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## Gaming in the Rio del Norte: Defining the Typology and Usage of Modified -Potsherds at Pot Creek Pueblo (LA 260, TA 1)

Joseph T.M. Gray '97  
*Illinois Wesleyan University*

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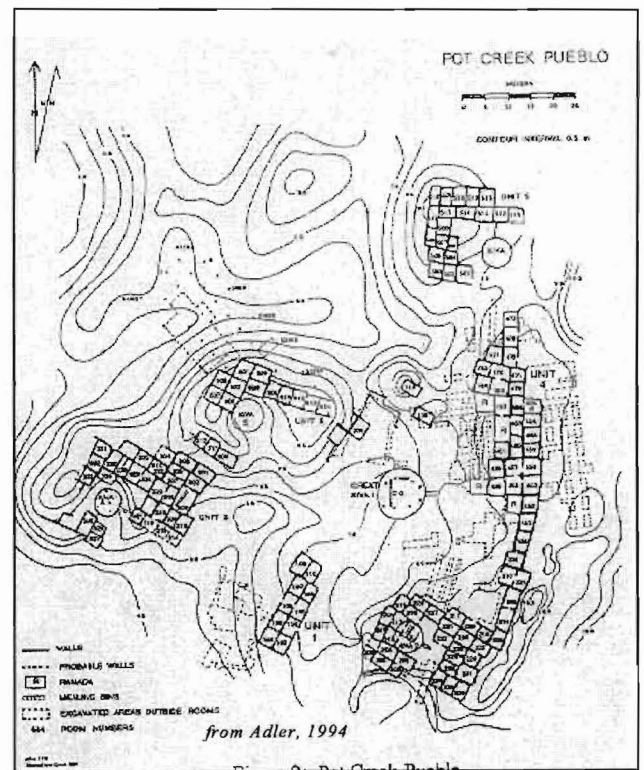
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# Gaming in the Rio del Norte

Defining the typology and usage of modified potsherds at Pot Creek Pueblo (LA 260, TA 1)



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## **Introduction**

Archaeological site reports from throughout the southwestern United States provide varied descriptions of ceramic sherds that exhibit peripherally smoothed edges. This peripheral smoothing is generally interpreted as an indication of ceramic reuse. However, the reuse activities associated with modified (or, synonymously, "worked") sherds remain in question.

Archaeologists have offered limited conjecture on the prehistoric function of these artifacts. Site report discourse regarding worked sherds is often confined to qualitative descriptions with little discussion of inferred function. The majority of worked sherds from the Southwest are interpreted as gaming pieces, though attempts at grounding this widely-accepted inference are limited in number and depth.

This report suggests that the majority of worked sherds recovered from Pot Creek Pueblo functioned as gaming pieces. A descriptive typology is designed to provide a qualitative framework from which probable usage designations are deduced. These usage designations are predicated on ethnographic and comparative archaeological data.

## **Theoretical Framework**

A particular problem with the study of ceramic reuse in the southwestern United States is the designation of a typology for worked sherds. These artifacts are ubiquitous at archaeological sites throughout the region. As addressed by Hayes et al (1981), "Nearly every monograph reporting an excavation records the presence of worked sherds, and for the past 35 years, most have followed the classification used by Kidder in describing the large collection from the Pueblo of Pecos (Kidder, 1932)." However, there has been no standardization of a typological system for

this artifact class. Methods of categorizing and describing worked sherds vary significantly between site reports, thereby hindering large-scale analyses.

As suggested by a classification system founded in inferred artifact function, a chief tenet in the construction of archaeological typology is the system's relevance at the conceptual level of the culture's constituents. What groups worked sherds is the raw material utilized in their manufacture. This, however, is not the relevant distinction at the cultural level, as these artifacts likely received a new identity after modification. As worked sherds, they probably had little or no relation to the vessels from which they were derived.

Qualitative analysis reveals a decided selection for specific geometric shapes during the worked sherd production process. Observation of these shapes provides a means of designing a descriptive typology. However, these geometric subgroupings cannot stand alone as culturally relevant categorizations. They must be incorporated into larger groupings based on inferred usage.

The goal of applying inferred usage groupings to the data in this paper is to maintain relevance to the behavior of the cultural constituents under investigation. As advanced by Read (1982), "Procedures for grouping artifacts which do not have such a connection are providing us with a distorted view of past sets of behavior as inferred from the significance of artifact groupings and the meaning we attach to these as indicators of past behavior." Thus, the superimposition of a typological system over this group of particularly problematic artifacts must be fueled by much more than the archaeologist's intuition. The system should be predicated on data drawn from ethnographic accounts and cross-cultural correlations.

The goal of this paper is to apply a firmly grounded, culturally relevant typology to a

sample of modified potsherds from Pot Creek Pueblo (LA 260, TA 1). Qualitative and quantitative data is collected to produce a means by which comparisons in site data can be ascertained. Ethnographic data provides the primary grounding for the probable usage groupings applied to this body of data. In applying this typology, the difficulty associated with the investigation of this problematic group of artifacts will be elucidated.

