THE MEXICAN CONNECTION: CYLINDER JARS FROM THE VALLEY OF OAXACA

Dorothy K. Washburn
University of California, Berkeley

ABSTRACT

For many years the unusual nature of the large multistoried sites of the Pueblo III period in Chaco canyon and the rich array of jewelry and other artifacts found in these ruins has provoked many speculative explanations. The large amount of shell in both raw and finished jewelry form can perhaps be accounted for by positing activities of local traders venturing to the Pacific Coast. However, the presence of macaw burials and cooper bells—two items which undisputably are not native to and were not made in the American Southwest—must be accounted for by postulating some form of trade with/or foreign presence of populations from the higher civilization to the south. This paper presents an attempt to confront one body of yet unanalyzed data—cylinder jars—in an effort to more clearly specify the loci and type of Mesoamerican connections.

George Pepper was the first to formally excavate Pueblo Bonito in the late 1890's (Pepper, 1920). The site was reexcavated by Judd in the 1920's (Judd, 1954). He concluded that there had been two populations living at the site. One, which he called the Old Bonitians, were the initial founders of the site and made Transitional, Early Hachure, and Solid decorated pottery styles. The second population, which he designated as the Late Bonitians, represented the "eleventh-century immigrants" who made Late Hachure, Chaco-San Juan, Mesa Verde and all-over corrugated wares. Judd suggested that the founders came from the southwestern Colorado area, citing the similarity between Mancos Black-on-white from Lowry Ruin and Transitional types from Old Bonitian rooms (Judd 1954:30). The Late Bonitians, however, were thought to Chaco from the Zuñi mountain region bringing their superior masonry techniques (Judd 1954;35).

A reexamination of the data, however, suggests that some of the occupational debris assigned by Judd to the Late Bonitians may not represent a Southwestern population at all, but rather a small group from Mexico. One way to demonstrate this possibility is through a detailed examination of the artifactual material associated with the bodies of these postulated foreigners. This paper will focus upon the cylinder jars which are found in association with these mass burials richly adorned with goods atypical of the Anasazi.

Symmetry analysis (Washburn, 1977) of the designs suggests that the designs are not derived from the antecedent Pueblo II Red Mesa Black-on-white design system based on the structure 1-200. Since similar abrupt design layout changes between Pueblo III and Pueblo IV Hopi area pottery designs have been attributed to Mesoamerican incursions (Brew, 1974), it was deemed viable to consider similar sources for these Chaco discontinuities. The context in which these unusual vessels were found will first be described and then their characteristics will be assessed.

The number of cylinder jars recovered from sites in the American Southwest is very small relative to other vessel forms. Other than those found at Bonito, Judd reports three plain polished red jars (1959, Plate 55 a,b,c) and one black-on-white jar (1959, Plate 24f), all of which were found in Room 15 of Pueblo Del Arroyo. (They had apparently fallen from the second story room above (Judd 1959;18). The 8.8 cm neck diameter and the 23.1 cm height for the black-on-white jar falls within the range for the Bonito decorated jars with four horizontal loop handles. In fact, the same design, consisting of columns of angled hatching in bands above and below the handles is found on a jar from Bonito, Room 28, except that in the Bonito jar the vertical columns of hatching are not divided into two bands above and below the four horizontal handles.

Two possible cylinder jar fragments have been recovered from the recent excavations at Pueblo Alto. However, the one black-on-white rim fragment which I examined August, 1978 had a diameter of 15 cm, which is larger then *any* of the 109 decorated or uindecorated jars I examined

from Pepper's excavations at Bonito. The mean diameter of these Bonito jars is 10.4 cm; none of the decorated jars are larger than 13.5 cm.

Roberts also reports finding two cylindrical vessels in the Piedra district (1930). One is decorated with vertical black lines, has holes near the rim for hanging, but is only 13.3 cm high and 10.5 cm in diameter. This height is below the average of 23.7 cm for the Bonito jars, but the neck diameter compares well with that for the Bonito jars. This jar was found in House C of the Group I unit in A village (1930, Plate 3), one of six rectangular houses arranged in a semicircle around a depression. Roberts does mention that such cylindrical jars are also found in highland Guatemala and recalls that the copper bells and macaws found in Bonito are evidence of Mesoamerican trade that presumably could have also been responsible for these vessels. However, he did not, as do Kelley and Kelley (1975) see much evidence for pre-Bonito phase traffic from Mexico and so he concluded:

> The evidence on intercourse between the areas is of so much later a date than that represented by the Piedra forms . . . that considering the problem as a whole it seems more likely that the cylindrical vases, like the making of pottery were an indigenous development in the San Juan culture area. (1930:107).

