract elements, both curvilinear (n=485) and rectilinear (n=201), comprising 76 percent of the documented images, the remaining 24 percent being representational (n=211). At least 15 patterned ovals, circles, rectangles, and/or squares similar to those identified at Keyhole Canyon are also present. In decreasing counts, anthropomorphs, bighorn sheep, sun-like symbols, vulvaforms, paw prints, lizard- and snake-like images, and historic horse and rider elements form the representational class.

Prehistoric anthropomorphs are stick figured, often digitated and sometimes gender specific with both genders represented. The most elaborate anthropomorph is one that has digitated hands and feet and two concentric circles at its midsection. An atlatl and historic theme anthropomorphs suggest the canyon was used from the Archaic to contact. Cultural affiliation is probably Virgin Anasazi, Patayan/Yuman, and Southern Paiute, representing multi-cultural use of the area at various times.

Civet Cat Canyon (26NY369): Located on the Nellis Air Force Range in south central Nevada, this site includes not only prehistoric rock art but historic graffiti and features thought to be associated with limited mining, ranching and military operations in the immediate area (White and Orndorff 1999). Petroglyphs are located on both sides of a narrow constriction in the volcanic walls at the convergence of two dry wash channels at the canyon's head. Today, there is no strong evidence to imply prehistoric habitation at this site; surface disturbance by historic and modern operations exist. A water source is not located at the site.

Nineteen rock art panels have been documented at this site, with three panels containing only historic/modern names,

initials, and/or dates. Eliminating the intrusive historic/modern elements, prehistoric petroglyphs (n=84) include 77 geometric abstract (curvilinear = 54 and rectilinear = 23) and 7 representational images, 92 and 8 percent respectively. Representational designs include stick body anthropomorphs, bighorn sheep, an atlatl, a snake-like image, and an additional zoomorph in descending order of depiction. Of most interest, the last zoomorph has a grided head and body, is standing on its hind legs and grasping what appears to be a scorpion with its forelegs. Based on various forms of evidence present at the site, prehistoric use of this site dates from the Archaic to the Saratoga Springs Period with no evidence of later Western Shoshone use.

Airfield Canyon (26NY2252): Also located on the Nellis Air Force Range within a day's walk south of the previous resource is Airfield Canyon. This ancient site is situated at the head of an east/west trending box canyon deeply eroded into volcanic tuff (White and Orndorff 1999). The site consists of an extensive obsidian debitage and tool scatter, a rockshelter, two bedrock milling slicks, and 29 petroglyph panels. Some panels contain red pigment pictographs. Water is immediately available, captured in tinajas on the mesa top and within a plunge pool at the canyon's head. Because this site is on land with military controlled access, the site is in a remarkable state of preservation.

A total of 105 petroglyph elements were recorded at this site. They include curvilinear (n=84) and rectilinear (n=18) abstract designs and representational (n=3) images pecked onto stone surfaces. Geometric abstract designs account for 97 percent while the representational elements characterize the remaining 3 percent of the observed petroglyphs. Representational images include a bighorn sheep, a vulvaform, and a snake-like figure. Material

evidence suggests this site is extremely old dating from the Lake Mojave to the Late Archaic Period with no readily apparent evidence of later Western Shoshone use.

White River Narrows (26LN210): Part of the White River drainage in southeastern Nevada, this spectacular canyon contains multiple layers of eroded volcanic tuff, and numerous localities of petroglyphs and pictographs (White and Orndorff 1999). One such locality known as the "Horseshoe" includes some of the most complex and decorative panels in the canyon and is used here for analysis. No evidence of habitation or temporary use exists on the ground surface at this site. A reliable source of water is also not noted at this locus.

The Horseshoe locus consists of 16 petroglyph panels. A few of the elements, particularly female anthropomorphs, are enhanced with red pigment paint. In addition to the prehistoric designs, historic/modern names and dates are present, the canyon being a natural travel corridor. Collectively there are 275 petroglyphs depicted at this location including curvilinear (n=107), rectilinear (n=108), and representational (n=60). Geometric abstract elements account for 78 percent and representational the remaining 22 percent. Gendered and ungendered anthropomorphs, vulvaforms, paw prints, bighorn sheep, hand prints, and lizard-like images constitute the representational figures in descending order of counts. Although the anthropomorphs are stick figures, one image has an outlined body containing several dots vertically arranged in it's center. Being located on the western frontier of the Fremont and portraying stylistic characteristics of that culture's rock art (see Schaafsma 1971, 1986), the petroglyphs at this location are thought to be of Fremont origin with possible influence from the Virgin Anasazi.

Red Pigment Canyon (26LN4232): South of the White River Narrows and on

the eastern flanks of the Pahranaagat Range is an archaeological complex of hunting blinds, stone dummies constructed on ridgelines and habitation sites within a day's walk of the lush Pahranaagat Valley. Red Pigment Canyon is a narrow southwest to northeast trending canyon cut into the natural fracture planes of a volcanic tuff outcrop (White and Orndorff 1999). A shallow rockshelter is located at the mouth of the canyon, and three bedrock milling slick loci contain a total of 10 slicks. At the upper end of the site, where the canyon is blocked by vehicle-size boulders, a plunge pool and numerous bedrock tinajas capture seasonal rainwater, providing a reliable water source for nearby habitation sites. Prehistoric petroglyphs are found on both sides of this narrow canyon site. A few red pigment pictographs are limited to the shady side of the canyon's mouth.