### **Justification for the Study of Ceramics Reuse at Pot Creek Pueblo**

The study of ceramics reuse provides a unique medium of studying intrasite economy. Reuse differs from primary usage in that the raw material is recycled from pre-existent material culture and does not require the procurement of new resources. As advanced by Wilson, "Whereas consumer behavior studies place their emphasis on product acquisition, reuse studies emphasize the management and transfer of materials after they have been procured" (Wilson 1995). This recycling of raw material is thus a variable in the study of natural resource utilization and human adaptation in the prehistoric Southwest. Patricia Crown, a former director of research at Fort Burgwin, stated that the need for a better understanding of prehistoric exchange and economy should be a major focus of continued research at Pot Creek Pueblo (Crown 1990). Ceramics reuse would certainly function as a variable in such research.



**Fig. 2: Upper Rio Grande and Taos Subarea Chronologies**

<u>Yrs. A.D.</u>	<u>Upper Rio Grande</u>	<u>Taos Subarea</u>
600		
700		
800	Developmental	Valdez
900	600-1200	1000-1200
1000		
1100		Pot Creek
1200	Coalition	1200-1250
1300	1200-1325	Talpa
1400		1250-1375
1500	Classic	Vadito
1600	1325-1600	1375-1490



## **History of Investigation of Worked Sherds at Pot Creek Pueblo**

Excavations at Pot Creek Pueblo (TA-1) began in 1957. The repository at Fort Burgwin Research Center, which houses the artifacts from this project, as well as from several pithouses and small unit pueblos in the Taos vicinity, is nearing necessary expansion. Yet, thirty years of research has yielded only one published synthesis of data from the Pot Creek Pueblo site. This work, entitled *Excavations at Pot Creek Pueblo*, was written by Ronald Wetherington in 1968. It is a descriptive site report which focuses primarily on artifact inventory and architectural interpretations.

Ronald Wetherington's volume provides photographs and a brief description of the 51 worked sherds that were recovered over the first eleven years of excavations at Pot Creek Pueblo. A photograph showing seventeen of these artifacts is included. In this description, Wetherington echoes his field notes by stating that these artifacts are "of questionable use" (Wetherington 1968 and 1959).

## **Methodology**

A 402-specimen sample of worked potsherds was examined in order to establish a typology based upon differentiations in artifact shape and inferred usage. The sample was randomly selected from artifact boxes with labels that indicated worked sherd contents. Though the computerized database at Fort Burgwin's repository was incomplete as of August, 1996, this service nevertheless facilitated the retrieval of a portion of the artifacts examined in this paper. The artifact sample examined in this paper does not include every worked sherd excavated to date at Pot Creek Pueblo. The sample does, however, represent a majority of these artifacts, and

moreover, provides an accurate cross-section of the variety of work sherds recovered from the site.

The following categories of data were recorded for each artifact: Catalog number (per repository standards), date of collection, provenience, type of decorative paint and slip applied to the parent vessel (if any), type of parent vessel, sherd location as a fragment of the parent vessel (applying the categories body, rim, or base), shape, general descriptive remarks including notes on beveling, and number of edges smoothed. Each worked sherd specimen was sketched. Over half of the specimens were photographed with a reference of measurement.

Included in the sample were worked sherds that may well be considered fragmentary. These artifacts did not exemplify uniform smoothing around the entire perimeter of the object. Those which were particularly problematic did not clearly fit the shape typologies discussed below. It is probable that these specimens were fragments of "complete" worked sherds because in several cases, fragments were refitted to form a single worked sherd with uniform peripheral smoothing. In cases where fragmentary worked sherds did not offer sufficient implications for speculation on the shape of the complete artifact, the sherd was not catalogued as having a shape designation. In the ensuing discussion of data, these artifacts were placed under the heading "Fragmentary."

### **Typological Modeling**

Initial attempts to design a typology for worked sherds were made by Alfred Kidder in his excavations at Pecos (1932). His method of classification has been implemented in archaeological site reports from throughout the Southwest (e.g. Greenleaf 1975, Hayes et al 1981). Kidder's

system employs twelve categories, described as follows: "discs," which have been ground or smoothed into refined or roughly circular shapes; "rectangles," which have been smoothed into rectangular or square shapes; "ovals," which incorporates sherds that have been smoothed into either rounded rectangular or trapezoidal shapes; "scoops," which are roughly ground, bowed rectangular shapes possibly used as ladle-like devices; "bowls or plates," which are often the bases of former ceramic vessels that have been smoothed around the edges; "scrapers," which have beveled curves and were possibly used to smooth freshly made ceramics; "pendants," which are rectangular or oval worked sherds with perforations possibly worn for decoration; "potrests," which are broken jar circumferences resmoothed into open rings and used as their designation implies; and "spindle whorls," which are discs with central perforations, possibly used in weaving.

As can be inferred from Kidder's typology, the discoidal, rectangular, and oval designations are particularly problematic in that they do not possess explicit characteristics for deducing speculations on usage. However, the suggestion that discoidal, rectangular, and oval worked sherds were used as gaming pieces is not an unfounded panacean explanation for this set of problematic artifacts. Ethnographic data discussed below provide a strong foundation for the gaming piece speculation.