The other Piedra area cylindrical vessel (Roberts, 1930, Fig. 19n, Plate 33b) has a rectangular opening in the side and a closed flat neck and base area. It is 25.1 cm high with a base diameter of 10.5 cm and is decorated on the side opposite the "window" with two vertical rows of black triangles on a red slipped base. This possible "Feather Jar" (Fox, 1975) was found in the "Arrowmaker Burial," so-called because 22 projectile points and flaking tools as well as 21 ceramic vessels, including the feather jar, red ochre, paint pallets, and bones of a golden eagle were placed beside the flexed skeleton. The nature of the designs on the vessel, and the closed ends with a "window" on the side diffentiate this jar, although cylindrical, from all the other cylindrical Bonito forms and consequently it will not be cosidered further here.

The largest number of cylinder vessels were found by Pepper (1920) and Judd (1954) in Pueblo Bonito in situations atypical of Anasazi practices: two room blocks containing high status burials where the jars formed one of the many unusual grave goods, and one room with a cache of jars.

Associated with the 4 cylinder jars Pepper found in Room 32 were 33 decorated bowls, mugs and pitchers, a bird of hematite and turquoise inlay, a board with painted designs on both sides, a quiver with 81 arrows and, most importantly, a cache of 300-375 "ceremonial" crooks of four types placed upright in the northwest corner of the room. Kelley and Kelley have suggested that these are pochteca canes (1957:204). Scattered parts of a human burial suggest that prior to disturbance, this room was used as a burial chamber. Room 33 (Pepper, 1909) contained two elaborate sub-floor burials, and among the associated grave goods were a wide variety of pottery types including two cylinder jars and coiled cylindrical basket covered with 1214 pieces of turquoise mosaic. The basket itself contained 2150 disc-shaped turquoise beads, 152 turquoise pendants, 3317 shell beads and 68 shell pendants. Another cylindrical basket was covered with rows of strung turquoise and shell beads. Other rooms which contained cylinder jars or fragments of these jars were the debris in Rooms 39b and 52 and in association with a child's burial in Room 53. In this room the skull was accompanied by 4000 flat circular turquoise beads, 30 shell beads as well as the cylinder jar and several pitchers.

Judd found a similar unique array of luxury items in burials in four adjacent rooms in the west wing of Bonito: Rooms 320, 326, 329, 330. Room 320 was a burial chamber for 8 women and 2 children. Eight of the bodies had been disturbed; the two which remained intact were extended with heads facing East. Feather-cloth robes, cotton fabric, and yucca cordage were some of the grave goods. Room 326 was a burial chamber for 1 man, 9 women and 1 baby. Among the grave goods with these individuals are turquoise pendants at the throat, oval basket trays with deer humeri inside, many pottery vessels, clay models of bifurcated baskets, and coiled cylindrical baskets. Room 329 contained the interments of 16 women, 6 children and 1 man. Their bodies

had been badly disturbed, but left behind by the looters were 47 vessels, shell and turquoise pendants and jet and shell beads. Room 330 contained 13 men, 4 women and 6 children, but only burial # 10, a man with 28 projectile points between his knees, had not been disturbed. The remaining grave goods included 49 vessels.

Notable is the wide variety of types of the ceramic vessels. Judd comments: "Almost the whole range of Pueblo Bonito ceramic history is represented here (Room 326) (Judd 1954:192)." In this view the juxtaposition of Pueblo II with Pueblo III types has to be explained as heirlooms and later pots being deposited together. An alternative hypothesis is that these pots actually represent contemporaneously produced wares from a number of different areas.

Also notable is the small size of many of the vessels used as grave goods. Of the 17 bowls associated with the 23 persons buried in Room 330, II were very small. Likewise, 18 of the 26 bowls from the burials in Room 329 were between 2 and 4 inches in diameter. Judd suggests that these were children's toys but alternatively they may be miniatures produced as token offerings.