A total of 28 rock art panels have been documented at this location. These panels are decorated with 109 petroglyph images including 29 curvilinear and 24 rectilinear abstract designs and 56 representational elements. The combined abstract elements represent 48 percent while representational images equal 52 percent of the total petroglyphs recorded. Representational figures include bighorn sheep, vulvaforms, non-gendered stick anthropomorphs, Pahranaagat patterned body anthropomorphs (see below), miscellaneous zoomorphs, atlatls, a snake-like design, and a handprint. The recorded atlatls and the presence of an anthropomorph holding a bow and arrow and other surface evidence suggest that use of the canyon dates from the late Archaic period to contact. Ceramics from the surrounding archaeological sites implies a complex interaction between the Fremont and Virgin Anasazi with Numic groups eventually controlling the area until after contact with Euro-Americans.

Discussion

To address the posed question, does the shamanic model apply to southern Nevada rock art sites, data from six southern Nevada rock art sites was analyzed that included a total of 502 panels containing 2056 petroglyph elements. It was initially expected that all three mental imagery stages resulting from a shaman's ASC encounter would be depicted at each study site, as the model implies. Additionally, it was expected that representational elements would be depicted more often than abstract designs.

Geometric abstract curvilinear and rectilinear patterns, suspected first stage "entoptic" images, are present at all six sites. With the exception of the Red Pigment Canyon site, abstract patterns occur in far greater percentages than representational elements (at the Red Pigment Canyon site the class percentages are almost equal). Collectively, abstract images ($n=1576$) are 76 percent of the total elements analyzed, just opposite of what is found to be in the Coso Range.

Construed as culturally relevant or meaningful images, simple representational figures are considered the second progressive stage of a shaman's ASC under the neuropsychological premise of the shamanic model. Indeed, simple representational elements, 23 percent of the total analyzed images ($n=472$), are also present at each of the six study sites. Stick figured anthropomorphs and bighorn sheep in profile are depicted more than any other representational image. Of the study sites, the Airfield and Civet Cat Canyon sites in south central Nevada lack any significant number of representational figures, three and seven elements respectively. Based on this observation, are we then to assume that shamans practicing their art at these two ancient locations were unable to achieve the

second level of ASC mental imagery or unable to depict what they had perceived?

In the third ASC stage, the shamanic model suggests that geometric abstract designs are combined with representational elements to create highly stylized representational images such as patterned body anthropomorphs and zoomorphs documented at various Coso Range, California, sites (Grant *et al.* 1968; Whitley 1998). Airfield Canyon (26CK2252) appears to be the only study site that does not have any design that could be considered as being a complex representational, third stage pattern. Although complex representational images are present at least at four of the study sites, they are few in number in relation to other element classes. Keyhole Canyon may be an exception, however.

Keyhole Canyon (26CK123) appears to be a unique petroglyph site in southern Nevada in the fact that so many patterned ovals, circles, rectangles, and squares are depicted at one location. Although they have been included here as curvilinear and rectilinear abstract forms, any other researcher might consider them as third stage complex representational elements. Each of the ovals, circles, rectangles and squares have internal abstract patterns including various vertical or horizontal rectilinear and/or curvilinear lines and/or dot or circle patterns. As stated previously, some of the images are suggestive of masks as might be worn to cover the face in a ceremony (Figure 1). Certainly, these patterned images are culturally and/or individually relevant as are all of the petroglyphs depicted at this site (any site for that matter). Whether these curvilinear and rectilinear symbols are the result of shamanistic creation and expression or not is a question which only additional research and comparative studies can address.

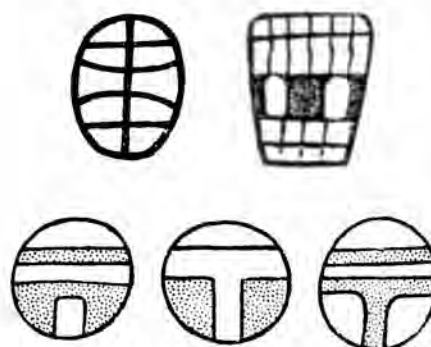


Figure 1. Keyhole Canyon examples.

The Sloan petroglyph site (26CK2240/2621) contains two complex patterned images, a bighorn sheep and a one-of-a-kind historic patterned bull or oxen (Figure 2). The bighorn sheep has an outlined oval body divided by three vertical lines, similar to patterned ovals observed at the Keyhole Canyon site. Situated mid-canyon, the patterned bovine is depicted on two adjacent boulders with the short legs, muzzle, and extended horns of a bovine. Across the face of the animal are various lines, possibly depicting a harness assembly. Various curvilinear and rectilinear lines also divide the outlined body. Surrounded by non-patterned prehistoric petroglyph elements, are we to interpret this wonderfully strange image as the spirit helper of a historic period Numic or Yuman shaman, an ASC derived prophetic vision or perhaps, a practical diagram on how to divide a bovine among one's relatives?



Figure 2. The Sloan Bull petroglyph.

A single complex patterned zoomorph exists at the Civet Cat Canyon site (26NY369) as previously mentioned (Figure 3). Located at the bottom of a panel containing numerous abstract elements depicted at various times is an animal posed on its hind legs and grasping what appears to be a scorpion in its forelegs. The outlined body and head contain numerous diagonal lines in grid pattern, perhaps meant to represent the stripes of a skunk or Civet Cat for which the canyon is named. Does this isolated complex representational element represent the third stage of an ASC encounter, the spirit helper of a shaman based on some undiscovered ethnographic evidence, or perhaps simply the depiction of an interesting event, an observation of nature?