### **Worked Sherd Manufacture and Value**

The manufacture of worked sherds was a relatively simple procedure. Sometime after breakage of the parent vessel, broken sherds were recovered for use as raw material for worked sherd production. The vast majority of worked sherds in this sample were produced from locally

produced wares (i.e. Taos Black-on-White, a local version of Sante Fe Black-on-White, and local culinary wares). Only thirteen specimens were produced from sherds derived from extralocal wares (e.g. White Mountain Redware and St. John's Polychrome). It is important to acknowledge that these artifacts were likely not imported as worked sherds, but were instead produced from fragments of complete vessels that had been procured through trade.

Any abrasive surface with a hardness factor greater than ceramic temper could be utilized in the process. Experimentation with worked sherd production by the author revealed the expediency of the manufacture process. An unprovenienced utility sherd was abraded against an unprovenienced sandstone metate until a relatively uniform smoothed edge was attained. (The use of unprovenienced artifacts is stressed here, as their modification by experimentation does not jeopardize their academic value.) In less than thirty seconds, a uniform smoothness was attained on one edge of the sherd. This experimental specimen was compared with a worked sherd artifact of the same seriation and similar temper under various magnifications. The wear pattern was remarkably similar, indicating that this method of abrasion would have been a simple and expedient manner of attaining the desired product.

From this experimental trial it can be deduced that worked sherds were a relatively low-value commodity. The simple fact that the raw material for worked sherd production was readily attainable also supports this conclusion. Manufacture would have been easily facilitated due to the abundance of abrasive rock surfaces. Kidder (1932) advanced the following suggestion regarding worked sherd manufacture and usage: "They may have been toys and they may, of course, have been merely the product of idle half-hours, potsherds and handy sandstone ledges. While we were working at Pecos my children, noticing the ancient specimens, turned out new

ones by the score."

Thus, it can be speculated that if worked sherds were used as gaming counters, they were not implemented in a system of long-term tallies between opponents. By "long-term tallies," I am referring to the institution of a gaming currency system. Simplicity of production does not allow a high value to be placed on these possessions. In their study of ceramic reuse among the Maya and Wanka, Deal and Hagstrum suggest that a primary difference between use and reuse is that the value of the original object decreases as it is reused (1995). If one's gaming pieces were lost to an opponent in a match, the loser could simply manufacture replacements. Moreover, data from Pot Creek Pueblo do not indicate characteristics which distinguish ownership of sets of worked sherds. No similarities in the aesthetics or sizes of worked sherds which would indicate a "manufacturer's mark" were found in association with particular proveniences.

The worked sherd specimens described below display smoothing ranging from sporadic to contiguous on one to three sides of the object. This variation between artifacts likely depended on three factors: (1) the amount of effort exerted by the manufacturer, (2) the amount of effort demanded to transform the shape of the raw material into the desired shape, and (3) the level of geometric or aesthetic "perfection" demanded by the manufacturer.

## **Description and Typing of Pot Creek Pueblo Data**

### **I. Gaming Pieces**

### *Rectangular*

A total of 194 rectangular samples were observed. These specimens were peripherally smoothed to produce four-sided objects geometrically defined as squares or rectangles. 178 of these artifacts were produced from sherds that originally comprised bowls decorated with organic or mineral paints. The remaining sixteen rectangles were produced from sherds whose parent vessels were culinary jars of the smoothed indented corrugated variety. Weights for the specimens ranged from less than 1 gram to 28 grams. Sizes ranged from as small as 1 centimeter in length to as large as 6 centimeters in length.

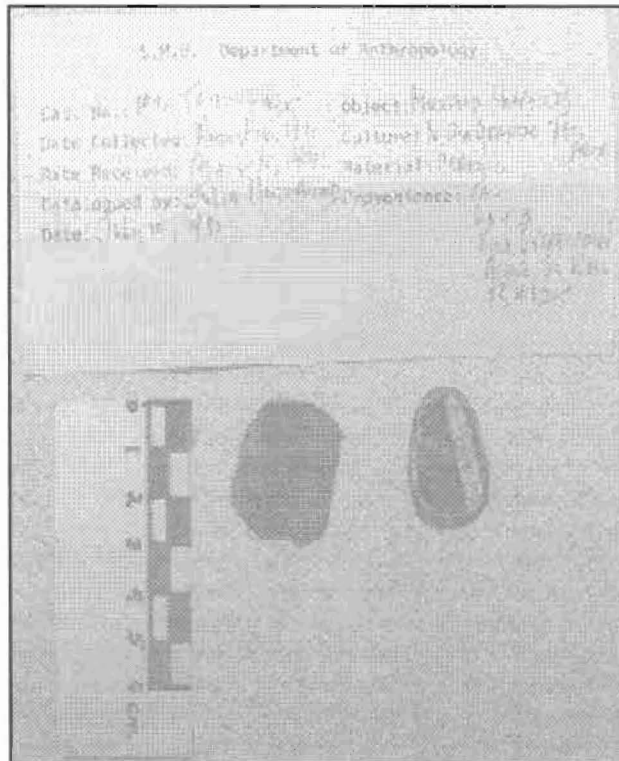


### *Lenticular/ Oval*

A total of Sixty-one lenticular or elliptical specimens were observed in the sample. Also

included in this category are all specimens that were interpreted as having shapes intermediary between discs and rectangles.

