

## BOTSWANA

### Pottery from the White Paintings Rock Shelter, Tsodilo Hills, Botswana

L. A. Murphy and M. L. Murphy  
8590 North 43rd St.  
Augusta, Michigan 49012

L. H. Robbins  
Department of Anthropology  
Michigan State University  
East Lansing, Michigan, 48824

A. C. Campbell  
P.O. Box 306  
Gaborone, Botswana

## Introduction

White Paintings Rock Shelter (WPS) is located at the Tsodilo Hills in the Kalahari to the west of the Okavango River<sup>1</sup>. The shelter is named after the numerous white paintings on the wall which include various schematic designs, stylized human figures and animals (Campbell et al. 1994). Between 1989 and 1993 a total of 31 m<sup>2</sup> were excavated at WPS: the deepest units, squares 12 and 23, reached a depth of 7 meters. The deposits extend in age from as recently as about 60/70 years ago through an extensive period of the Later and Middle Stone Ages (Robbins 1991; Murphy 1999). An overview of the archaeological sequence has recently been presented (Robbins et al. 2000). The purpose of this report is to describe the pottery that was primarily found in the upper 60 cm of deposits.

A total of 376 sherds (weighing 2595.8 grams) was recovered along with numerous sherd fragments (Table 1)<sup>2</sup>. These potsherds were found interspersed with LSA microlithic tools such as small scrapers, backed segments or crescents and other backed pieces, debitage, bone arrow points and or link shafts, and ostrich egg shell beads<sup>3</sup>. Iron beads, small metallic crystals of specular hematite, hammer stones and small grindstones were also occasional finds in the levels with pottery. Copper

and glass beads were rare finds. Except for a sheep jaw (square 23, 40-50 cm), the identifiable fauna found with the pottery was entirely wild and included animals such as springhare, tortoise, python, monitor lizard, pouched mouse, vlei rat, porcupine, aardvark, leopard, hyena, bat-eared fox, zebra, har-tebeest/tsessebe, roan antelope, reedbuck, bushbuck, duiker, steenbok and warthog (Robbins et al. 2000). There were also numerous bones of catfish (*Clarius sp.*) and cichlids, commonly known as bream or tilapia. Wetland animals such as reedbuck, bushbuck, and vlei rat, as well as fish are not found in the immediate area at present, but do exist along the Okavango to the east. In addition to the remains of fauna, small mongongo (*Ricinodendron rautanenii* Schinz) nut shell fragments were found. Mongongo nuts are an important wild food resource utilized by people at Tsodilo at present (Robbins and Campbell 1990).

## Distribution

Sherds were found in every square; ranging from 3 to 30 sherds per square (mean= 13). A series of auger holes excavated beyond the outermost squares revealed that the distribution of sherds extends to at least 168.5 meters from the shelter wall. The widespread distribution of sherds is suggestive of either extensive occupation of a large area in front of the shelter or periodic reoccupation of different parts of the site during the time when pottery was in use.

Table 1 reveals that over 90% of pottery at WPS was concentrated in deposits from 10-60 cm in depth. Although sherds were occasionally found below 80 cm, it seems likely that these isolated finds were intrusive in the deeper levels, possibly due to the activities of burrowing animals. A closer view of the data shows that the majority of the sherds were recovered from 30-50 cm below the surface with the highest proportion of decorated pottery between 40-50 cm. In relation to the stratigraphy exposed in squares 10-23, much of the pottery is associated with a dark gray buried soil horizon that appears to have been deposited during comparatively wet conditions (Robbins et al. 2000, fig. 5, horizon 2a). This relationship is supported by the wetland fauna mentioned above.

