

## Part 2 Cave Protection, Conservation, and Management Section A—Identifying and Protecting Cave Resources

# Rock Art and Historic Writing in Caves: Restoration Implications

Barbara Bilbo and Michael Bilbo

Restoration projects initiated to remove contemporary graffiti in dark-zone caves, rock shelters, and other rock surfaces have sometimes resulted in the unintentional removal of prehistoric or historic Native American rock art and/or historic writing. Restoration work is carried out with the best intentions, but assessment and methods must be objectively planned to assure protection of cultural resources. This chapter cautions cave managers and conservation groups to study vandalized sites for the presence of rock art and historic writings and to consult with historians and rock art specialists as part of the planning process before initiating restoration projects. (Also see graffiti, page 108 in this volume).

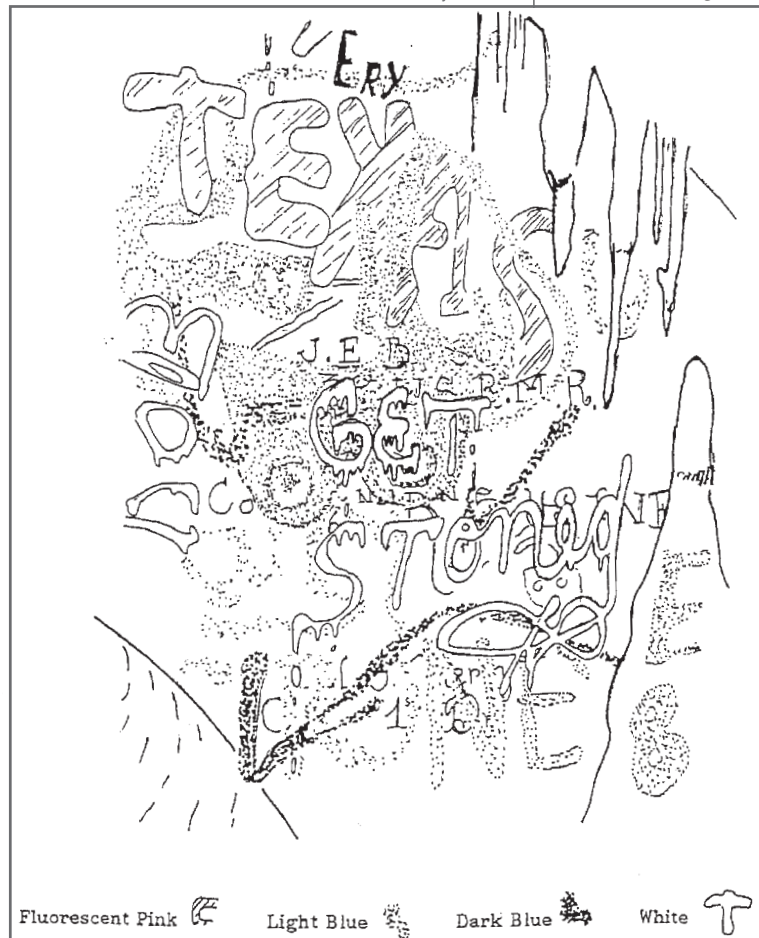
Cultural sites are especially important when considering a cave for significance inventory and nomination. (See Appendix 1, Federal Cave Resources Protection Act of 1988). When a dark zone cave meets significance criteria for cultural resources, it may be eligible for nomination to the National Register of Historic Places (Advisory Council on Historic Preservation 1973).

### Nonrenewable Cultural Resources vs. Contemporary Graffiti

Throughout the United States and the world there are rock art and historic writing sites that have been vandalized by graffiti. Examples included in this chapter are from the Southwest (Figure 1). But the patterns are similar elsewhere. Some writers state that all rock writings are graffiti. But we insist that there is a difference between rock art and historic writing—cultural resources from

*Figure 1. Vandalized public lands cave in southeast New Mexico, now restored. Spray paint covered historic writings.*

Photo by authors



### Graffiti vs Graffito

Editors' Note: The word graffiti is listed in most contemporary dictionaries as the plural form of graffito.

*Graffito* is defined as an inscription or drawing made on a public surface such as a wall, or on a natural or cultural surface.

Thus, the plural form, *graffiti*, indicates several inscriptions or drawings and should be used with plural verbs.

In this volume, if we were following the dictates of perfect English usage, sentences would read: "Graffiti *are* painted along the walls of Good Grammar Cave. One brightly colored graffito *is* inscribed at the remote end of the short passage and reads 'Have No Fear, Graffiti Rule.'"

However, after much debate among reviewers, we decided to go with the common current usage in the pages of this book and write graffiti sentences to reflect the way cavers actually talk about graffiti.

Cavers tend to say, "New graffiti is covering authentic historic signatures in Current Lingo Cave."

past eras—as opposed to graffiti, which is usually considered as modern spray painted vandalism.

This chapter was prompted in 1993 after Mike Bilbo observed that historic names in Fort Stanton Cave, New Mexico, may have been overlooked or interpreted as graffiti and removed during a restoration project. In addition, statements in several journal articles including those by Welsch (1993) and White (1993) seemed to have disparaged Native American rock art and equated it with graffiti.

Rock art and historic writing are significant nonrenewable cultural resources and must be recognized and inventoried along with other cave resources. Furthermore, contemporary writing of names and words or pictures in caves and on other rock surfaces has become unacceptable and unethical behavior for cavers. Since the late 1950s, the National Speleological Society has discouraged the writing of new graffiti in and around caves. (Weaver 1992, p. 3).

Rock art researcher James G. Bain (1978, p. 97) stated that rock art in caves in the United States might be rare but believed that there are more sites. He asked that cavers learn to identify rock art and watch for it as they explore and survey caves. It is important to note that in the caving community, rock art and historic writing are being recognized more frequently and their significance and need for preservation acknowledged.

Petroglyphs are rock engravings by percussion or incision, while pictographs are rock paintings. We usually associate these terms with the art of aboriginal cultures. Historic writing in caves and other rock surfaces was usually painted with axle grease, carbon black, charcoal, and sometimes other media, or by incising with stone or metal, or percussion by stone or other object. Technically, historic writing would be pictographic or petroglyphic.

### Recognizing Prehistoric and Historic Rock Art and Historic Writing

In the effort to remove graffiti from cave walls and other surfaces in natural settings, rock art and historic writing are sometimes overlooked because they are not easy to "see." Recognizing rock art or historic writing depends on learning what to look for. Seeing these media depends on conditions such as incised writing or petroglyph depth, pictograph color, time of day, weather condition, light source, rock surface reflection or light source glare, mineral occlusion, drawing technique, and other factors.

Visiting known sites is a good way to see rock art and historic writing in natural settings. In North America there are a number of preserved and interpreted sites worth visiting such as:

- Writing on Stone Provincial Park, Alberta
- Pipestone National Monument, Minnesota
- Hueco Tanks State Historical Park, Texas
- El Morro National Monument, New Mexico
- Petroglyph National Monument, New Mexico
- Grimes Point Archaeological Site, Nevada
- Scottsbluff National Monument, Nebraska.

To find sites in your region, research locations of state parks or other preserves in libraries or museums. Several useful sources are included in the bibliography of this paper (Bilbo 1982; Faulkner 1986, 1992; Kirkland and Newcomb 1967; Schaafsma 1980, 1992). These and other works may be identified in libraries and on the Internet.

When looking for historic writing and pictographs at a cave restoration

site, scan the location for a few minutes using halogen or LED lighting, studying patterns, shadows, textures, glare, forms, and lines which appear to be different from the natural surface. At graffitied surfaces, attempt to look beyond or under the graffiti. Portions of names, dates or phrases, or figures may be adjacent or sticking out from the edge of spray paint or areas of incised or scratched graffiti. Pictograph colors tend to be flat earth tones of red, white, black, charcoal, yellow, or brown.

