

**PROCEDURES TO DEFINE A MORE COMPLETE
CONTEXT FOR ENGRAVED STONES FOUND ON SURFACE SITES**

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In the past, because of many and various associated problems, archaeology has seldom considered small artifacts found on surface sites with an appropriate degree of seriousness. Because of the nature of engraved stones and their promise of contributing more than just a presence at a site or in a location, I undertook the task of making engraved pebbles and their potential to contribute more information as a graduate studies project. Before doing research and analysis on engraved stones found on surface sites, it would be critically important to establish a more informative archaeological provenance. In order to comply with the increasingly rigorous demands of analytical interpretation more information is needed to help establish the significance and function of engraved stones found on surface sites. The only way this information can be obtained is by meticulous observation of otherwise ignored details (Marshack 1979:304). Recording more details will offer better external evidence to support or disprove conclusions from an analysis of the internal evidence. Without surface data, a functional analysis would be incomplete or impossible. It would, at least, not allow a holistic approach (Marshack 1979:308, Koblinski and Koblinska 1979:308).

When these artifacts are found in situ, in an excavation, their context is now being taken more seriously, and documented to a fuller extent. But even at sites where provenance was noted, a discussion of cultural context is often lacking, only a more traditional approach of a basic physical description being given (Marshack 1979:271,302). Some authors do theorize as to the function of the engraved stones or their use as time markers, but in publications "the general practice...has been to describe the engraved stone, refer to similar artifacts, and comment that its use is unknown" (Lee 1978:45).

At sites like Gatecliff shelter where approximately 400 stones were found, determining and recording a complete and accurate physical context is crucial. Because of the large number of engraved stones found at this one site, some great cultural force was at work to produce the unusual concentration. This should have left evidence in the archaeological record; information external to the stone will play a major role in reconstructing the cultural traditions in which the stones were used at Gatecliff. Otherwise, it would take a survey of many surface sites to even approximate such information. And the sort of in-situ information from excavations does not occur on the surface.

Within the Fremont cultural area, at the time that this paper was originally written a large number of engraved stones had not been found in excavations. Excavated sites producing engraved stones consist of: Danger Cave, with one engraved stone; Stansbury Island, four; Promontory, 16; Hogup, 30; Cowboy Cave, one; Swallow Shelter, 63 pieces;

and Thomas Shelter, 1. Mounds near Nephi contained one, and mounds near Provo had two (Jennings 1957:219; Jameson 1958:26; Steward 1937:77-79; Aikens 1970:79; Jennings 1975; Dalley, 1978:46-57, 88; Sharrock and Marwitt 1967:37; Reagan 1935:73; Madsen n.d.).

In surface sites, the situation is very problematical, but not without partial solution. Because of the lack of stratigraphy, a relative chronology is next to impossible to determine. Problems of gathering information to reconstruct a context for surface sites have several major areas of concern: first, locating existing collections; second, their investigation; third, initiating formal research on previously-hunted sites; fourth, locating unknown sites within the vicinity; and fifth, investigating of new sites. All five steps are necessary to provide as complete a context as possible.

Because of the Antiquities Law, the difficult nature of this research, and the loss of information through improper observation and inadequate recording, it is absolutely necessary that collectors leave such sites alone and report them to qualified researchers. This presentation was based on information gathered as part of the author's postgraduate work, for the most part written in 1978 and put on file. It was not circulated or published because it was thought by some that it might, by stimulating interest, encourage vandalism of sites and illegal collecting. Because there was no interest on the part of professionals at that time and, on the other hand, the interest of amateurs continued to grow without this information, it was decided to publish it. Those who have access to this publication, both amateur and professional, will benefit from the information; the concepts presented here need to be considered for research to progress. Nearly all of the sites that used to contain engraved stones on the surface are now history. Hopefully, this paper may help reconstruct some of the information lost by those who didn't realize the importance of this type of research or the problems of illegal collection.

These procedures can give significant information on which to base pertinent conclusions not available through more traditional research. New data on old sites can be compared with data for similar stones excavated in situ. This information could be compared with and explained by the conclusions of Gunn's envirotechnological system (Gunn 1975:4,6,17).

In areas where engraved stones occur, prehistoric inhabitants came from many different directions and backgrounds to use the site. But one thing they all had in common was that they discarded their trash in certain small areas. The nature of the refuse and other characteristics of the sites are clues to help reconstruct their activities, as may be defined in an envirotechnological system.