Table 1. WPS Ceramic totals, by depth for Squares 1-31

Depth (cm)	Decorated rims	Undecorated rims	Decorated body	Undecorated body	Total number	Weight (g)
Surface	1	1	0	0	2	44
+10-0	0	0	0	1	1	1.7
0-5	0	0	0	6	6	26
0-10	1	0	0	20	21	80.9
0-20	0	0	1	4	5	30.2
10-20	4	1	2	30	37	223.2
20-30	4	4	7	52	67	590.5
30-40	6	1	9	71	87	778.7
40-50	6	3	19	57	85	573.1
50-60	4	0	4	30	38	145.9
60-70	2	0	0	12	14	55.9
62-bedrock	0	0	0	1	1	1.5
70-80	0	1	2	2	5	17.7
80-90	0	0	0	3	3	9.3
120-130	0	0	0	1	1	1.5
125-140	0	0	0	1	1	0.7
155-165	0	0	0	2	2	15.4
Totals	28	11	44	293	376	2596.2

## Age

Dates for the pottery bearing deposits at WPS follow. The calibrations listed after the dates are those used in Robbins et al. (2000).

- 1.) Sq. 1-4, intersection of 4 squares, 62 cm =  $500 \pm 60$  BP (Beta 33052), charcoal. ( $0.5 \pm 0.1$  ka)
- 2.) Sq. 9, 40-50 cm =  $1080 \pm 100$  BP (Beta 33056), charcoal. ( $1.2 \pm 0.1$  ka)
- 3.) Sq. 14, 40-50 cm =  $2260 \pm 80$  BP (Beta 47864), charcoal. ( $2.4 \pm 0.1$  ka)
- 4.) Sq. 23, 40-50 cm =  $1225 \pm 60$  BP (OxA 6038), bone (sheep jaw). ( $1.4 \pm 0.1$  ka)

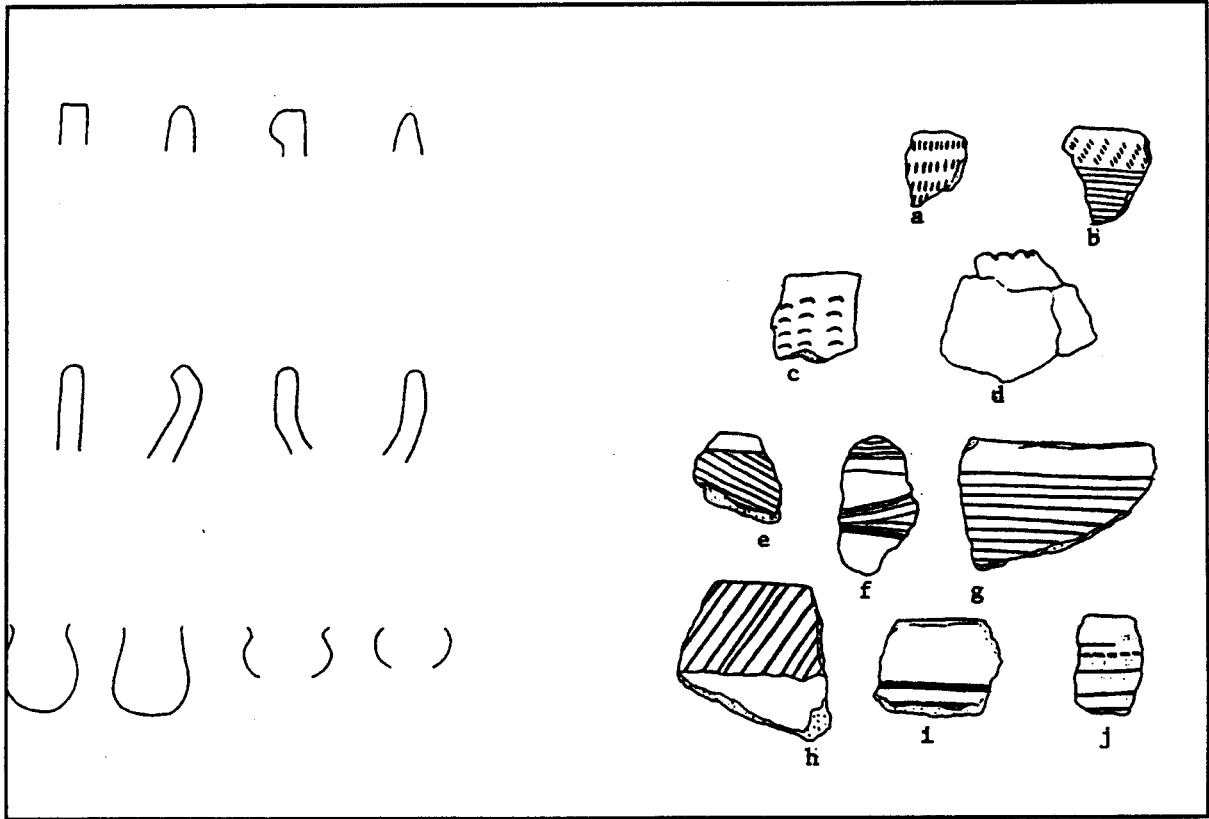
Dates 1-3, listed above, were obtained from small carefully collected samples of charcoal that occurred in the deposits. The wide range of varia-