Fifty-eight specimens were derived from sherds that had comprised bowls decorated with mineral or organic paints. Two members of this category were produced from culinary jar sherds of the smoothed indented

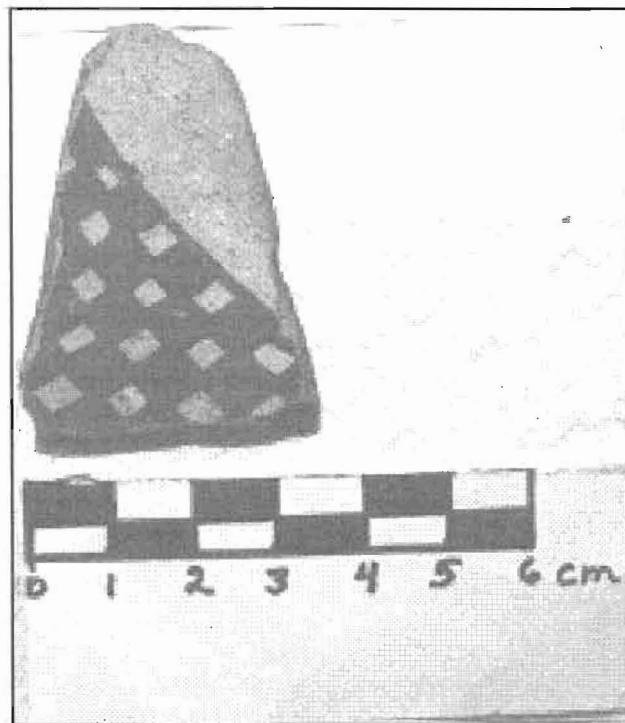


corrugated variety. One of these artifacts was produced from a jar sherd of the plain gray variety.

Specimen weights ranged from less than one gram to nineteen grams. Specimen length ranged from 2.5 cm to 4.5 cm.

### *Trapezoids*

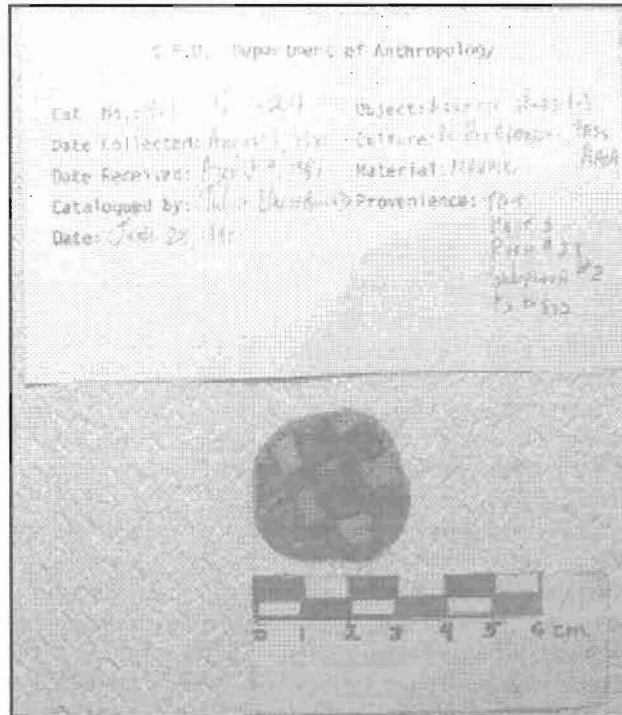
A total of fifty-three trapezoidal specimens were observed in the sample. All were produced from sherds which originated as constituents of bowls decorated with organic or mineral paints.



Specimen weights ranged from one to seventeen grams. Specimen lengths ranged from 3.5 to approximately 6.5 centimeters.

### *Discoidal*

A total of 50 discs were recorded from the sample data. These specimens displayed circumferential edge smoothing which ranged from contiguous to sporadic. None of samples were perforated, a characteristic which typically implies the disc's use as a spindle whorl (e.g. Hayes et al 1981). Thirty-eight discs were manufactured from sherds whose parent vessels were bowls decorated with organic or mineral paints. The remaining twelve specimens were produced from culinary jar sherds of the smoothed indented corrugated variety. Disc weights ranged from less than 1 gram to 45 grams. Disc diameters ranged from 1 to approximately 8 centimeters.