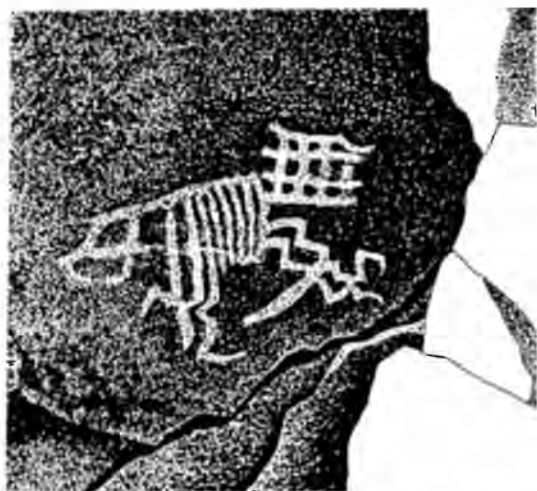


Figure 3. Civet Cat Canyon zoomorph.

A single complex representational element is depicted at the "Horseshoe" of the White River Narrows (26CK210). It's outlined body with short legs and arms and offset circular head contains several pecked dots arranged vertically similar to buttons on a garment. Is this a third stage depiction or a creative elaboration?

Four patterned anthropomorphic images exist at Red Pigment Canyon

(26LN4232) that are unique to the Pahranaagat Valley drainage and immediate areas, having a limited geographical distribution. Heizer and Hester (1974) were the first professionals to recognize the Pahranaagat patterned body anthropomorph (PBA) as well as an associated full-bodied, solidly pecked figure, occasionally posed together in a side-by-side relationship (Green 1985; Zancanell and Ferris 1990; see also Ferris-Rowley *et al.*, this issue). The Red Pigment Canyon examples, as with most Pahranaagat PBAs, consistently have rectangular body outlines that contain an assortment of internal geometric patterns, no two alike. The two clearly visible PBAs have fringe hanging between two stick legs. One depiction has a weighted atlatl extending from its left side (Figure 4).

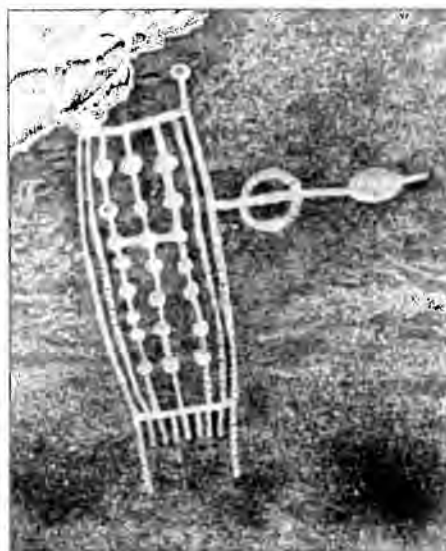


Figure 4. Pahranaagat PBA example.

The Pahranaagat PBAs resemble, in limited graphic ways, PBAs found in the Coso Range, California. (This statement is not meant to imply or propose a cultural migration, iconic diffusion and/or association with the Coso Range or the Dinwoody area of Wyoming as research is on-going by this author and others). There are differences, however, mainly in the fact

that the Pahrnagat PBAs do not possess head forms or fancy headdresses as found at the Coso sites. Another major difference is their unique relationship with the full-bodied figure with spook eyes and digitated hands/feet, commonly referred to as Pahrnagat Man (Stoney 1991) that are clearly not identified with Coso figures.

If Keyhole Canyon's patterned ovals, circles, rectangle, and squares are disregarded as being abstract patterns as they are in the Coso Range (Gilreath 1999, shield patterns), then complex representational elements (n=8) account for less than 1 percent of the collective study total. Although a percentage is not provided by Whitely (1998) or Gilreath (1999) for Coso complex representational elements, this figure for the study area is nonetheless a disappointing number given the assumptions of ASC mental imagery phases. Of all the sites presented in this paper, certainly the Red Pigment Canyon site comes closest to meeting all three mental imagery phases of a shaman's ASC as expected. With isolated exceptions at three other study sites, why are there no complex representational elements at the Airfield Canyon site? And why are there so few of these representational depictions in comparison to Whitley's (1998) and Gilreath's (1999) Coso Range material. Are we to assume that Great Basin shamans working their magic at these sites seldom reached the third stage of ASC or did not have cognitive skills sophisticated enough to create the images they perceived in this stage (a dangerous assumption to pose given the suspected universality of ASC mental imagery)? Or is there a better explanation, new ideas or models that have not been thought out yet that will better address the complexity of rock art in southern Nevada and the Great Basin? All said and done, it would seem that the shamanic model is not necessarily applicable to rock art in southern Nevada

and may be best suited only for interpreting the world class rock art of the Coso Range, California.

Conclusion

The data presented here has, hopefully, demonstrated that the petroglyphs studied are not entirely consistent with the expectations for the shamanic model, particularly the third ASC stage, thereby providing doubt that the model should be used as the sole underlying causal mechanism for rock art in southern Nevada. Although the data presented in this brief presentation is not a compelling body of evidence, it is nonetheless sufficient to further question the shamanic model as an interpretive tool for Great Basin rock art, particularly in southern Nevada. Whitley has, however, provided us with a model, a new idea long overdue. But our task as researchers is to now ask questions and gather data throughout the Great Basin to further support or disprove the hypothesis, not to accept the model as literal truth in blind faith. Therein lies the challenge, the impetus for new and exciting research, the quest for knowledge. As this study suggests, the shamanic model may have limited application as an interpretive tool, but it should not be the only model in our bag of tricks. In this case, multiple working hypotheses are better; let us go forth in skepticism and wonderment.

References

- Gilreath, Amy
1999 The Archaeology and Petroglyphs of the Coso Rock Art Landmark. *American Indian Rock Art*, 25:33-44. American Rock Art Research Association.
- Grant, Campbell, James Baird, and Kenneth Pringle
1968 *Rock Drawings of the Coso Range, Inyo County, California*. Maturango Museum, China Lake, California.