Recognition of incised writing and petroglyphs depends on rock surface weathering, or patina, through which designs are pounded, leaving the lighter rock interior exposed. Side lighting a cave or rock shelter wall can aid in revealing their presence. When painted, historic writing is usually made in flat black media from sources such as axle grease, carbon black, soot, or charcoal.

Rock surfaces, along with rock art and historic writing in caves and elsewhere, are gradually destroyed by natural processes. Moisture seeping down rock surfaces forms a thin mineral coating which occludes figures and words (Ralph and Sutherland 1979, p. 276). Visibility of occluded figures varies under different lighting and angles of incidence. The rate of occlusion, including the development of flowstone in caves, varies widely from site to site and may develop more rapidly in caves than at surface sites. At the Natural Entrance Pictograph Site, Carlsbad Caverns National Park, New Mexico, most of the hunter-gatherer style art is occluded by calcium carbonate wash (Bilbo 1997). Few, if any, studies on occlusion rates on rock art or historic writing have been done. Occlusions may protect writing and rock art from removal during spray paint removal operations if special cleaning techniques are used (Sutherland 1977; Bilbo and Ralph 1984; Ralph and Sutherland 1979).

Weaver (1993, p. 3) discussed graffiti and defined some terms related to rock art in caves and biological marks such as animal footprints, bear claws, and human footprints. (See paleontological resources, p. XXX).

### Native American Rock Art

Rock art consists of pictographs (painted) and petroglyphs (pecked, carved, or incised) forms. Thousands of years of early Native American visual ideas have been recorded on boulders, rock faces, walls of shelters, around the entrances to, and inside caves.

Native American petroglyphs and pictographs occur at numerous sites, many of which have been preserved and interpreted. However, the number of sites that are known, but undocumented or unprotected, are far more numerous. The primary cultural time periods in the Southwest are: Paleo-Indian (ca. 12,000-8,000 ± B.C.), Archaic (± 8,000-300 A.D.), Pueblo (± 300-1450 A.D.), and Historic (1520 A.D.+).

### Representational and Abstract Styles

There are two basic rock art styles, *Representational* and *Abstract*. Both styles are subdivided into regional and local styles where distinct stylistic differences are noted. Figures usually consist of recognizable forms, such as human, animal, or plant forms, and include masks, human hands, human and animal footprints, and supernatural concepts (**Figure 2, p.110**). Abstract figures, possibly carryovers from early cultures, are also seen in representational rock art sites, but less frequently.

The Abstract Style in North America (**Figure 3, p. 111**) is associated with nomadic, hunting and gathering societies in North America beginning more than 6,000 years ago (and may also date from the North American Paleo-Indian period, although Paleo-Indian abstract or representational figures are currently unidentified in North America). Figures include spirals, wavy lines, hourglass shaped forms, rows of lines or dots, circles, crosses, stylized animal or human forms, and other geometrical

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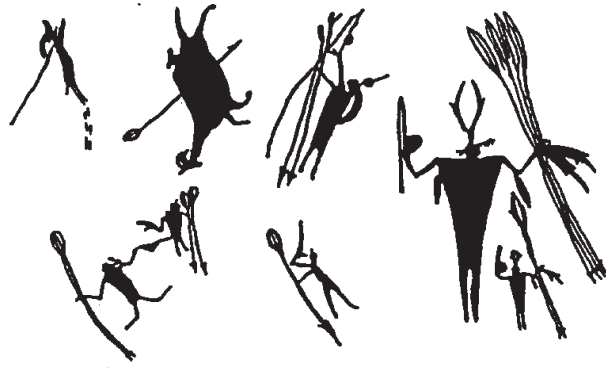


Figure 2a. Probable Middle Archaic Hunters and Animals, Candelaria Site (Schaafsma, 1980:30, Figure 17).



Figure 2c. 18th Century Navajo Bat, northern New Mexico.

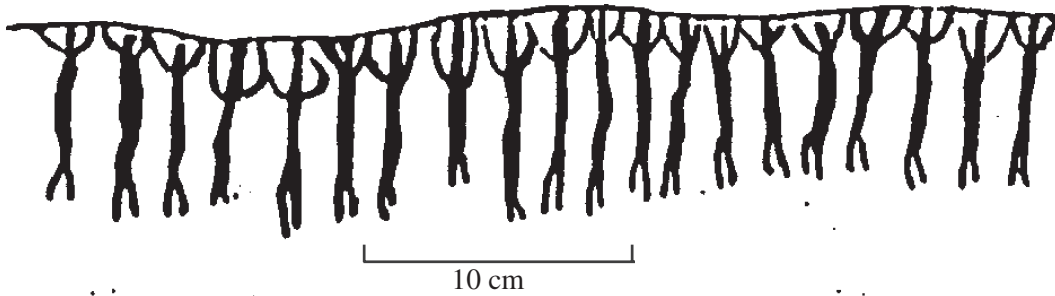


Figure 2b. Prehistoric Line of Human Forms.



Figure 2d. Prehistoric Mudglyphs, Petroglyphs and Pictographs from Caves in the Tennessee, Alabama, and Georgia Regions (Faulkner, 1984 & 1988; O'Blair, 1996). The circular figures in the lower right are considered representational shields

Photo by authors

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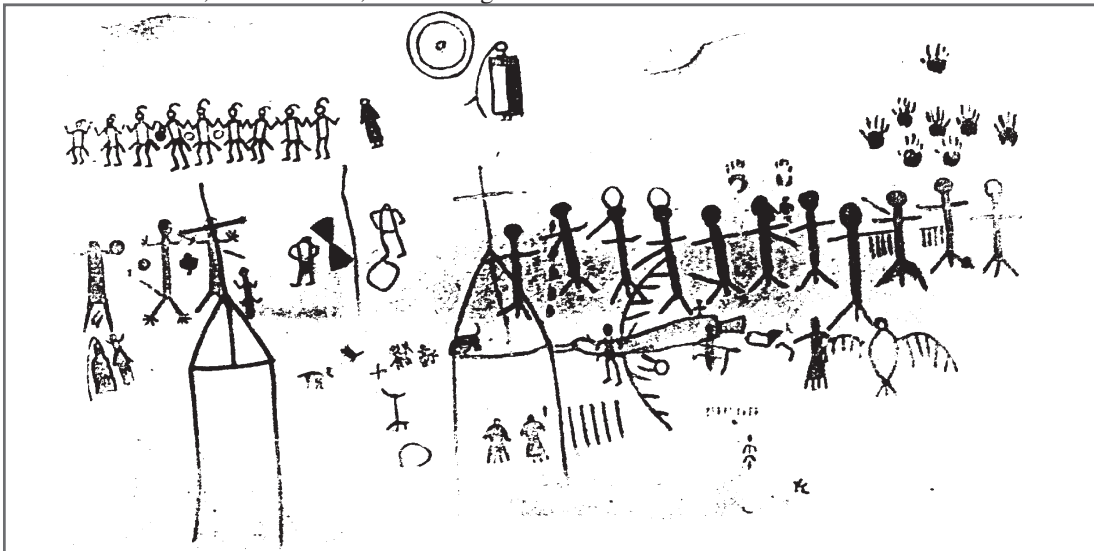


Figure 2e. Ca. 1580, Possible Comanche Pictographs from near the Pecos and Rio Grande rivers confluence, Texas. (Kirkland and Newcomb, 1967: Plate 73)



Figure 3a. Bee Cave Prehistoric Abstract Style, Lower Pecos River, Texas. (Kirkland & Newcomb, 1967: Plate 55).