In describing the physical setting, we must remember that the terrain may not be exactly as it was. Because of this, the more information included, the more we can understand how it may have been. The information necessary to give as complete a description as possible can be broken down into three categories.

RECORDING THE SITES

ONE - A DESCRIPTION OF THE PHYSICAL SETTING.

Distinguish the physical setting of cultural remains. In areas with the exact locations of large concentrations of cultural remains, sub-sites may be useful. Within sites, the location of engraved stones should be mapped, with their relationships to all other cultural material shown. The engraved stones should be labeled with their own identification on an area not interfering with a feature of interest on a photo or drawing. In the master site survey record, indicate the collector, address, site ownership, and if tenant is present, his name and address. Sites should be plotted on USGS maps.

In giving a full physical description of the site, geological and geographical features should be described, though they may or may not seem pertinent to the selection and use of the site. Differences from other likely situations in the area that do not have engraved stones, that do or do not contain other artifacts, should also be recorded. The description of these physiographic features should include an in-depth description of the setting. The type and abundance of vegetation and the site's proximity to water should be included. Note the type of site, i.e., blow-out, dune, flat, ridge, mud escarpment, juniper clearing, knoll, bench, etc.

Provide detailed site orientation to features of its surroundings. Indicate site condition. Include an estimation of whether the site is stable or eroding, if a dune is sedentary or moving. Note if the site is fully or partially exposed, or blown over. Also note the erosion patterns and degree of erosion present.

Sites near springs may have been modified by roads, dikes, dams, drift fences, pumping platforms, windmills, farming, grazing, etc. These activities will affect the condition of a site. Note the type of accessibility to the site, and the amount and type of usage. This should include past and present usage.

TWO - A DESCRIPTION OF THE TYPES OF CAMPSITES WITHIN THE VICINITY.

Notice the manner in which sites occur, whether they are repeated types of situations or are uniquely situated. In some of these sites the remains of many cultures are often superimposed. Each came and exploited the ecosystem and left a different thumb print. Accuracy of conclusions is directly related to the degree of care with which observation and recording are done.

In many instances analysis of these finds will contain less information than information from sampling procedures of regular excavations. The process of site sampling as applied to excavated sites may be impractical to apply to surface sites. However, some areas of overlapping concern need to be considered.

The purpose of sampling is to enable the investigator to answer questions and study the cultural and structural situations without a complete excavation. Even though the sampling process itself may not be applicable, three questions that govern sample size are important in understanding the results of our theoretical site reconstruction. The theoretical interpretations of any site are founded on the procedures of methodologies used to construct the foundation (Chartkoff 1976: 1).

Since this foundation supports the reconstruction of a site and its usage, it is important to realize that our knowledge about a site is generally based on a pretty small sample taken from the site. This information, whether from an excavation or from a surface site, is influenced by three facts:

1. A chance factor of what may or may not be present at the site or visible on the surface during each visit.
2. The nature of the site,
3. The types of procedures employed to answer specific questions.

Testing our predictions on surface sites can only be done on subsequent sites of the same type and or style. The ideal completion of the site investigation is when the prediction of cultural facts is thought to be accurate. A site should also be compared by culture and style to other sites within the vicinity and beyond.

In sampling, the size of the sample depends on the kind of data being gathered. Here we are not only trying to recover as many copies of engraved stones and the compositions on them as possible because of their significance, but recover as much information as we can relating to them. We desire to obtain as many engravings as possible because the more representations we have, the better we will be able to understand them.

Short of a written record, this type of artifact may best enable us to explore the mind of prehistoric man (Marshack 1975:62-89). The various facts that compose the picture are like puzzle pieces. The reason it is necessary to obtain as much contextual information as possible, including insitu site information and associated cultural remains, is to obtain as many puzzle pieces as possible. The more pieces we have, the more we can understand about the cultural prehistory and philosophical advancement of man (Chartkoff 1976: 2-8).

Various residual aspects of culture can be documented in a total site record by noting the way the site was used. Certain areas contain cooking stones and hearths. Chipping areas or the areas of larger concentrations of lithic waste may overlap cooking areas or may be segregated. If engraved stones are found in one or the other or a combination of both, certain conclusions can be drawn. Combinations of artifacts and features and any degree of segregation should be noted. These facts show the possible types of site being investigated and the subsequent degree and kinds of usage. Sites include areas used by those who probably came from a more permanent habitation where subsistence activities did not include horticulture to a large extent (Madsen 1978:5, 13-19; 1979:711). From these residential areas they came to harvest pickleweed, gather cattails, rushes, and other vegetal materials, while they were also hunting waterfowl, grasshoppers, rabbits, fish, or larger game. It is

possible that at certain times, while visiting these sites, social and ceremonial activities also took place.