tion in age of these three samples may result from bioturbation. The date from square 9 (sample 2, above) is consistent with ages for the Tsodilo Early Iron Age village of Nqoma (AD 850-1090), as well as numerous radiocarbon dates obtained from nearby specular hematite mines where similar pottery was also occasionally found (Denbow and Wilmsen 1986; Robbins et al. 1998). The fourth date, an AMS radiocarbon age obtained directly from a domesticated sheep jaw, (the only domestic animal found at the site) fits in very well with the latest dates for the village of Divuyu (AD 550-730) where sheep bones were numerous (Denbow and Wilmsen 1986; Campbell et al. 1994).

## Description

Most sherds had some amount of charcoal tempering, and at times were mixed with a fine-

**Figure 1.** Left, Common lip, rim and vessel forms, WPS (not to scale). Right, Decorative modes, WPS: (Reduced 50%) a. corded (sq. 9, 40-50 cm), b. comb stamp and incised rim, (5, 40-50) c. nail impression (surface, pipe frag.), d. punctate (27, 20-30), e. incised rim, (5, 64-77), f. incised (refit 23, 30-40 and 40-50), g. incised rim, (12, 20-30), h. incised rim, ( 29, 50-60), i. incised rim (15, 40-50), j. incised rim (23, 30-40)



grained, grit-like agent. The least friable and lightest colored specimens did not have charcoal tempering. Within a typical 10 cm level, both decorated and undecorated sherds ranged in thickness from .5 to 1.1 cm. Thinner sherds were most likely derived from a position located higher in the vessel wall, while some of the thicker sherds came from near the base of the vessel. Common lip, rim and vessel forms are shown in Figure 1 (left). Eight out of 11 undecorated rim sherds had a squared lip and 3 were rounded. Seven of the undecorated rims were too fragmentary to determine the overall vessel shape. The remaining 4 specimens appear to be from jars.

A total of 28 decorated rim sherds were examined. Fourteen had a square lip, 10 were rounded. 3 rims had a slight degree of exterior thickening (1 squared lip, 2 rounded lips), and 1 specimen had a pointed lip. Fifteen of the decorated rims were from jar-shaped vessels, while

5 appeared to be from bowl-shaped vessels. The remaining 9 decorated rim sherds were too fragmentary to establish the shape of the vessel. The body sherds included 293 undecorated and 44 decorated specimens. No whole vessels or large portions of vessels that could be partially restored were recovered. Efforts were made to refit sherds between levels and squares. Although more success occurred with refits between levels, relatively few of these were made. Of the refits, the vertical distance between sherds in levels was usually no more than 10 cm. Whereas it is clear from the rims and other evidence that numerous vessels were evident at WPS, it was not possible to accurately calculate the minimum number of vessels because of the lack of any substantially sized individual specimens that would provide reliable insights about the expected nature of complete vessels. Moreover, as the analysis proceeded, it became clear that a single vessel could potentially be represented by numerous small sherds

which, if found in separate squares or different levels, might be interpreted as representing different vessels.