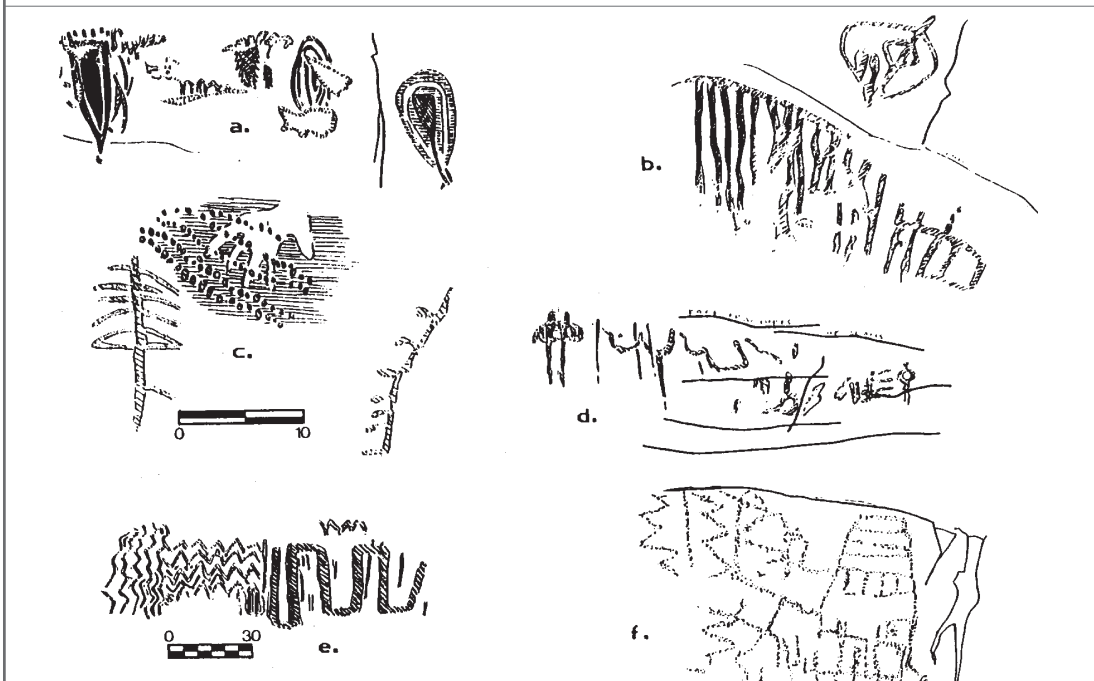
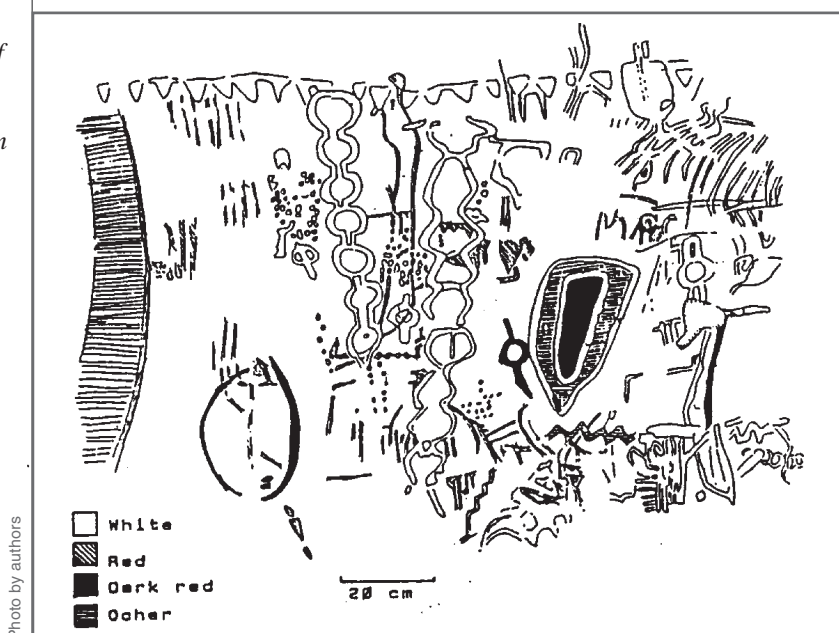


Figure 3b. Prehistoric Hunter-Gatherer Abstract-Style Pictographs From west Texas, southern New Mexico and northern Mexico.

shapes representing cultural concepts and may include representations of the supernatural, cosmology, and other ideas (Schaafsma 1992, p. 3-4), but which are unknown to modern observers. Abstract figures are sometimes recognized by older members of modern Native American tribes, although the meanings are seldom revealed to non-tribal people. Some contemporary cultures, such as the Hopi and Zuni tribes, Australian Aborigines, and African Bushmen still create both representational and abstract style rock art. Comparative studies of these cultures and their art gives some insight into those of early North American cultures.

Abstract art is the most common rock art style in North America, but most people do not recognize it. In our years of experience we have encountered some archaeologists who do not acknowledge abstract figures as rock art. A few others do not view rock art as an important archaeological artifact. Unless a rock art site contains abstract figures of the same density and coloration as those in Figure 4 or includes the well known representational style of Pueblo masks, flute players, and other

*Figure 4. Detail of Painted Grotto. Abstract style art that may date from prehistoric to historic periods.*



popularized figures, it can be overlooked, especially when the abstract figures are faint or occluded.

Contemporary Native Americans continue the tradition of rock art in some regions. In New Mexico, the Zuni create both pictographs and petroglyphs—some are considered ritual while others are being done for artistic reasons. Some younger Zuni create figures depicting contemporary subjects, including cars, women, and “George loves Bettina.” Techniques used are the traditional incising and painting, but the paint often comes from aerosol cans and has occasionally been superimposed over traditional figures. Other Zuni who had lost contact with tribal identity may have been defacing traditional sites (Young 1990). Should these activities be considered vandalism?

Other Native Americans also create contemporary rock art such as the Hopi who draw traditional rock art in the Chaco Canyon area of New Mexico and in Mesa Verde National Park, Colorado. These ritual sites or “traditional cultural properties” have been used for centuries. Similarly, the Ojibwa, in Canada, draw figures and inscribe their names at traditional sites to insure good health. It is conceivable that caves may be sites

for some of these activities. Should a traditional figure created in recent decades by a Native American for ritual or religious purposes be considered graffiti?

### Slaughter Canyon Cave and Other Dark Zone Sites

In Carlsbad Caverns National Park, New Mexico, several black figures are visible in the dark zone of Slaughter Canyon Cave (New Cave). At the request of the park cave specialist, we examined the black figures and the surrounding wall area and saw that the dominant black forms were superimposed over faded black figures, and that beneath one was another figure in faded yellow, all occluded by a thin coating of calcium carbonate. As we continued to study the site under the “white” light of halogen bulbs more occluded yellowish and reddish figures were observed on the cave wall. These faded figures had remained unobserved by most previous visitors due to the occlusion and to the “yellow” light of carbide lamps, flashlights, and Coleman or kerosene lanterns (Figure 5). Careful

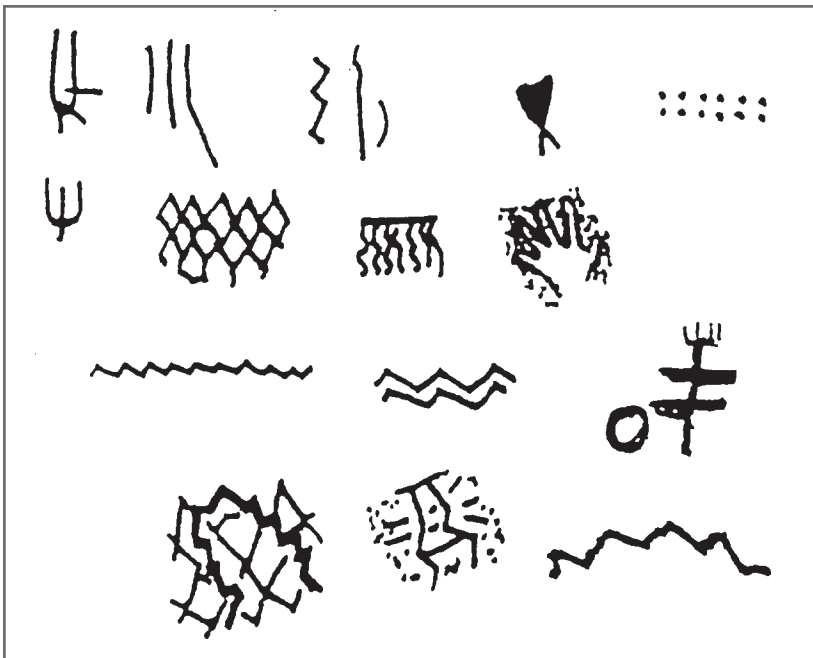


Figure 5. Hunter-Gatherer Abstract-style, Slaughter Canyon Cave, Guadalupe Mountains National Park, southeast New Mexico.