With subsequent studies, it may be possible to determine site function (Kautz and Keatinge 1977:86-96). "At small sites it is possible to economically work out correlations between specific configurations of prehistoric remains and specific modes of human activity ... with the investigation of sufficient settlements of focused activity, a repertoire of archeological attributes characterizing different behavior patterns can be built up, and ... this repertoire can be used to help dissect out various functional components at large, complex settlements" (Moseley and MacKay 1972:76). With the additional aid of macro- and micro-analysis of subsistence remains, insights should be derivable on a smaller scale as represented on the Salt Flats and Skull Valley to identify subsistence economy and possible use of sites (Kautz and Keatinge 1977:94, 96). These sites, whether short-term camps, base camps, or just temporary rest stops where broken points were replaced, etc., contain sufficient clues to aid in this process. Although surface remains of various acts such as maintenance, manufacturing, preparation, or cooking may be minimal, the clues are there.

"The basic assumption is that human beings are economically oriented and that their behavior can be described in terms of economic theory. Thus ... activity loci should show definite correlations with the economic pattern of the culture involved. Since expectation involves or is synonymous with prediction, economic or subsistence models which produce a high level of reliability in predicting the location of human activities, including rock art, are a form of scientific explanation for the activity ... by investigating locational correlations, students of rock art should be able to gain a greater understanding of the significance of petroglyphs to the people who actually made them" (Weaver and Rosenburg 1977:117, 118, 121).

To best accomplish this relationship, list all the characteristics, peculiarities and features of a site. Note the number, size, and shape of hearths or fire spots. Size and shape show a relationship to the use of the pit (Everitt 1974:144). The areas of distribution, size, and types of cooking stones, or lack of them, may indicate the types of food being cooked and the manner of food preparation (Jennings 1968:113, 137). Also note the percentage of the site covered with, or the number of clusters of, cooking stones. Notice whether they are localized or scattered and their proximity to fire pits, approximate size, source, and degree of deterioration. Note whether various types of stones occur within one cluster or whether the stones in each cluster are homogeneous. This, with consideration of distribution, disturbance, size and concentration, will to a degree suggest the amount of site usage.

Analysis of lithic waste and chipping activities should include percentages of chip size with an average percentage of types of material by size and degree of surface hydration. It is a general tendency for the average Archaic chips to be larger than average, Fremont smaller. Various distinct chipping areas close to other campsites may contain different materials and engraved pebbles. Engravings occurring with material of one particular time frame may be assumed to have been made by that culture.

Often clusters of chips show differences in the amount of surface deterioration or abrasion, expressing great differences in age. Softer materials show this tendency to a greater extent. A comparison of obsidian from different campsites, if consistent ware exists within a workshop, often shows a variation of aging and effects of weathering. With field discrimination alone, only three time frames should be attempted. Any finer division can't be accurately done with any degree of reliability. Paleo-Archaic chips often show tremendous ridge abrasion and dulling of glossy flakes or polishing of naturally duller material. Most Fremont material has moderate or no surface deterioration. Late Fremont to historic chips have no deterioration. For considerations of obsidian hydration analysis see Bell (1977:68).

On other naturally dull materials some opalizing of the surface occurs due to continuous abrasion and solar exposure. Various degrees of this can be demonstrated by removing a small chip from a similar non-used flake to show the material's natural luster. The closer the natural appearance the surface is, the less age difference; and with more, the greater the age, though this is not always reliable.

Analysis of surface aging within and between workshops needs to be carefully done. The percentage of any one type of surface weathering from one type of stone to another varies, as well as varying from one location to another. For this reason, the overall percentage of types of weathering from segregated waste areas needs to be constant enough to identify it as a single time frame. If the lithic assemblage exhibits multiple time frames, locational information should include the areas producing each type and areas expressing different degrees of weathering, if any. This information should be used with associated artifacts and types and styles of features if possible.

Often areas of historical to late prehistoric remains tend to be smaller and more compact, and may be centrally located within a larger Fremont or Archaic site. An exact overlap of habitation or other site use between Fremont and Archaic seldom occurs. If engraved stones occur in areas where one or the other are segregated, implications are that they are of that time frame. However, at one site they only occurred in the overlapping areas. Because most of the sites producing engraved stones are "arrowhead-hunting" sites, more reliance must generally be placed on general patterns of material and weathering than on associated point styles.