## Decoration

The decorative modes evident in the WPS ceramics include combed (or dentate), cord, and nail impressions, as well as a variety of incised lines (Figure 1, right). Both fine and broad lined incising occurred in the collection. The orientation of decorations, particularly that of incised lines varied greatly. Horizontal and oblique directions of incised lines were most commonly found. Frequently, incised lines were used as a border in combination with other decorative modes or undecorated areas in a banded or zoned manner. Occasionally, decorative features included interlocking triangles, crosshatching and multiple bands. Representative examples are shown in Figure 2. Although there are similarities between the WPS sample and both Nqoma and Divuyu ceramics, there seem to be more similarities with some of the Nqoma ceramic decorative features. For example, the WPS pottery includes individual sherds with broad line incisions forming interlocking triangles, horizontal broad line incisions, oblique incisions on rims, and a number of other features similar to what is found on the Nqoma pottery (Hendrickson 1986:98-99). While these similarities exist, none of the WPS decorated sherds are identical to the sherds illustrated by Hendrickson (1986) for the Tsodilo village sites. Nor was there was any clear stratigraphic or chronological separation between levels containing Divuyu-like or Nqoma-like ceramics at WPS. In this regard, Hendrickson (1986: 55) has also noted for the pottery found at the villages that: "In none of the excavated squares at Tsodilo were sequential levels of Divuyu-like and Nqoma-like materials found."

## Conclusion

There is considerable interest among anthropologists in obtaining information about the relationships between iron using agro-pastoralists who lived in villages in and around the Kalahari and neighboring foraging peoples who made and used stone tools. For this reason, the findings at White Paintings Shelter are significant because of the sites location near two early villages as well as specular

hematite mines. At WPS, the close proximity of the numerous stone artifacts ( including clear evidence of lithic reduction in the form of cores, flakes etc.) and potsherds in all of the excavation squares implies that the people that used the pottery were making and using stone tools on a regular basis. While the amount of pottery is not great in comparison to the nearby villages, the widespread distribution of sherds at the shelter suggests that it was commonly used. We did not find evidence of the manufacture of pottery or iron at the site, though such information could exist in unexcavated areas. The most plausible explanation for finding the pottery, along with a few iron beads and a sheep mandible in what is otherwise predominantly a Later Stone Age hunter, fisher, forager context at WPS is that the items concerned were probably obtained from the nearby villages of Divuyu and/or Nqoma. At these villages an abundance of pottery, iron artifacts and domesticated animals have been recovered (Denbow and Wilmsen 1986). Other, currently unknown, sources for these items are possible as well.