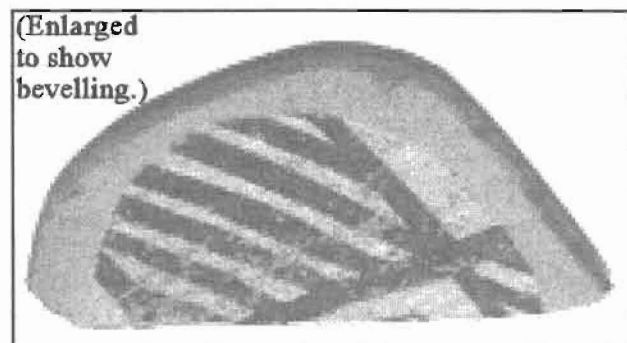
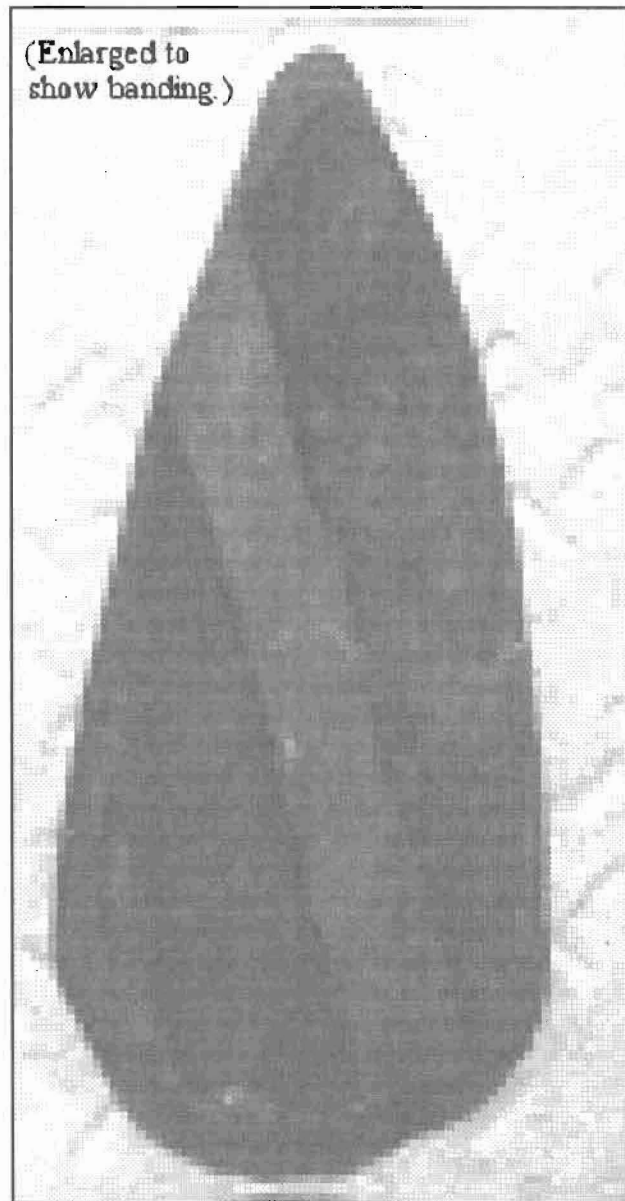
### *"Tear-Drop"*

Four specimens displayed "tear-drop" shapes. All were produced from sherds whose parent vessels were bowls decorated with organic or mineral paints. Specimen weights ranged from three to twelve grams, and ranged between approximately 4 to 6 centimeters in length.

### *Rectangles with Discoidal Beveling*

This classification was contrived to encompass seven rectangular worked sherds which could perceivably be placed in either the rectangular or discoidal categories described above. Each specimen's slip was bevelled to produce a refined discoidal shape upon the sherd face.

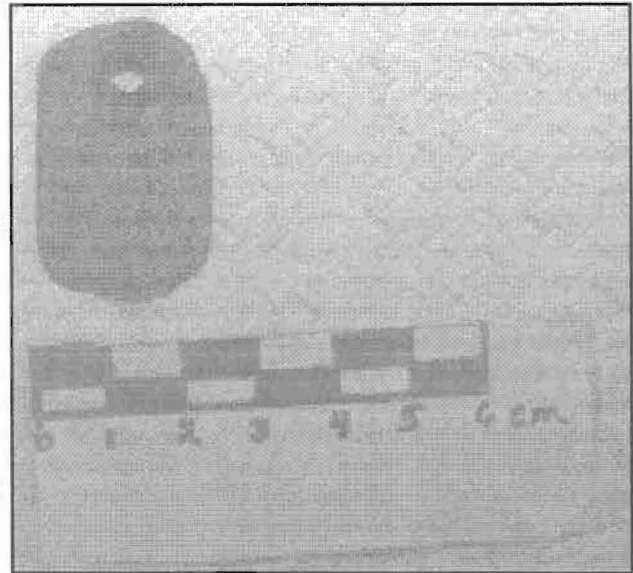
All seven were made from sherds that originated as constituents of bowls decorated with mineral or organic paints. The beveling on these samples appears to have been the product of aesthetic intention rather



than the result of use-wear. I have been unable to locate analogous descriptions of this form of bevelling from any other site in the Southwest.

## II. Pendants

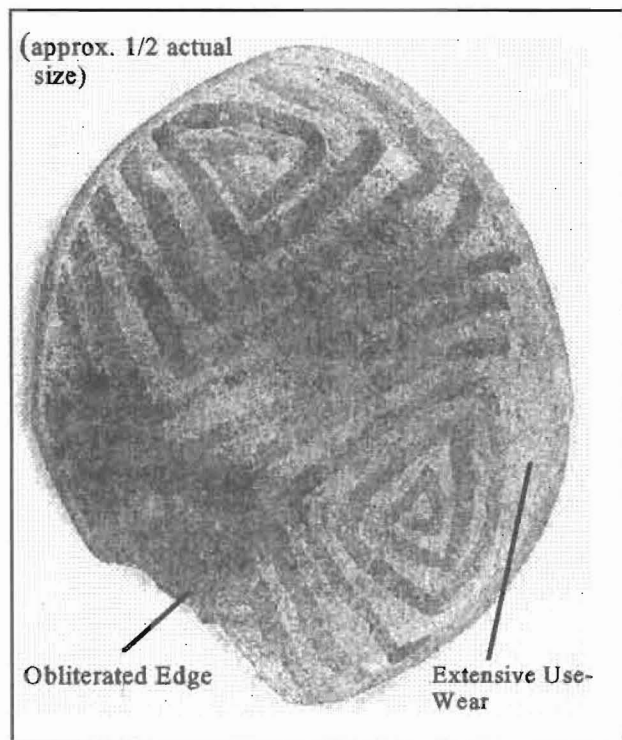
A total of five specimens appear to have been worn as pendants. Each was perforated at a peripheral point on the surface of the object, allowing for the artifact to be fastened to a necklace. Four of the artifacts were derived from sherds whose parent vessels were bowls decorated with organic or mineral paints. The remaining two specimens were derived from sherds which originated as