Photo by authors

examination during our recording project revealed over 40 abstract figures or traces, many of them forms common not only in the Guadalupe Mountains but throughout southwestern North America (Bilbo and Bilbo 1993).

Currently there are at least thirteen known dark-zone rock art sites in North America (Faulkner 1979, 1984, 1986, 1992, 1993; Gurnee and Gurnee 1985; Greer 1992, 1996; Veni 1993).

In other western hemisphere areas and throughout the world, figures which archaeologists have dated as being thousands of years old have been found in caves, the most notable ones in the Mayan region of Central America (Greer 1992) and the famous depictions of Pleistocene fauna in caves such as Lascaux in France, Altamira in Spain, and other sites.

### Spanish and Euro-American Historic Writing

As a cultural artifact, writing found on natural rock surfaces within the United States is considered historic if it is greater than 50 years old or

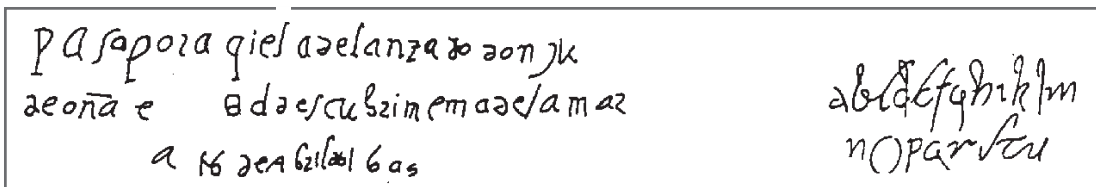


Figure 6a. Humanistic Cursive (Roman Cursive). Left text is New Mexico Colonizer Juan de Onatōe's 1605 Inscription, El Morro National Monument, New Mexico. Drawn from SPMA, 1989. Right text is an encyclopedic example.

more under guidelines of the Advisory Council of Historic Preservation (1973). In North America, such writing was done by explorers, soldiers, and settlers: Spaniards, during and after various Spanish Entradas in southwestern North America in the early 1500's, (the beginning of the Historic Period) and Euro-Americans, following settlement along the eastern coast of North America in the early 1600s. Historic writing was done in charcoal, carbon paint (lamp black), axle grease, or other media, or by carving or incising, and may consist of a name or names, places of origin, dates, military affiliations, or other information. Historic writing may be situated in locations similar to rock art.

**Writing Styles**

Historic writing styles consist of four basic types:

- Roman Cursive
- Modern Roman
- Roundhand Script
- Monumental or Block style.

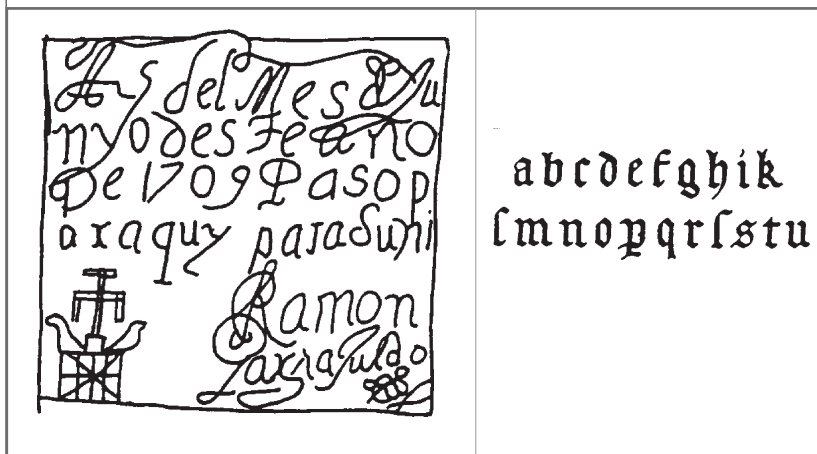
Variations exist due to rock textures and availability of implements or media.

**Roman Cursive.** This is the manuscript printing characteristic of Spaniards and other Europeans and was used from ca. 1500 to as late as 1800 A.D. It is identified by curved appendages and slight hooks or loops on the ends of the appendages.

Three cursive substyles that may also be seen in Spanish inscriptions are: Humanistic Cursive, Black Letter Cursive and Black Letter Gothic.

**Humanistic Cursive.** (Figure 6a) Dating from 1450-1600, this consists of sloping and well-rounded letters, with distinctive terminal blots, hooks or small loops at the ends of ascending letters. Black Letter Cursive, and Gothic (Figure 6b) are patterns of angular manuscript letters and were common from the Medieval period through the early Renaissance. Individual writers sometimes mixed these elements..

Figure 6b. Black Letter Gothic (Roman Cursive). Text and design (left) is inscription of Ramon Jurado Garcia, 1709, El Morro National Monument, New Mexico. Drawn from SPMA, 1989. Note the significant evolution of text in 100 years between 6a (1605) and this. Text (right) is encyclopedic example.





**Modern Roman.** (Figure 7) dates from ca. 1600 A.D. into recent times. It is identified by serifs, short lines stemming from and at an angle to the upper and lower end strokes of a printed letter.