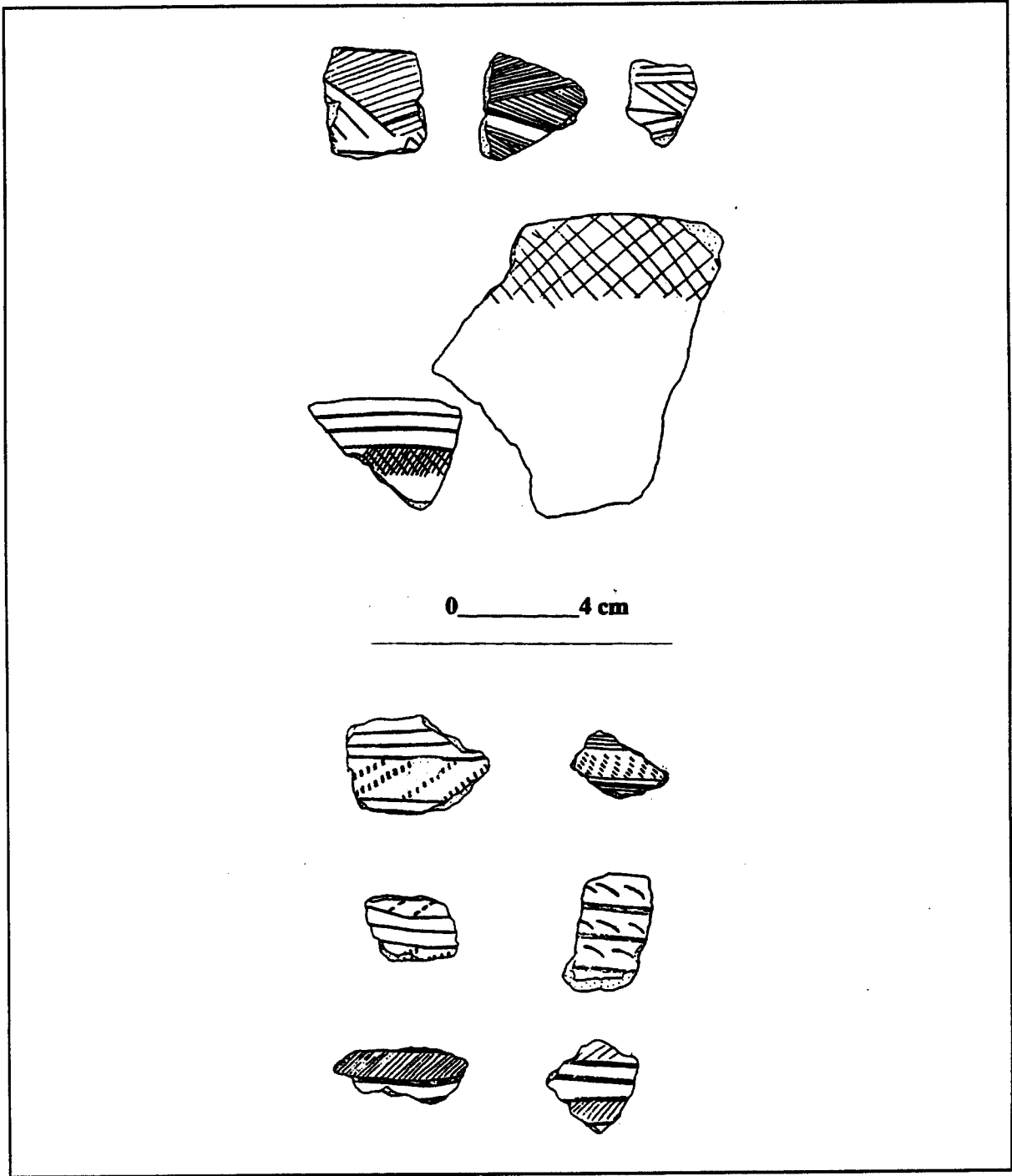
## Footnotes

1. Excavations were funded by the National Geographic Society and the National Science Foundation. We are grateful to the Director and staff of the National Museum as well as our field assistants and colleagues. The pottery was analyzed by L. A. Murphy.
2. The sherd fragments were included in the weights, but not in the sherd counts.
3. It is useful to provide an example of the frequency of stone artifacts. Sq. 22, 30-40 cm produced 117 pieces of debitage and 2 tools, including a backed segment. Two body sherds, a decorated body sherd and 6 fragmentary body sherds were recovered from this unit.

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**Figure 2.** Decorative features, WPS: (Reduced 50%)  
Row 1 interlocking triangles (rim, 4/5, 31 cm), (9, 30-40), (27, 30-40)  
Row 2 cross hatching (rim, 6, 60 cm), (rim, 9, 20-30 cm)  
Row 3 multiple bands (1, 30-40), (5, 40-50)  
Row 4 multiple bands (8, 30-40), (rim, 20-10-20)  
Row 5 multiple bands (9, 30-40), (8, 70-80)



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