constituents of culinary jars of the smoothed indented corrugated variety. The following shapes were observed: 3 rectangles, 1 disc, 1 pentagon, and 1 hexagon. Some question may arise as to whether the perforations existed as vessel repair holes previous to sherd modification, and therefore had no part in accommodating jewelry function. Whether the hole was drilled through the sherd before or after its reworking is unknown. The peripheral pendant holes on each specimen appear to have been designed to facilitate comfortable suspension if worn on a necklace.

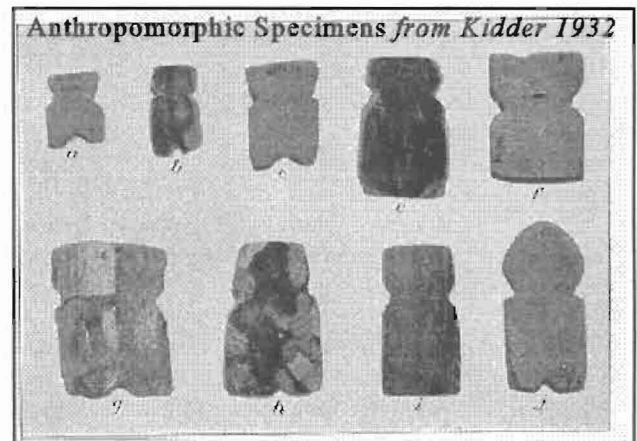
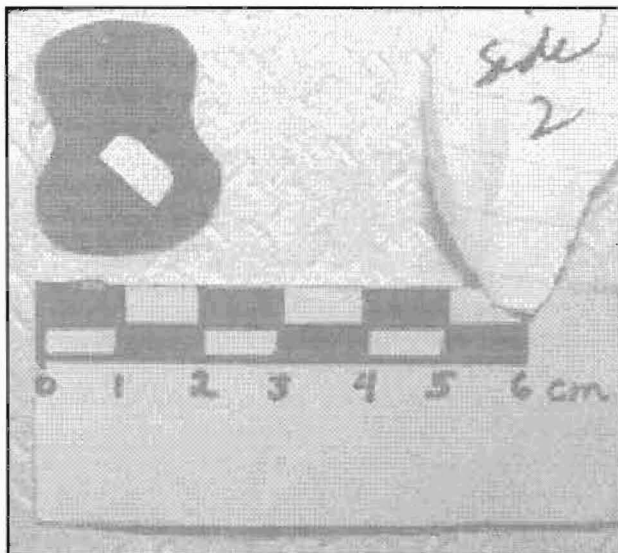
### III. Large Scraping Tool

One large specimen which appears to have been used as a scraping tool was observed in the sample. The specimen was derived from the base of a bowl decorated with organic paint. The artifact is elliptical in shape and displays significant bevelling on one edge. Its weight was 124 grams. The artifact's wear pattern indicates continued use in a scraping activity.



#### IV. Possible Anthropomorphic Specimen

One rounded hour-glass shaped artifact was observed. The artifact was derived from a sherd that originated as a constituent of a bowl with an incised exterior and an interior decorated with organic paint. The specimen weighed four grams. The odd shape exemplified by this specimen resembles similar specimens from Pecos which Kidder (1932) interpreted as anthropomorphic. However, this comparison is weakened by the fact that Kidder likened these shapes to human clay effigies found at Pecos which lack an analog in the archaeological record at Pot Creek Pueblo.

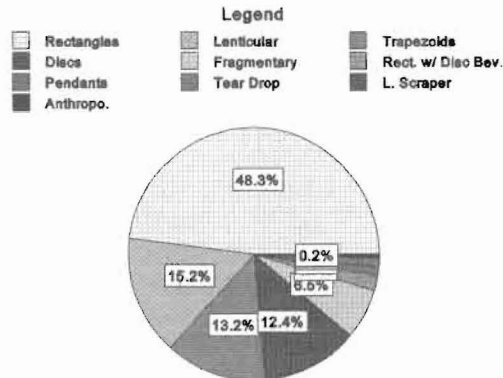


#### V. Fragmentary

Twenty-six worked sherds were considered too fragmentary to be classified within any of the above categories. Each specimen displayed some degree of peripheral smoothing, but did not have a well-defined geometric shape. A total of twenty specimens were derived from culinary ware sherds. The remaining six specimens were produced from sherds that originated as

fragments of bowls decorated with mineral or organic paints.