Green, Eileen

- 1985 The Pahrnagat Anthropomorphs, Lincoln County, Nevada. Paper presented at the American Rock Art Research Association, Santa Barbara, California.

Hedges, Ken

- 1982 Patterned Body Anthropomorphs and the Concept of Phosphenes in Rock Art. *American Indian Rock Art*, 7-8:1-10. El Toro: American Rock Art Research Association.

Heizer, Robert, and Thomas Hester

- 1974 Two Petroglyph Sites in Lincoln County, Nevada. In *Four Great Basin Petroglyph Studies*. Contributions of the University of California Archaeological Research Facility, No. 20. Berkeley.

Lewis-William, J., and T.A. Dowson

- 1988 The Signs of All Times: Entoptic Phenomena in Upper Paleolithic Art. *Current Anthropology* 29:201-245.

Matheny, Ray, Thomas Smith, and Deanne Matheny

- 1997 Animal Ethology Reflected in Rock Art of Nine Mile Canyon, Utah. *Journal of California and Great Basin Anthropology* 19(1):70-103.

Sagan, Carl

- 1997 *The Demon-Haunted World: Science as a Candle in the Dark*. Ballantine Books, New York.

Schaafsma,

- 1971 The Rock Art of Utah: A Study from the Donald Scott Collection. Peabody Museum, Harvard University. *Papers of the Peabody Museum, Harvard University*, Vol. 65. Cambridge, Mass.
- 1986 Rock Art. In *Handbook of North American Indians, Great Basin*, Vol. 11. Warren d'Azevedo, ed. Smithsonian Institution, Washington, D.C.

Stoney, Steve

- 1991 Has Pahrnagat Man Passed Your Way? *Utah Rock Art*, Vol. 11. Jane and Sarah Bush, editors. Utah Rock Art Research Association, Salt Lake City.

Wilson, Robert

- 1987 *The New Inquisition: Irrational Rationalism and the Citadel of Science*. Falcon Press, Phoenix.

White, William

- 1997 IMACS Recording Form for Keyhole Canyon (26CK123): A Petroglyph Site Eligible for National Register Listing. Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas. HRC 1-1-36.
- 1998 IMACS Recording Form for the Sloan Petroglyph Site (26CK2240 & 26CK2621: A National Register Listed Property. HRC 1-1-38.

White, William, and Richard Orndorff

- 1999 A Cultural Resource and Geological Study Pertaining to Four Selected Petroglyph/Pictograph Sites on Nellis Air Force Range and Adjacent Overflight Lands, Lincoln and Nye Counties, Nevada. Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas. HRC 1-8-19.

Whitley, David

- 1992 Shamanism and Rock Art in Far Western North America. *Cambridge Archaeological Journal* 2:89-113.
- 1994 Shamanism, Natural Modeling and the Rock Art of Far Western North American Hunter-Gatherers. In *Shamanism and Rock Art in North America*, S. Turpin, ed. Special Publication 1, Rock Art Foundation, Inc. San Antonio, Texas.
- 1997 Reading the Minds of Rock Artists. *American Archaeology* 1(3):19-23.
- 1998 Meaning and Metaphor in the Coso Petroglyphs: Understanding Great Basin Rock Art. In *Coso Rock Art: A New Perspective*, E. Younkin, ed. Maturango Press, Ridgecrest, California.

Zancanella, John, and Dawna Ferris

- 1990 A Preliminary Examination of Selected Rock Art Types in the Pahrnagat Valley, Lincoln County, Nevada. Paper presented at the Great Basin Anthropological Conference, Reno, Nevada.

Tinajas at the Six Mile Flat Rock Art Site

Dawna Ferris-Rowley, Mark Henderson, Farrel Lytle, Manetta Lytle, and Peter Rowley

Abstract

The co-occurrence of three environmental variables at the Six Mile Flat rock art site are considered in determining site function and season of use. Studied variables include the proximity of quality toolstone, presence of big game animals, and sufficient quantities of water stored in tinajas. It is argued that the rock art site was utilized as a toolstone source and as a prime hunting area. Additionally, the site was used during the winter months, coinciding with the most favorable hunting and the availability of water. Cultural material at the site indicates a Fremont association, while the rock art is affiliated with the nearby Pahrnagat Valley.

Introduction

This paper describes a rock art site that is associated with an array of natural rock water pockets or "tinajas" (Spanish for "large earthen jar"). Prior to its discovery in 1996, the Six Mile Flat site (26LN4069) had not been documented or studied. While the petroglyphs at the site may be the most notable feature for many contemporary observers, other attributes are more important in explaining the function of the site for aboriginal people in the region. Based on recent observations, we propose that the site's location and season of use were patterned by the co-occurrence of three important environmental variables: the water storage capacity of the tinajas; the presence of big game animals during the winter months; and the proximity of quality toolstone sources. In the following sections, we examine in greater detail the relationship between the site and these environmental variables.

Site Location and Environmental Setting

The site occurs on public lands administered by the Bureau of Land Management, near Six Mile Flat in Lincoln County, Nevada (Figure 1). The Hiko Range rises to the west of the site, separating the north-trending valley of Six Mile Flat from the Pahrnagat Valley. The mountains of the Hiko Range are primarily composed of limestone and dolomite, with overlying Miocene-age volcanic materials, including Hiko Tuff. The Hiko Tuff is an extensive ash-flow sheet that spread from the Caliente caldera complex, to cover an area of at least 7,000 square kilometers (km) of southeastern Nevada. This unit is described as a "gray and tan, crystal-rich, poorly to densely welded, low-silica rhyolite" that has weathered to form ridges of rounded boulders, like those observed at the Six Mile Flat site (Rowley *et al.* 1992:59). Veins of microcrystalline silicates, suitable for use as toolstone materials, frequently developed at the contacts of Hiko Tuff and earlier sedimentary (limestone) deposits. Gas pockets formed during the deposition of the ash-flow sheet often erode into cavities that can trap and store precipitation.