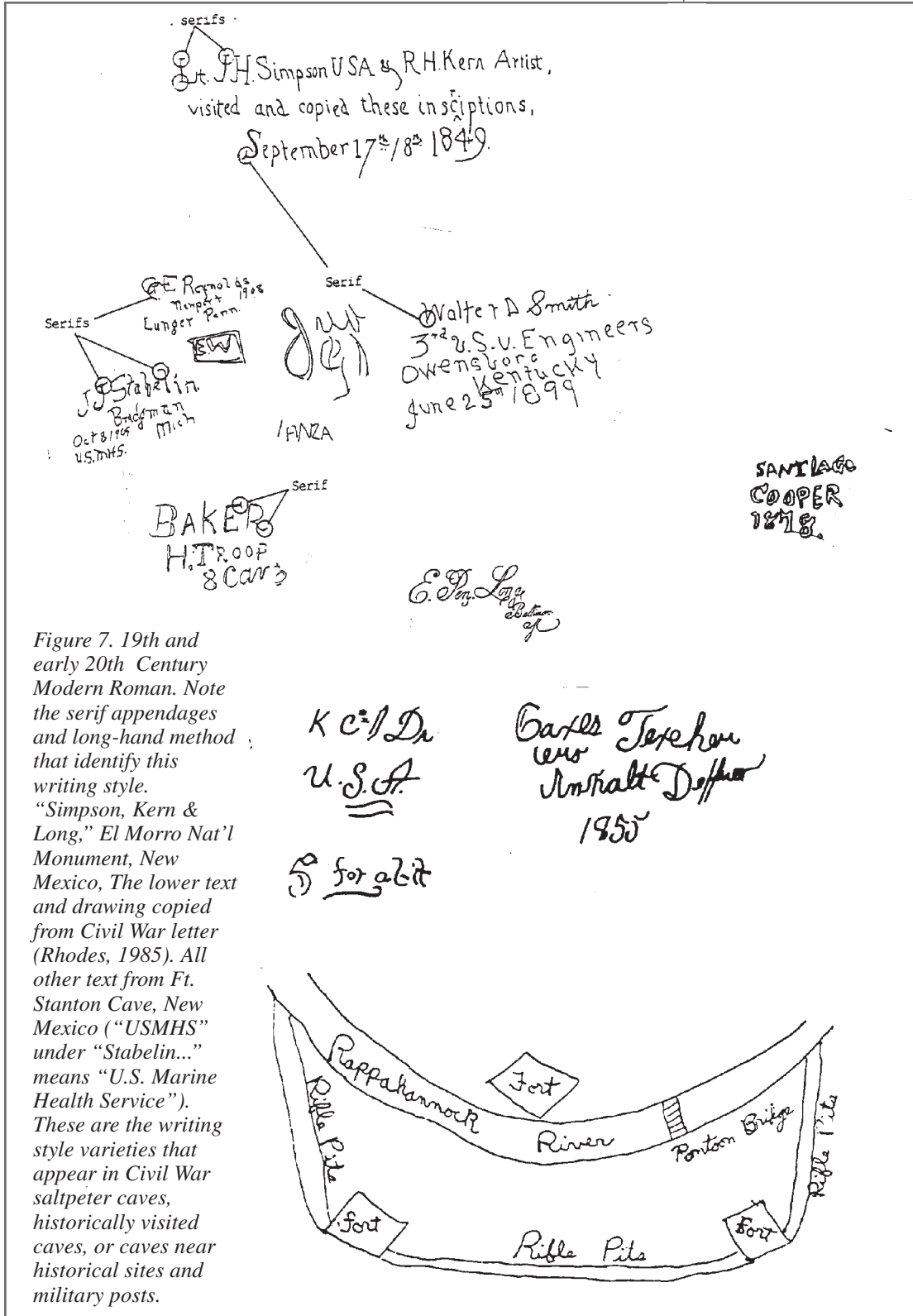


Figure 7. 19th and early 20th Century Modern Roman. Note the serif appendages and long-hand method that identify this writing style. "Simpson, Kern & Long," El Morro Nat'l Monument, New Mexico, The lower text and drawing copied from Civil War letter (Rhodes, 1985). All other text from Ft. Stanton Cave, New Mexico ("USMHS" under "Stablin..." means "U.S. Marine Health Service"). These are the writing style varieties that appear in Civil War saltpeter caves, historically visited caves, or caves near historical sites and military posts.

**Roundhand Script.** This an italic longhand style characterized by strongly slanted thick and thin strokes. Capital letters are characterized by distinctive sweeping flourishes and were contemporaneous with *Modern Roman* printing.

**Block or Monumental.** Most commonly seen after about 1900 is Block or Monumental style (Figure 8). This printing style lacks serifs and often has a heavy line weight. Writing styles in caves in the early 20th Century are most frequently inscribed or drawn in these block letters, but Roman printing and Roundhand Script styles are also common. Jim White and other explorers of Carlsbad Caverns and nearby caves left their names and dates on cave walls in the 1920s in these styles. For more information on writing styles refer to encyclopedias and books on epigraphy.

Figure 8a. Block or Monumental Style, Ogle Cave, Carlsbad Caverns National Park, New Mexico.

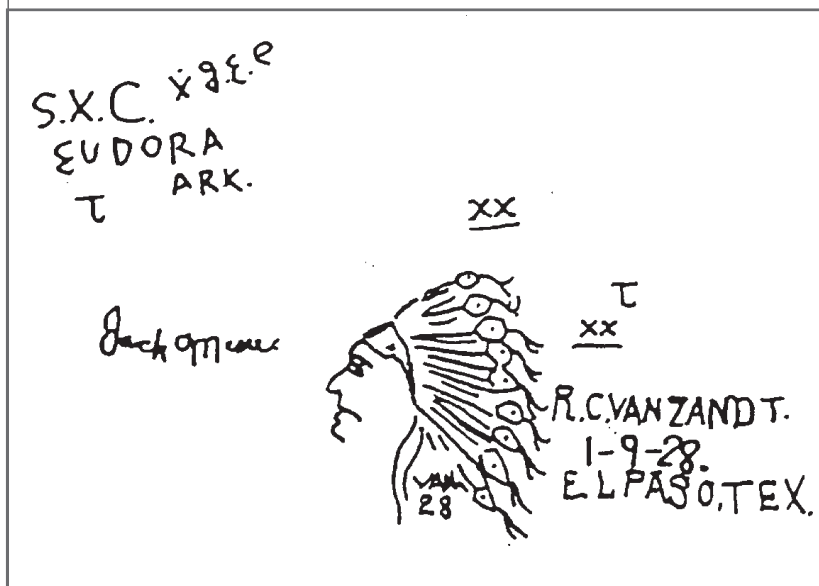


Photo by authors

Figure 8b. Block or Monumental Style, with a holdover Roman signature detail, "Jim White" of Carlsbad caverns fame, between the "1916" and "EM" of "Clements." Ogle Cave, Carlsbad Caverns National Park, New Mexico.

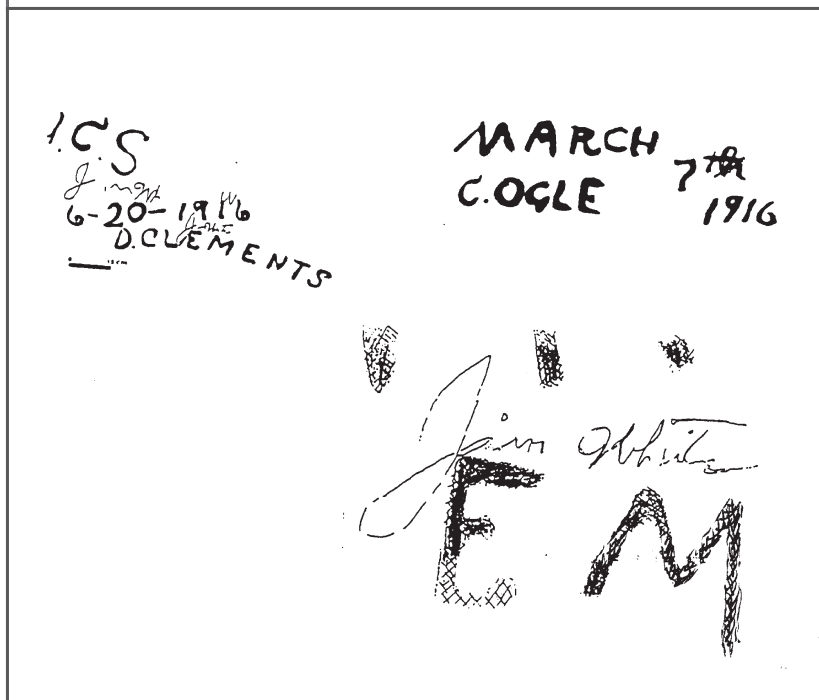


Photo by authors

### Examples of Historic Writing

Some names recorded on rock walls are well known in history, such as the early Spanish colonizer, Don Juan de Onate, who inscribed his name and the date (1605) on the rock face now included in El Morro National Monument, New Mexico. Others left their names there as well, including several 19th Century Euro-Americans. At most sites, however, are the names of common everyday people who indicated their passing. While their writing on rocks may seem insignificant, the opposite is often true. Research of an inscription can reveal unique and important histories.

For example, names and dates were made on a shelter wall by mid-nineteenth century stagecoach-travelers in what is now Hueco Tanks State Historical Park, located on the outskirts of El Paso, Texas (Figure 9).



*Figure 9. Historical writing (possibly axle grease) at Hueco Tanks State Historical Park, El Paso County, Texas.*

Photo by authors

One signature is that of Santiago Cooper–1878, written with axle grease. Local historical society records show that he was associated with stagecoach driving, but include no indication of when. We later learned that Cooper was in the Texas Rangers, Company C, stationed in El Paso, Texas in 1877 (Gillett 1976, p. 79). The location of Cooper’s and other names written at the site also suggests a possible original stage stop location that had not been accurately identified in other records. More questions and associated research can be suggested by a few names, which, except for their occurrence as historic writing on a rock surface, may not be part of known, written, history.