**Fig. 3: Worked Sherd Type Distribution**



### Provenience Associations

Worked sherds have been discovered in each of the six mounds excavated to present. They have also been found in midden and plaza areas. Provenience and stratigraphical data indicate no patterns of association with architectural features or specific types of architecture. They have been recovered from habitation units, ceremonial space, and food processing units. Thus, the data indicates that gaming pieces were not confined to limited activity areas. It is therefore supposed that activities which employed worked sherds were not restricted to specific locales within Pot Creek Pueblo. Sets of worked sherds associated by qualitative characteristics and found in close proximity are not indicated by the data. Specific shape association ratios between sherds found in close proximity were also not indicated by the data. However, in nearly

every provenience where gaming pieces were found, a mixture of shapes was recovered. This provides evidence that multiple shapes were requisite for the activity in which gaming pieces were utilized.

### **Ethnographic and Comparative Archaeological Data**

Though ethnographic accounts of worked sherd implementation cannot prove that these practices existed prehistorically, this data does provide the grounds for speculations regarding the prehistoric human behavior associated with these artifacts. The following ethnographic and comparative archaeological data thus provides the crux for implications regarding worked sherd function.

#### *Accounts of Ceramic Gaming Piece Utilization*

Several ethnographic accounts provide evidence that worked sherds were employed in games of chance. The hypothesis that similar behaviors existed prehistorically is substantiated by the striking similarities between the games recounted below. Though it is not known whether these games had prehistoric analogs, trade routes and linguistic similarities may indicate that games were passed between these cultures.

During the years of 1901 and 1902, Frank Russel studied the Pima tribe under the auspices of the Bureau of American Ethnology (1908). His ethnographic report was written while in residence with the Pima on the Gila River Indian Reservation, located in southern Arizona. Russel recorded the following account of a Pima game called Vâputta:

Any number of players may participate, but they are under two leaders who are selected by toss. Each draws up his men in line so that they face their opponents . . . . A goal about 50 yards distant is marked out and the game begins. A small object, usually a circular piece of pottery, one of those so common about the ruins of the Southwest . . . , is carried around behind the line by a leader and placed in the hands of one of his men. The opposite leader guesses which man holds the object. If he guesses wrong, the man at the end of the line in which the object is held who stands farthest from the goal runs and jumps over the upheld leg of the man at the opposite end of his own line. This moves the winning line the width of one man and the length of a jump toward the goal. If the first guess is correct, the object is passed to him and there is no jumping until a guess fails.<sup>a</sup>

<sup>a</sup>The object is called *rsäika*, "slave." It is 40 or 50 mm. in diameter, is pitted in the center "to prevent cheating," and may be of either pottery or stone.

Excavations of Hohokam archaeological sites at Snaketown, a modern village on the Gila River Indian Reservation, recovered 93 ceramic discs that appear suitable for the activity described above (Gladwin et al 1965). A total of thirteen rectangular worked sherds and two oval worked sherds were also recovered. All of these shapes are analogous to those recovered at Pot Creek Pueblo. Gladwin et al found discs to be the predominant shape of the work sherds recovered at Snaketown. No provenience associations were observed in the data that would indicate specific gaming activity locales.

Ceramic discs were also employed in a game played by the Mayan Indians of the Yucatan peninsula. In 1918, Thomas Gann published his ethnography of the Santa Cruz, Icaichè, and

Chichanhà tribes under the auspices of the Bureau of American Ethnology (Gann 1918). His account reads as follows:

Both children and adults play many games, most of which have probably been introduced since the conquest. A favorite among these is a game known as *tak in kul*, in which a number of players stand in a row with their hands behind their backs while one, who holds a small pottery disk in his hand, stands behind the row, another standing in front. The one holding the disk places it in the hands of one of those in the line, who in turn passes it to his neighbor, so that it travels rapidly up and down the line. The player in front has to guess in whose hand the disk is at the moment of guessing. If he is right, the holder of the disk has to come in front while the one who guessed correctly joins the line.

A game of dexterity which employed ceramic disks was also witnessed by Gann:

*Chac* is a sort of "knucklebones," played with pottery disks, which are tossed from the palm to the back of the hand and back again; the one who drops fewest disks in a given number of double throws wins the game.

Gann offers no explanation for why he believes these games were "introduced since the conquest." It is possible that his reasoning was based on archaeological data from sites in the area. Part two of Gann's report was devoted to the description of his mound excavations in the eastern Maya area. He does not describe the recovery of ceramic gaming pieces such as those describe above. However, in reviewing Gann's data, I have found a description of shell disks



which could have been utilized in prehistoric games. Under the heading "Games," Gann mentions the recovery of the following:

a number of small disks of shell, about three-fourths of an inch in diameter. Collections of these have been found together on several occasions; they might have been used as beads or ornaments but for the fact that they are neither perforated nor decorated with incised figures as shell beads usually are.

Stewart Culin, who has written the only substantial ethnographic synthesis of Native American gaming (Culin 1992 reprint), described ceramic sherds used in a chess-like Zuni board game:

The resemblance of the disks employed in this game to the prehistoric pottery discs which are found in the ruins in the southwestern United States and Mexico suggests that the latter may have been employed similarly in games. There is no evidence, however, that the board game existed before the coming of the whites. It was probably introduced to them and does not furnish an explanation of the prehistoric disks.

Culin offered no further discourse on why he believed that the board game did not exist prehistorically. Though there is no evidence of such board games in the archaeological record, it can be speculated that a temporary board could have been etched in earth.