The Hiko Range and Six Mile Flat contain no natural springs, seeps, or perennial streams. Hiko Springs, situated 6 km to the west in the Pahrnagat Valley, is the closest perennial water source to the Six Mile Flat site. In contrast to Six Mile Flat, Pahrnagat Valley contains abundant surface water, as well as diverse plant and animal communities. That the natural resources of the Pahrnagat Valley have also supported human populations through time is

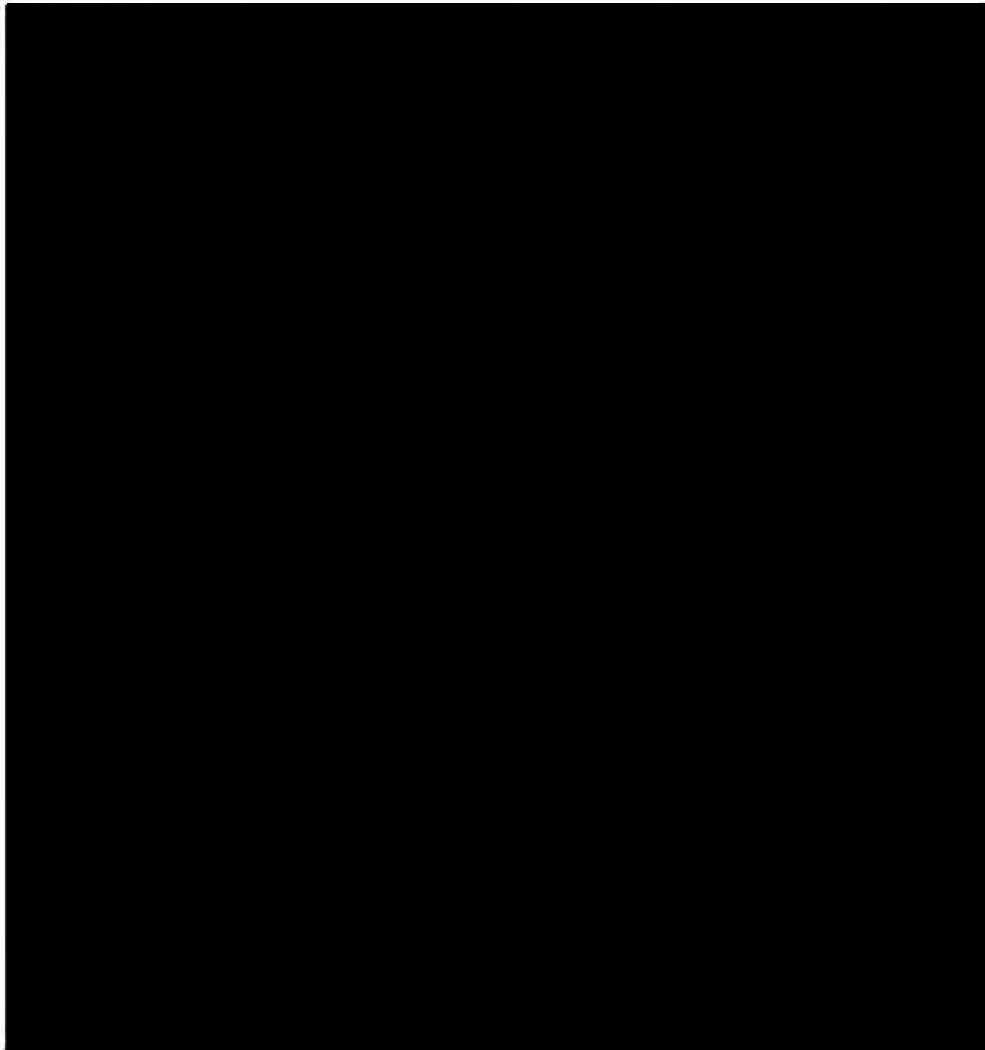


Figure 1. General location of the Six Mile Flat Site (26LN4069) near Hiko in Lincoln County, Nevada, as depicted by black box.

evidenced by the many archaeological sites, often containing rock art, that are found in this region.

Vegetation at the Six Mile Flat site is typical of the Great Basin Shrub Community, with bitterbrush (*Purshia tridentata*), popularly called buckbrush, being the dominant shrub in the canyon bottoms near the site. Herds of mule deer commonly browse in the site's vicinity, particularly during the winter and early spring, when ephemeral water is available in natural catchments and the buckbrush is most palatable. Bighorn sheep are also

found in the Hiko Range and have been observed by the authors near the site.