Huntsville Grotto members were in the process of a cleanup project (Varnedoe and Lundquist 1993, p. 251-252) when Varnedoe noticed: “J C’A’T Co A 6th RGT NY 1898” along with recent spray paint graffiti done by soldiers from nearby Redstone Arsenal. Having knowledge of area history, the authors knew that Redstone was not established until World War II. Research revealed that U.S. Army troops were in the area in 1898 to secure crops, probably for troop use during the Spanish-American War. Following their research, the restoration team removed the spray paint, but left the historic inscriptions intact.

In a similar situation, Bilbo (1982) recorded names and dates from 1855 in Fort Stanton Cave, by the U.S. Army 1st Dragoons (now the 1st Cavalry) and the 3rd U.S. Infantry. The names and dates had been incised

### **The Cave Vandalism Deterrence Reward Commission**

The Cave Vandalism Deterrence Reward Commission of the National Speleological Society reviews all successful prosecutions of cave vandals with an eye toward publicizing the Society's conservation goals and rewarding diligence on the part of those individuals who work to support those goals.

The commission promotes and administers an NSS reward given to the person or persons who provide information resulting in convictions for cave vandalism in the United States.

That includes convictions for damage or harm to caves, signs and gates, cave-dwelling organisms, or other forms of cave-related vandalism or malicious damage. Commission members may recommend payment of a reward in the event of a conviction under any cave protection law of any state in the United States. (See cave laws, page XXX).

By rewarding such information, commissioners want to encourage the public to help preserve and safeguard nonrenewable cave resources.

The commission also seeks to reward actions that result in significantly increased public respect for the

on flowstone in Roundhand Script (Figure 9). Research revealed that the names were soldiers in the regiments that built Fort Stanton in 1855 and were probably inscribed within three months of their arrival.

The entrance to Crystal Crawl in Fort Stanton Cave was once covered by modern spray paint graffiti which was successfully removed during restoration projects. In 1993, however, Mike Bilbo noticed faint remnants of an indecipherable name and the date of 1862 at the project location. The year 1862 is a significant date in the history of nearby Fort Stanton, a 19th Century U.S. Army post. This is the year that the post was re-occupied by Colonel Kit Carson and five companies of the 1st New Mexico Volunteers.

Additional surveying revealed that Fort Stanton Cave has at least eight interior areas with historic writing, dating from 1855 to 1943. Names from the 1877 cave survey and mapping Wheeler Expedition, and the 1891 Great Divide expedition, correspond directly to period articles and reports. The Wheeler Expedition was one of four 19th Century great western surveys, which resulted in the formation of the U.S. Geological Survey. 1870s and 1880s names and dates from the 5th U.S. Infantry and the 6th and 8th U.S. Cavalry and turn-of-the 20th Century U.S. Marine Health Service may also be seen.

Nineteenth and early 20th Century phrases and slogans may have little or no meaning in modern culture and should alert observers to the presence of historic writing. For instance, what is the meaning of "slavocrat" and how it was used? (This is a derogatory term used by Unionists toward secessionists just before the Civil War).

### **Graffiti and Vandalism— Rock Art and Historic Writing Included?**

The term graffiti, an Italian word for scribblings, was applied by archaeologists to early Roman (Latin) words and phrases scratched or chalked on walls or buildings. (See editors' note on graffiti grammar, p. 108) Contemporary graffiti includes names, political and social statements, hate and love messages, obscenities, sexual propositions, racial hate statements, gang identifiers and messages, and pictures of cars, faces, and sexual organs.

Contemporary graffiti is a graphic expression of vandalism using paint or other media, or by incising the graphic expression on natural or cultural surfaces, such as rock faces or building walls with no regard for adverse socio-economic or cultural impacts. In what appears to be a macho trend, late 20th Century and later vandals distribute trash on public land and others superimpose their names and statements with spray paint over earlier historic names and on prominent rock or structural features. Weaver (1993, p. 3) discusses graffiti in caves and defines terms related to rock art in caves. Police department gang units can provide insight on gang graffiti. There are numerous books and papers on the socio-cultural aspects of vandalism and graffiti, gang-related as well as that resulting from indiscriminate vandalism and casual ego-trips.

There are numerous sites in the West where cowboys and others, during the late 19th Century and into the 20th Century, incised cattle brands, railroad trains, names and dates, and other items into rock faces. These—and inscriptions in Ogle Cave, New Mexico, in Matthews Cave, Alabama, and elsewhere—although considered historic and worth preserving under various laws, are sometimes referred to as *historic graffiti*.

At the time these writings and drawings were made they could have been considered graffiti. However, they were done when very little in the

way of current events in every locality was being recorded in newspapers, journals, or in other period media and so should be considered a part of history that is not recorded elsewhere.

*Historic graffiti* falls under the guidelines of various laws protecting cultural resources and might be considered for preservation. The Antiquities Act of 1906 provides protection of archaeological resources. The National Historic Preservation Act of 1966 and the Archaeological Resources Protection Act of 1979 (ARPA) expand the language of the Antiquities Act by specifying objects significant to American history, architecture, archaeology, and culture that may have national, state, or local significance.

It also specifies that protection is given to cultural resource sites on federal public lands (Forest Service, Bureau of Land Management, Corps of Engineers, federal wildlife refuges, tribal, and other such lands) to projects on federal, state, or private land for which there is *federal* funding, and to sites that are eligible for the National Register of Historic Places. Summaries of applicable programs are available on the Web at <http://laws.fws.gov/lawsdigest/historic.html>.

Summaries are also available at <http://www.cr.nps.gov/museum/laws/lawregax.html>. Hutt and others (1992) review these issues in depth. Artifacts, including historic writing, which are 50 years old or more are to be preserved under this Act. The ARPA defines archaeological resources on federal lands and contains guidelines for excavation or other investigation of possible Native American archaeological sites, with references to the American Indian Religious Freedom Act of 1978 and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990.

The Federal Cave Resources Protection Act of 1988 contains guidelines for the identification and protection of significant caves. (See cave protection laws, page XXX.) The Act also allows for the withholding of information concerning the locations of nominated caves. Cultural resources are one of six criteria that can form the basis for significant cave nominations under this Act. States and other jurisdictions also have laws regarding cultural resource protection, which in some cases may apply to sites on private and state land. A gray area will emerge in the coming decades as the definition of historic artifacts begins to merge with the content of modern recording media and the consequent information overload. There may be a case for amending the definition and its context. (See Appendix 1, Federal Cave Resources Protection Act of 1988, page XXX).

Vandalism is the purposeless destruction of cultural or natural objects. There are two forms of vandalism, unintentional and intentional. Unintentional vandalism is caused by ignorance about what constitutes resources protected by law, or by one's own definition of vandalism.

For example, someone not "seeing" rock art figures or not receiving education through interpretive means, may spray paint names or build a fire next to a panel of rock art figures and cause either obliteration by paint or soot, or rock spalling due to heat expansion. Intentional vandalism consists of power or "turf" messages and personal identifiers, created as a reaction against authority or the "establishment," for group or individual recognition, as a vindictive act, or simply because there is nothing better to do (Bilbo 1987, p. 9). (See Figures 10a and 10b.)

Photo by authors



cave and karst environment and significantly increased public understanding of the desirability of cave and karst environmental conservation.