Culin's work describes the existence of dice games among 130 Native American tribes. He describes the dice as having "two faces, distinguished by colors or markings, and are of a great variety of materials - split canes, wooden staves or blocks, bone staves, beaver and woodchuck teeth, walnut shells, peach and plum stones, grains of corn, and bone, shell, brass, and pottery disks." Each game involves the tossing of dice and a method of keeping tally, usually by what Culin describes as "sticks or counters, which pass from hand to hand" or by a counting device such as an abacus.

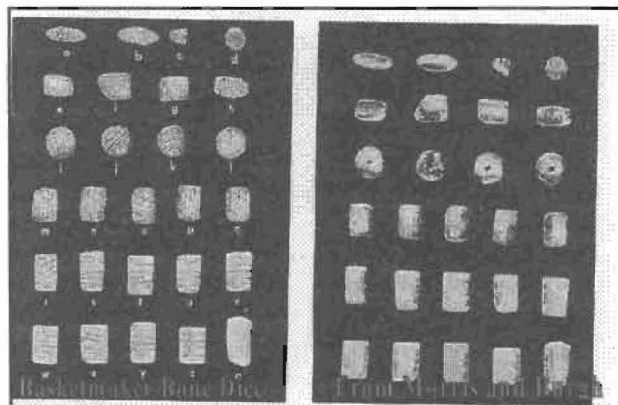
#### *The Use of Worked Sherd Scrapers in Ceramic Production*

The large worked sherd scraper described above may have been used to smooth the surface of ceramic vessels during the manufacture process. This was the only specimen which exhibited extensive use-wear that may indicate its function as an abrader (Waterworth and Blinman 1986). The best ethnographic source written on this subject comes from Carl E. Guthe's study of pottery production at San Ildefonso (1925). Guthe described the use of gourd moulding spoons called kajepes which are typically oval in shape and can be as long as four and a half inches. In speaking with San Ildefonso potters, Guthe noted that "It is said that potsherds were formerly used for the same purpose as these gourd spoons." The fact that only one such scraper was observed in the sample may indicate that gourd kajepes were also in use at Pot Creek Pueblo. Though no complete gourd kajepes have been excavated, fragments of gourd rind that appear to have comprised such a tool were recently recovered (Maples, Gray, and Jones 1996).

### *Comparative Archaeological Data*

Comparative archaeological data suggests that worked sherd gaming pieces may have been ceramic versions of bone dice. Several congruences can be observed between faunal gaming pieces recovered from Basketmaker II sites (e.g. Morris and Burgh 1952) which predate Pot Creek Pueblo, and ceramic gaming pieces found at Pueblo sites. What are referred to as "bone gaming pieces" or "bone dice" have been found throughout the Basketmaker and Pueblo phases, with a noticeable decrease in number over time. These modified bone fragments are typically decorated with unilateral incising. The incised hatch marks are then typically filled with pitch. Thus, the objects exhibit a two-sided nature.

Worked sherds increased over time in the Anasazi cultural region, as they are rare in the early periods of ceramic production. As posited by Oppelt (1984), "They are very rare in Basketmaker III levels but increase progressively during Pueblo I, II and III periods and are most numerous in the Pueblo IV Rio Grande sites." Thus, it is possible that ceramic gaming pieces replaced bone gaming pieces to some extent.



Ceramic gaming pieces are intrinsically two-sided in that the majority of them are unilaterally painted or, as in the case of utility wares, unilaterally textured. Only two specimens from the Pot Creek Pueblo sample lacked noticeable distinctions between sides. Bone gaming pieces from Basketmaker sites are also congruent in geometric characteristics, exhibiting rectangular, lenticular, or discoidal shapes.

### *Interpretation*

The above ethnographic and comparative archaeological data provide a significant foundation for the argument that worked sherds were employed as gaming pieces. Similarities to bone gaming pieces suggest that worked sherds may simply illustrate a shift in production technology. Such a crossover of material classes is observable in the prehistoric cultures of the Northern Plateau who are thought to have made dice from both wood and bone (Hayden and Schulting 1997). If a shift in production was in fact the case, we are provided with unique insight into economical raw material utilization by the prehistoric inhabitants of Pot Creek Pueblo. This technology shift could have been ecologically mandated, as ceramic raw material is more prevalent in Pot Creek Pueblo's archaeological record than macrofaunal raw material. The inhabitants of Pot Creek Pueblo practiced intensified agriculture whereas their Basketmaker predecessors were more reliant upon hunting. However, the number of bone dice found at pithouse sites in the Taos vicinity has not been compared to the small number of bone dice recovered from Pot Creek Pueblo. This would certainly support a shift in the mode of production over time.

## **Suggestions for Future Research**

As proposed above, a study of gaming pieces with respect to temporal change would provide excellent insight into the possibility of change in gaming piece production technology. An in-depth seriation study of worked sherds may also provide insight into temporal change. The attainment of ethnographic data from the people of Picuris and Taos pueblos (modern descendants of Pot Creek Pueblo) regarding worked sherd utilization would provide an ideal subject for future study of worked sherd function. It is hoped that this paper will act as a foundation for ensuing studies of ceramic reuse at Pot Creek Pueblo.

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