Site Description

The Six Mile Flat site occurs at an elevation of 1400 meters (m), in an outcrop of large Hiko Tuff boulders, some exceeding 15 m in height. The site consists of a small rock shelter, an extensive occupation surface, several petroglyph panels, bedrock milling slicks, and tinajas. Figure 2 shows the general site setting, with principal site features indicated. The small rockshelter

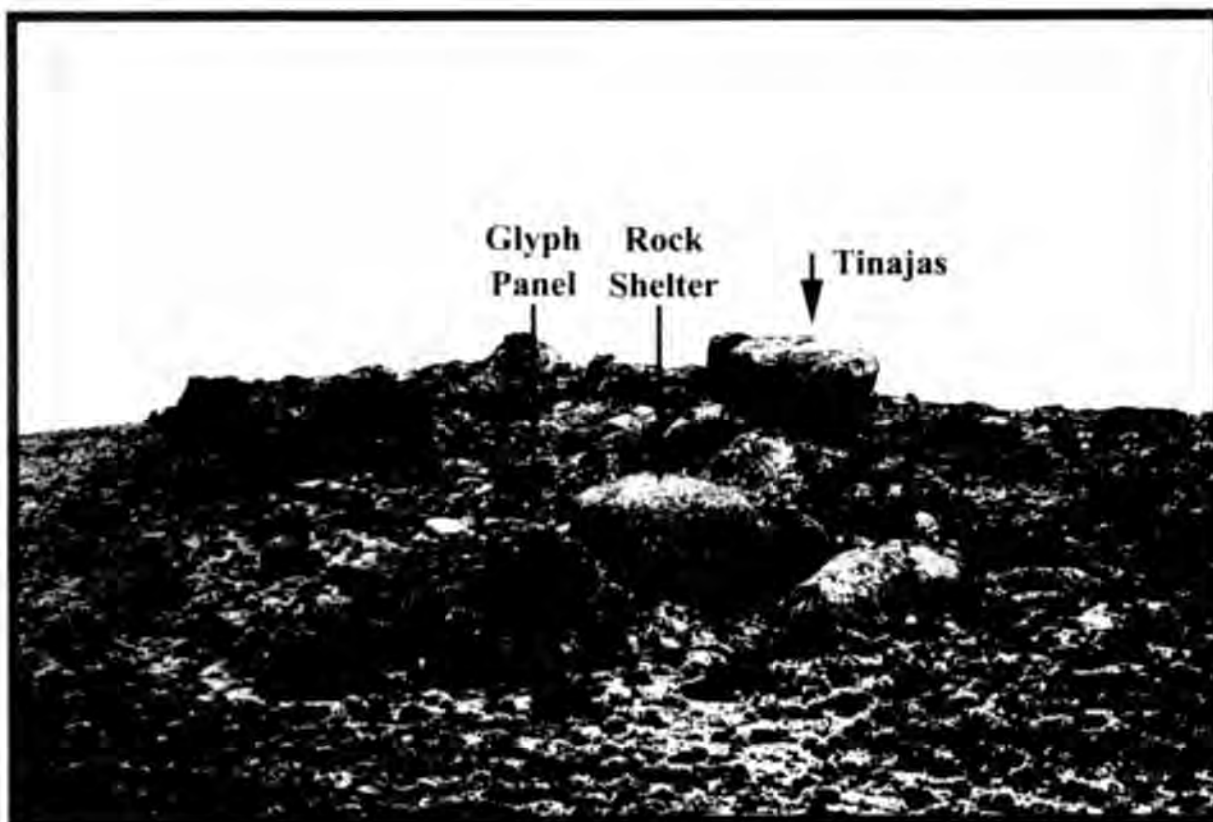


Figure 2. General view of Six Mile Flat rock art site with principal features indicated.

has been vandalized by looters, but flakes of various toolstone materials, including chert, obsidian, and quartzite, can still be observed within and near the shelter. In the shelter's immediate vicinity and along the base of the boulders are occupation surfaces containing debitage, carbon-stained sediments, and a number of gray ware sherds. The temper, paste, and surface treatment of the sherds are similar to the attributes described for Snake Valley Gray Ware (Madsen 1980; Marwitt 1970). A preliminary analysis of vessel forms indicates that at least one jar is represented by the sherds present at this site.

Rock Art

The largest petroglyph panel, depicted in Figure 3, is located to the east of

the rockshelter. Measuring approximately 2 m high by 2.5 m long, the panel's orientation is to the north. More than 30 petroglyph elements are present, and include Great Basin Curvilinear and Representational Style elements. The rock art at this site has not yet been adequately documented nor analyzed. Our recent observations indicate that zoomorphs, especially bighorn sheep, and anthropomorphs are the most abundant representational elements depicted on this panel. Numerous examples of element superimposition were also noted, as was the east-facing orientation of all but one of the bighorn sheep elements.

Of particular interest are two similarly depicted anthropomorphs, located near the center of the panel. These



Figure 3. The largest of several petroglyph panels observed at the Six Mile Flat rock art site.

“ghostly” figures manifest attributes previously described as diagnostic of the “Pahranagat Man” element: stipple-pecked bodies, conspicuous “eye” openings, a single vertical line emanating from the top of the figure, and digitate appendages (Zancanella and Ferris 1990). This element has been ascribed to a localized variant of the Great Basin Representational Style, potentially limited in its geographic distribution to the Pahranagat Valley region of southeastern Nevada (Stoney 1991).

Smaller petroglyph panels, depicting bighorn sheep, other anthropomorphs and curvilinear elements, also occur at or near the rock shelter. A spiral motif, which may be solar interactive at the Winter Solstice, is

found on a small boulder at the northeast margin of the shelter. This suspected interaction has not, to date, been confirmed through actual observation.

Toolstone Quarries

Approximately 500 m to the west of the site is an exposure of micro-crystalline silicate (chert) that was exploited during aboriginal times. Lithic reduction stages represented at this location indicate that decortication and primary reduction of this material was occurring at this quarry site. The number of loci of lithic debitage and the density of flakes within those loci suggests long-term exploitation of this source.

A second toolstone source, containing quartzite, also occurs near the Six Mile Flat site. It is located approximately 3 km to the west. This locality has not been scientifically documented or evaluated.