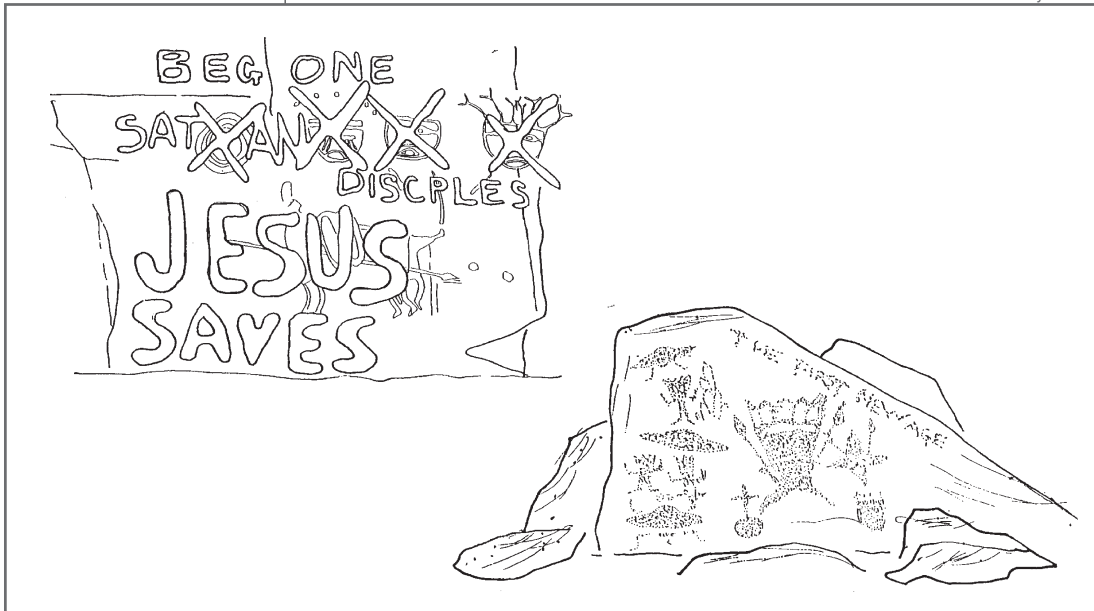
For more information, please contact Jay Jorden, Chairman of the Commission, for information. (See contact information in biography section of this volume). Or visit the NSS Web site [www.caves.org](http://www.caves.org) and click on Conservation.

Figure 10a. Gang graffiti, anyplace, USA.

Figure 10b: Intentional vandalism. Upper near Abo, New Mexico. Lower near Galisteo, New Mexico.

Despite public education efforts, spray paint graffiti is all too common in urban areas and in natural settings, including caves. In a small shelter in Carlsbad Caverns National Park the words "ALIEN WILL" are incised just above five red rock art figures. According to a forensic psychologist, (one who deals with the social and legal aspects of criminals, gangs, and other fringe groups) the words are believed to be the work of some followers of *New Age* beliefs regarding aliens, crystal power, and so forth. Possibly the same ideas went into the incising of flying saucers and the alteration of some figures on the extensive prehistoric to historic rock art panels at Comanche Gap, near Santa Fe, New Mexico (Figure 10b). Is this intentional vandalism?

Photo by authors



Mid- and late-20th Century graffiti, much of it consisting of roadside name painting, or urban secretive or illegible statements, or personal identifiers and gang territorial messages, will persist into the future. But does modern graffiti need to be preserved? Do the Antiquities Act and other federal, state, and area laws need to be amended to provide for exclusions of gang or roadside graffiti and contemporary rock art done by Native Americans?

Far more is known and documented about gang graffiti than may ever be known about the creators of historic writing or prehistoric/historic rock art. Usually the best we can describe about rock art is that a culture from a stated time frame, defined by archeological evidence, may be the creators of a given rock art site or style. In some instances, it can be assigned to a known group. But the creators of most rock art are essentially unknown and in a problematic time period. Contemporary Native American rock art may be studied more easily because the authors are still present.

We became concerned about rock art preservation when we read a statement by Welsch (1993, p. 32) stating that "petroglyph is a fancy word for graffiti." He went on to say that "some were probably the product of too much time and leftover paint," confusing petroglyphs with pictographs.

White (1993, p. 1) stated that "...rock art is interesting and sometimes historically important." He then used the term "rock art" for modern

graffiti, stating that “human beings have been obsessed with marking our passage in time and space . . . and that early cultures in North America created rock art as . . . perhaps an early illiterate signature.”

Prehistoric Native American cultures, while lacking the written languages of modern western cultures, were not illiterate for their time. Their written communication consisted of visual statements like Mayan and Egyptian hieroglyphics, which have been translated into modern meanings.

The fact that most Native American rock art figures have uncertain or unknown meaning to us does not make them illiterate marks. Consider that many Native American cultures may have originated in Asia, where pictographic writing is in use even now. For example, Chinese writing, which dates back over 5000 years and has been modified over time, still consists of pictograms and pictorial statements depicting concepts, objects, or other meanings. Early rock art researchers called rock art by the perhaps better term *picture-writing*. The letter-by-letter word construction based on Arabic script used for writing by western cultures is not the only measure of literacy. Inferring that rock art is an “illiterate mark” is an ethnocentric bias that should be avoided.

Rock art and historic writing, along with other archaeological artifacts, are cultural resources and must be identified, inventoried, and preserved under current laws and regulations. Special-interest groups have sometimes acted in ways that lack consideration of the original nature of a site. Prehistoric rock art figures in several New Mexico shelters were scraped away or had crosses incised over the sites, or both, by Spanish priests during the 1700s who were exorcising what they believed to be pagan messages (Carrillo 1989). To Native Americans this was sacrilegious vandalism. Due to the date, however, the priest’s activity could be considered evidence of a significant historic event. At the time, was it vandalism or graffiti?

In the 1980s a fundamentalist Christian sect used enamel paint to state their religious opinions over the figures on several of rock art panels in New Mexico (Figure 10b, p. 120). Such actions should be considered graffiti and just as unsightly as other roadside graffiti. It is also insulting to present-day Native American people. But some view such religious actions to be sincere and legitimate.

There are different attitudes toward preservation of cultural and natural landscapes among regions, cultural groups, and even individuals. Those who value the cultural artifacts need to communicate the reasons for their approach and actively support conservation of sites. Concerned individuals can help by supporting and participating in the management and protection of sites, and by participating in educational activities about the significance and value of preserving cultural history (ARARA 1977, p.17).

Where can the line be drawn between graffiti and religious statements applied to rock surfaces? In the United States, the First Amendment and the American Indian Freedom Act protect one’s right to practice religion. Other nations have similar laws. A discussion on the difficulty in addressing this aspect of graffiti is presented in the ARARA conference proceedings of the Symposium on Rock Art Conservation and Protection (ARARA 1977, p. 84-86).

Others do not seem to value rock art and historic writings as part of cultural history. Welsch (1993) and White (1993) both appear to disparage rock art. Welsch (1993, p. 32) considers that some rock art may be “symbolic, mystic, or artistic” but may be more likely to be power statements or personal identifiers.

Perhaps for prehistoric cultures, for which there is no written history as defined by western cultures, the visual statements along with other artifacts (potsherds, lithics, middens, tipi rings, pueblos, and so forth) help

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**A well-intentioned restoration project early in 1993 focused only on the physical environment of Cave du Mayriers, France, (Art News 1992, p 50; Weaver 1993, p 23). However, significant portions of 15,000 year-old bison paintings were removed**

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us know something about early cultures. Historic period rock art and historic writing are interesting and valuable additions to written history because they may document a name or an idea at a particular place and time.

Cultural resources should be protected and preserved, not only because there are laws saying so, but also because they are the basis of history. Cultural artifacts in caves have gained recognition due to the publication in popular books and journals of the significant prehistoric paintings in Lascaux and other French caves, at Altamira, Spain, and in the Mayan region of Central America. However, the minor occurrences of cultural artifacts, including rock art and historic writing, should also be recognized as part of mankind's history.

### **Examples of Well-intentioned Restoration Projects**

Restoration projects intended to remove modern graffiti have had varying results. Some have included looking for and recording historic or prehistoric writings or art before graffiti cleaning began, but others have not. In 1969 at the direction of Texas Parks and Wildlife headquarters, sandblasting was used to remove "graffiti" from a rock shelter wall in Hueco Tanks State Historical Park, Texas. Mike Bilbo and Kay Sutherland, both rock art specialists familiar with most of some 5,000 figures at Hueco Tanks, were present when the cleanup project began. They asked that the work be stopped and were referred to the Austin, Texas, headquarters.