If possible locations of projectile points found by collectors should have been noted as accurately as possible and marked as secondary information. Any pottery found at the site along with manos, metates, palettes, or other features should be recorded as to type, and also location with reference to areas previously noted for nonmobile features. Any features or remains of the site should be left intact at the site for further research purposes. Any violation of this can bring severe punishment through the Antiquities Law.

THREE - THE LOCATION AND RELATIONSHIP OF ENGRAVED STONES.

Because of the rarity of engraved stones on surface sites, their location should be analyzed as to the significance of where they are found. Location not only shows a

significant relation to the setting in which they were used, but to a degree the method in which they were used, and to the method in which they were discarded. The situation in which they were found, to a certain degree, relates to the user's attitude about the engraved stone. Caching or ceremonial retirement of pebbles is more sacred than if they were discarded in a more profane context. It is often difficult to tell what is sacred or profane. What may be profane to us, such as rubbish heaps or hearths may not be profane to them since our definition of rubbish and theirs are vastly different. Repetition of occurrence will play a part. In relation to this note the percentages of stones identified as being killed (c.f. Warner 1981).

When one stone is found, often others will be found near by. These stones should be noted in such a way as to indicate multiple stones possibly produced by the same engraver. This may be supported by a more complicated analysis of the same engraving point-pressure system and the differences in tools and types of tool manipulations.

Notes should be made of the percentage of stones at the site which are and are not engraved. Also note if the stones occur naturally at the site or whether they were imported. This can be determined by finding similar adjacent loci without sites that have non-engraved stones. If stones found nearby in identical situations are naturally occurring and not engraved, it may be safe to assume that they occur naturally at the occupied site. Occupied sites without naturally occurring stones often contain more stones suitable for engraving and often in a situation different than their natural context. Otherwise, the nearest naturally occurring situations for such stones should be located and mapped. Also, search to see if other suitable types of stone were available in the vicinity. These locations tell if special out-of-the-way trips were made, or at least how far the stones had to be carried. If they were carried past other types of apparently suitable stone, then a preference for type of stone may exist. Given the types of stone on which certain styles consistently occur, this is not unlikely.

The locations of all the above features and of the engraved stones can be measured with distance and angles from datum points at the site. These datum points can be pieces of pipe driven into the ground. The site should be accurately drawn, including all the points previously discussed, with an in-depth description.

Using these procedures in analyzing existing collections and initial site investigations, it is possible to make some very pertinent contributions to lists of little-known information on styles of mobiliary rock art.

SUMMARY OF IMPORTANT POINTS

Table 1

Physical description of site situation

- Draw as complete and accurate a map of the site as possible.
- Give a complete verbal description, keeping in mind possible changes over time of both geological and geographical features.
- Give the site a designation and number and locate it on a quadrangle map.
- Note property ownership, tenants, access, and accessibility.
- Note similarities and differences from other sites that do not contain engravings, that do or do not contain lithic remains.
- Note also the similarities and differences from other sites which contain engraved stones.
- Note types and abundances of vegetation.
- Indicate site's proximity to water.
- Note proximity to naturally occurring situations of preferred stone.
- Describe the type of site such as dune, blow-out, clearing, etc.
- Give the site's orientation to physical features.
- Indicate the condition of the site, whether partially or fully exposed, and possible degree of item wash-up.
- Determine erosion patterns and degrees of erosion.
- Note modern modifications and types of usage, prehistoric or historic use, addition to or alterations of the site.

Types of campsites

- Note the way the site was used.
- List all the characteristics and peculiarities.
- Locate hearths and note number, size, shape, and depth.
- Analyze location of cooking stones.
- Make an analysis of associated projectile point types.
- Make an analysis of associated chip size, material, and hydration, and compare with type of deterioration on associated projectile points.
- Note combinations and degree of segregation of the above three facts.
- Map all features and artifacts as if being excavated using datum points.

Location and relationships of engraved stones

- Note location of engraved stones in relationship to site features.
- Note stones found close together.
- Note percentage of stones which are or are not engraved.
- Note if preferred stone occurs naturally at the site.
- Locate the closest naturally occurring situation.

Identify locations of other usable stones.

Note the general location of non-engraved stones prior to removal if proper permission for removal has been obtained.

Include locations of engraved stones on site map in relationship to datum points.

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