Tinajas

During initial site reconnaissance, the authors noted the apparent lack of natural water sources near the site. Small cavities in the upper surfaces of boulder were commonly observed in all exposures of Hiko Tuff. While these cavities could retain water after episodes of precipitation, none would have supported human occupants at this site for long periods of time. Many of the cavities were also accessible to animals and mule deer were observed drinking from these ephemeral sources. Presumably, the human occupants would have been competing with herds of mule deer, bighorn sheep, other animals and birds for this very limited water supply.

A scramble up the large boulder immediately above the rock shelter solved some of the mystery concerning water at the Six Mile Flat site. The top of the boulder has eroded into eight tinajas, the largest having dimensions of 1.9 m by 1.5 m by 0.8 m deep. (Figure 4). Table 1 displays the dimensions and storage capabilities of these tinajas. If all of the cavities were filled simultaneously, as much as 2,500 liters of water would be available for consumption. Measurements taken on May 2, 1999 revealed a total of 610 liters was available in the eight tinajas. As of that date, a total of 3.3 cm of total precipitation had been recorded for 1999 by the weather station at Alamo, Nevada (the nearest data collection station to the Six Mile Flat area). All of the recorded 1999 precipitation had occurred as rain, which fell during the month of April. The site's tinajas had effectively captured much of the recent rainfall.

The photograph of Figure 4 was taken on January 1, 1997, when the largest tinaja contained ice more than 0.5 cm deep. After recent episodes of precipitation in the area, particularly during the winter months, site occupants would probably have been assured of available water at the Six Mile Flat site. But how often would this condition occur throughout the remainder of the year? Table 2 provides a summary of 14 years of climate data collected from the Alamo, Nevada, weather station, approximately 25 km to the south. The data for average total monthly precipitation indicate that for any month during the year, there may have been some probability of water being captured in the site's tinajas.

In order to understand how long this precipitation would have been stored at the site, it would be necessary to determine evaporation rates for the tinajas. The rates from exposed water surfaces are generally dependent on the depth and the surface area of the body of water. However, other factors such as solar radiation, ambient temperature, elevation, wind speed, and vegetative cover can complicate the calculation of precise evaporation rates. Rather than attempt these multivariate calculations, we have utilized data from Shevenell (1996) to estimate general trends for the region around the Six Mile Flat site.

Shevenell (1996) has developed contour maps that display potential evapotranspiration rates for Nevada during each month of the year. The contour maps indicate that for the Six Mile Flat area, evapotranspiration would average 160 cm annually (Shevenell 1996: Figure 21). The lowest rates would occur during the winter months (December, January, February) when a total of 2 cm of precipitation would be lost to evapotranspiration. The highest evapotranspiration rates were calculated for the summer months (June, July, August)



Figure 4. A view of the largest of the Six Mile Flat rock art site tinajas.

when a total of 85 cm could be lost to evapotranspiration (Shevenell 1996: Figure 14 and 15). As Table 2 shows, while the maximum amount of precipitation recorded in July (8.38 cm) is among the highest monthly rates for the year, that amount would be quickly lost to evapotranspiration, based on Shevenell's projections.

These data suggest that precipitation would be captured and stored most effectively during the winter months in the tinajas at the Six Mile Flat site, when the rates of accumulation would exceed those of evaporation. Rock slabs or other materials could have been used to cover the tinajas, thereby slowing evaporation rates and extending the time period that water would have been available for human occupation of the site. While no examples of rock covers

were observed at this site, the authors identified a tinaja with a rock cover approximately 1 km away. Pippen (1986) has reported similar findings in central Nevada, on the Nevada Test Site. Knowledge gained from observations of the local weather patterns and the storage capabilities of the tinajas would have allowed prehistoric people to accurately predict when water would be available at the Six Mile Flat site.

How did the tinajas form at the Six Mile Flat site? There was no evidence of cultural enhancement of any of the tinajas; most appear to have been the result of repeated winter freeze-thaw cycles. The large tinaja, shown in Figure 4, slopes downward into the top of the rock, with the greatest depth toward the north. During the

Table 1. Dimensions of tinajas and volume ¹ of water contained at the Six Mile rock art site as recorded on May 2, 1999. Dimensions in meters (inches) and volume in liters (gallons)

Length	Width	Depth ^a	Volume ^b	Water depth ^c	Water Vol ^d
0.25 (10)	0.15 (6)	0.08 (3)	2.6 (0.7)		
0.25 (10)	0.15 (6)	0.15 (6)	5.3 (1.4)		
0.38 (15)	0.25 (10)	0.08 (3)	6.4 (1.7)		
0.46 (18)	0.36 (14)	0.15 (6)	23 (6.0)	0.08 (3)	11 (3)
0.53 (21)	0.46 (18)	0.25 (10)	49 (13)	0.10 (4)	19 (5)
0.48 (19)	0.48 (19)	0.30 (12)	57 (15)	0.05 (2)	7.6 (2)
1.3 (52)	1.3 (50)	0.30 (12)	400 (107)	0.18 (7)	239 (63)
1.9 (76)	1.5 (58)	0.81 (32)	1930 (510)	0.14 (5.5)	333 (88)
Totals			2470 (655)		610 (161)

a. Depth to point of overflow.

b. Volume was estimated by assuming an approximately oval cross section with the dimensions listed

c. Water depth on May 2, 1999. Total precipitation for 1999 (in Alamo) was 3.3 cm (1.3 inches), all in April.

d. Volume of water contained in the tinajas on May 2, 1999, as measured.

I. The total area of the top of the rock that can drain into the tinajas is approximately 23.9 m² (37,000 in.²). Thus, the volume of rain that could have collected in the combined tinajas in 1999 is ~ 760 liters (200 gal.). The observed value of 610 liters (161 gal.) indicates that the system is fairly efficient at collecting and conserving water.