The sandblasting was stopped, but a significant portion of a large rock art panel had been destroyed (Bilbo 1983) (Figure 11). Several baseline studies of rock art and historic writing were then initiated due to the new recognition of the park's resources.

But in 1984, while working at the park for the summer, Mike Bilbo observed a graffiti cleaning project that was conducted with minimal instructions or supervision, resulting in the loss of seven historic period figures at another site on the park. Forrest Kirkland (1967) had recorded many of the known figures at Hueco Tanks—thus, most of what was lost during the 1984 cleaning effort had been recorded.

A well-intentioned restoration project early in 1993 focused only on the physical environment of Cave du Mayriers, France, (Art News 1992, p. 50; Weaver 1993, p. 23). However, significant portions of 15,000 year-old bison paintings were removed. No photographs or drawings were done. The group's leaders stated that the cave had not been designated as an historic site and so they were not aware it was protected, even though the presence of documented Paleolithic pictographs are widely known in the same part of France, Lascaux among them.

Debris or "junk" removal as part of a cave cleanup project also should be evaluated and included in the resource inventory. Some of it may be historic, with little or no documentation in existing historic records. In Carlsbad Cavern and Ogle Cave, New Mexico, relics of guano mining activity during the 1930s and 1940s remain in place and have been inventoried and preserved.

In Matthews Cave, Alabama, Varnedoe and Lundquist (1993) removed military debris, including a barrel of diesel fuel, a 90 mm shell and other "junk" related to U.S. Army activity in the area during World War II. The artillery shell casings can be dated and indicate military activity though no other historical evidence or records have been found.

These cases illustrate several basic principles for avoiding restoration problems through: • pre-project planning, • communication within an organization, agency, or group, • and recognition and acceptance of cultural resources and the importance of their preservation.





Photo by authors

### Restoration Management Implications

The land owner or manager must determine whether or not graffiti is to be removed and must recognize that a vandalized, trashed out, and spray-painted cave may actually contain significant resources. An understanding of what constitutes graffiti, as opposed to what is historically and culturally significant, is a critical part of both inventory and restoration planning processes. Removing graffiti may cause excessive impact on the site and restoration or resource management plans may include decisions not to restore sensitive vandalized sites. Each site must be judged separately based on what is in the best interest for the resources of the specific site. Various resource management tools can aid in writing prescriptions for each site.

### Resource Inventories and Cave Surveys

Restoring caves to as natural a condition as possible is not always the overall goal in cave projects. Identification and protection of cultural resources, including historic writings and rock art, should also be considered—but these important resources can be easily overlooked or ignored.

*Figure 11: Hueco Tanks State Historical Park, Site 1-A: Historic representational art. Top drawing, before 1969 (Kirkland and Newcomb, 1967: 176, Plate 124). Bottom drawing, the result of mechanical sand-blasting in 1969.*

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**On federal lands, an Environmental Assessment (EA) may be required to document descriptions of methods, evaluations of projected impacts, and recommendations for preservation, mitigation, or restoration actions.**

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Restoration plans should involve tying cultural resource sites into cave surveys, photographing, and recording all rock art and writing before graffiti is removed. Photographs can document the relationship of graffiti to rock art or writing and are essential for study and evaluation before restoration work begins. Photographs and drawings also document rock art and writing in the unfortunate event anything is removed during restoration. (See photo documentation, page XXX.) Because entrance areas are frequent sites for rock art, historic writing, and contemporary graffiti, cave entrances should be carefully assessed and included in documentation. Cultural sites should always be tied into the cave survey to pinpoint locations.

Resource inventories thoroughly describe cave attributes and site locations are coordinated with cave survey data. (See cave inventories, page XXX.) Inventories, surveys, photographs, and other documentation are essential tools for planning restoration projects, cave rescue efforts, and recording the presence of natural hazards or hazardous materials.

### **Environmental Assessments**

During restoration planning, the potential impacts of project methods are considered. On federal lands, an Environmental Assessment (EA) may be required to document descriptions of methods, evaluations of projected impacts, and recommendations for preservation, mitigation, or restoration actions.

For example, if the use of chemical agents is proposed, the effects on physical cave attributes, cave species, and habitats should be evaluated. An Environmental Assessment may also make recommendations for avoiding over-zealous restoration efforts—for example, perhaps every speck of paint should not be removed from every pore of rock so that a more natural appearance results rather than totally scrubbed and discolored surfaces. For some sites, recommendations may include disguising paint remnants with mud from the cave floor—while for other cave sites, leaving paint specks exposed may be prescribed.

Testing the effects of a particular method may also be part of an EA. For example, during field experiments between 1991 and 1995 Bilbo observed the wetting, drying, and integrity of cave surfaces when experimenting with several different mixtures of gypsum and water to make a naturally appearing cover for modern incised lines at one historic writing site in Fort Stanton Cave.

Similarly, in 1995 mud was prepared by Mike Bilbo and Val Hildreth-Werker from weathered gypsum and limestone dirt particles from the floor of Crockett's Cave and used to cover enamel paint graffiti to test the effect over a long term. At this writing the layer remains intact and appears very natural.

Effects of various restoration methods are included in ARARA (1977), Bilbo (1987, 1983), Bilbo and Ralph (1984), Morion (1989), Rhodes (1976), Ralph and Sutherland (1979), and White (1993). In addition, annual *NSS News* restoration issues should be consulted for the latest techniques and cautions. Many chemical techniques may adversely affect cave ecology, and the appearance and integrity of rock surfaces. (See anthropogenic chemicals, p. 63.) Water and careful handwork may be the best choice as recommended by Goodbar in this volume. (See cave graffiti, p. XXX).

### **Consult with Experts**

Every state has a State Historic Preservation Office (SHPO) or other agency responsible for archeology and historic sites. Federal preservation and protection law applies only to federal land in any state. The same laws will apply to state or local land if the state has incorporated them into

state statutes (most or all have) or when federal funds are being used for a project. Standardized recording methods and recording forms are available through SHPO agencies, local archaeological societies, and university archaeology departments. These sources can supply or identify consultants for restoration projects. Information provided to these organizations as a result of restoration and recording projects should be considered proprietary. If individuals or groups are identified on the Internet, they should be considered in light of their affiliations with acceptable institutions and organizations.

Cave managers and restoration project leaders should become aware of agency functions and assistance they can offer. Professional archaeologists may participate in a restoration project as cultural resources consultants or project leaders. Often, good assistance comes from local or regional archaeological societies, whose membership may include one or more avocational rock art specialists. Likewise, local historical societies may have members who can identify historic writing and artifacts.

The importance of consultants is illustrated by the work of rock art specialists from Rupestrian CyberServices in Flagstaff, Arizona. While cataloging 41 known rock art sites in Hueco Tanks State Historical Park, three times that number were identified using digital enhancing techniques. This consultant information has brought emphasis to the importance of Hueco Tanks in the Native American cultural history of Southwestern North America.

Equally important is that about three-quarters of the known 5,000 prehistoric and historic rock art figures and panels of historic writing at Hueco Tanks have been impacted by vandalism, campfires, rock climbers, weather, and wasp nests. The resulting inventory and mapping will provide the basis for determining the progress of continuing impacts at this important prehistoric to historic site on the outskirts of El Paso, Texas (Texas Parks and Wildlife Department 1999).

### Public Outreach and Education

Educational outreach programs, such as *Leave No Trace*® and *Tread Lightly*®, teach people to be aware of the importance of preserving cultural artifacts and the natural environment. Efforts include interpretive signs and brochures, and presentations by caving volunteers, specialists, and land managers to caving groups, schools, organizations and governmental bodies at on-site and off-site locations (Bilbo and Ralph 1984). The effectiveness of this approach depends on the presence and consistent availability of volunteers or agency interpretive staffs to monitor sites and plan and conduct public educational activities. An effective cave management plan must include not only provisions for restoration and maintenance but public education as well. It is through public outreach that the occurrence of vandalism and graffiti can be reduced or eliminated (Anderson 1977, p. 58).

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