Table 2. Climate summary ¹. Precipitation/temperature data for Alamo, NV (July 2, 1948- Sept 30, 1962).

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
51 ^a	58	65	77	83	94	100	98	92	80	65	55	76.5
20 ^b	25	28	36	41	48	55	52	44	35	25	21	35.9
0.65 ^c	0.46	0.41	0.32	0.60	0.07	0.60	0.24	0.26	0.37	0.50	0.39	4.87
1.9 ^d	1.5	2.3	1.2	2.6	0.4	3.3	1.2	1.3	1.1	2.1	1.4	Max for month

a. Average maximum temperature in Fahrenheit.

b. Average minimum temperature in Fahrenheit.

c. Average total precipitation in inches.

d. Maximum precipitation, inches, during the month over the period measured.

I. Data from Nevada Period of Record Monthly Climate Summary.

winter months at this elevation, water stored in the tinajas freezes and thaws on nearly a daily basis. The melting of ice occurs at the interface of the rock and water, where sunlight strikes the northern rock edge. This

freeze-thaw cycle erodes away the rock and deepens the hole. Eventually, a tinaja will erode all the way to the edge of the boulder, losing its capability to store water. Note that the tinaja at the top left of Figure 4 has

eroded to the north margin of the boulder and now retains only a fraction of its prehistoric storage capacity.

Discussion

The Six Mile Flat site contains features and cultural materials that suggest temporal and cultural affiliations, as well as the season of site use. Gray ware ceramics identified as Snake Valley Gray Ware indicated a Formative period occupation (A.D. 800-1300) and possible cultural affiliation with the Parowan Fremont. These materials may have been locally produced, by a population resident in the Pahranaagat Valley, or obtained through inter-regional trade. The rock art elements, especially the two Pahranaagat Man elements on the large petroglyph panel, further support the hypothesis that the occupants of this site had affiliations with the Pahranaagat Valley.

The Six Mile Flat site may have represented an important node with a prehistoric subsistence strategy, since one or more resources could have been obtained at this location. We suggest that aboriginal groups would have utilized the site as a source for toolstone and as a prime hunting area, especially during the winter months when big game could congregate to feed on the buckbrush. While it is not known whether the large deer herds observed today were present during aboriginal times, historic accounts indicated that other big game, such as bighorn sheep and pronghorn antelope, may have been more common in the region. In all likelihood, large game animals would have been available for exploitation by prehistoric hunters in close proximity to this site.

The limiting factor to the exploitation of resources in Six Mile Flat was the lack of permanent water sources. The tinajas at the Six Mile Flat site helped to offset the environmental limitations of this

region, by effectively capturing and storing as much as 2500 liters of precipitation for use by human occupants. Extrapolating from modern climate data, we argue that aboriginal groups could have accurately predicted that water would be available in the tinajas at the Six Mile Flat site during the winter months, coinciding with the most favorable conditions for large game hunting. Site occupants may have extended the period of use at this site, either by using natural covers over the tinajas or by storing water in ceramic jars. In the event that a spiral motif petroglyph element is shown to be interactive at the Winter Solstice, we will have yet another piece of evidence concerning other prehistoric activities conducted at the Six Mile Flat site.

Conclusion

The Six Mile Flat site (26LN4069) affords an interesting example of site patterning, based on the co-occurrence of several important environmental variables. The authors suggest that the ephemeral water storage capacity at this site allowed prehistoric groups to exploit other resources, like toolstone and large game, in an area that would otherwise not have been attractive. The site contains ceramic evidence that supports a Formative or later period of occupation. An unusual rock art element, the "Pahranaagat Man" (Zancanella and Ferris 1990; Stoney 1991), depicted at the Six Mile Flat site, attests to possible affiliation with the aboriginal groups of the Pahranaagat Valley. Future research at the Six Mile Flat site will help us to better define the function of this site within the aboriginal land use strategies of this region.

References

- Madsen, David B.
1980 Fremont/Sevier Subsistence. In *Fremont Perspectives*, David Madsen, editor, pp. 25-

33. *Antiquities Section Selected Papers*, 7(16). Salt Lake City.

United States Geological Survey Survey Bulletin 2056.

Marwitt, John

1970 Median Village and Fremont Culture Regional Variation. *University of Utah Anthropological Papers*, 95. Salt Lake City.

Shevenell, Lisa

1996 Statewide Potential Evapotranspiration Maps for Nevada. *Nevada Bureau of Mines and Geology Report* 48. Machay School of Mines, University of Nevada. Reno.

Pippen, Lonnie

1986 An Overview of Cultural Resources on Pahute and Ranier Mesas of the Nevada Test Site, Nye County, Nevada. *Desert Research Institute Social Center Technical Report*, 45. Reno.

Stoney, Stephen

1991 Has Pahrnagat Man Passed Your Way? *Utah Rock Art*, Vol. 11. Jane and Sarah Bush, editors. Utah Rock Art Research Association, Salt Lake City.

Rowley, Peter, David Nealey, Daniel Unruh, Lawrence Snee, Harald Menert, Ernest Anderson, and Sherman Gromme

1992 Stratigraphy of Miocene Ash-Flow Tuffs in and near the Caliente Caldera Complex, Southeastern Nevada and Southwestern Utah. In *Geologic Studies in the Basin and Range-Colorado Plateau Transition in Southeastern Nevada, Southwestern Utah, and Northwestern Arizona*, pp. 47-88.

Zancanella, John, and Dawna Ferris

1990 A Preliminary Examination of Selected Rock Art Types in the Pahrnagat Valley, Lincoln County, Nevada. Paper presented at the 22nd Great Basin Anthropological Conference, Reno, Nevada.