In two recent reviews of these burials their richness is contrasted with earlier burials from all three Southwestern prehistoric traditions as well as northwestern Mexico (Frisbie 1978), and it is suggested that the Bonito Room 32 and 33 burials as well as the Ridge Ruin "Magician" (McGregor 1943) represent pochteca (Reyman 1978). Reyman tallies the associated material and finds that it appears to be similar to paraphernalia pochteca might carry to trade, use or wear (1978:247). He concludes that it is the *degree* of elaboration that differentiates these burials from "typical" pueblo burials where the body may be accompanied by a pottery vessel or two, a piece of jewelry or a tool. Coastal shell or Cerrillos turquoise in these local burials may have been traded within Anasazi networks. However, many of the items associated with the high status burials definitely do not appear to be typical of local Anasazi practices or material assemblages and probably were obtained via an outside trade network.

Instead of being scattered on a "living floor" as if abandoned during use, in a storage room filled with grain, or accompanying a burial, 140 vessels were found stacked in Room 28. Although when discovered they were in disarray due to the weight of falling roof debris, 114 cylinder jars, 18 pitchers, and 8 bowls were originally neatly stacked in 3 piles with the bowls and pitchers at either end of a large pile of cylinder jars stacked on their sides. The presence of such a large number of vessels in one room in 3 distinct layered piles, as if awaiting use or shipment (the cylinders could not have been holding anything due to their position) has not been reported at any other Anasazi site. The fact that 75 sandstone jar covers accompanied these vessels suggests that they may have been intended for future use as storage containers and that Room 28 was merely a temporary depository.

Several pieces of evidence support this storage explanation. First, on the floor among the jars, bowls and pitchers were found 93 flat circular turquoise beads, 12 turquoise pendants, pieces of turquoise inlay and turquoise matrix and 400 shell beads. These items may have been stored in some of these vessels. Second, Judd interprets the condition of deposition in Room 28 as leaving the room suitable only for storage. He suggests that a considerable quantity of roof fall was already covering the floor when someone put the vessels in Room 28 near the doorway to Room 51a. "With only a 4-foot headway remaining, Room 28 obviously had little use thereafter except storage." (Judd 1954:24). Pepper apparently believed they were stacked in the middle of Room 28 prior to the fire in the second story room above Room 28 and that they were placed in that room so as to be readily available for use with the other ceremonial objects in adjacent Room 32. Among the other ceremonial material, Room 32 contained a group of over 300 ceremonial sticks stacked upright in the northwest corner. Pepper suggests that the cylinder vessels were used to hold these sticks (Pepper 1920:377) and that the loop handles were for attaching ceremonial feathers. (Pepper, 1920:121).

Examination of the early ethnographic literature which reports observations of late 19th century ceremonies does not support Pepper's hypothesized use of the cylinder jars. Photographs

taken by Dorsey and Voth at a series of Soyal ceremonials at Oraibi in the late 1890's show the ceremonial sticks either thrust into piles of sand on either side of the altar (Dorsey and Voth 1901, Plate XVIII) or held vertical in a cone of hardened clay (?) (see Dorsey and Voth 1902, Plate CXXV; Voth 1903, Plate CLXI).

The idea that this large group of vessels probably represented a temporary storage situation for vessels which would be used for storage is supported by Pepper's observation that a cylinder jar found in Room 32 contained 9 flat circular turquoise beads and 2 shell beads. Were these jars, thus manufactured for the storage of luxury items? Detailed examination of the cylinder jars recovered by Pepper, now housed at the American Museum of Natural History, has yielded previously unreported features of these vessels which offer additional clues on their origin and use.

There is some uncertainty concerning the number of cylinder jars that were actually recovered from Bonito (see footnote 49, p. 210, Judd 1954). Judd claimed to have found 17, but 16 jars were listed as found in Rooms 320, 326, 329 and 330 where 68 bodies were buried and two other jars were recovered from Rooms 251 and 309. The subsequent disturbance of the bodies in the four burial rooms has made it difficult to determine the exact association of the jars with the bodies.

Pepper found the greatest number of cylinder jars, most of which were found stacked in Room 28. Pepper claims to have recovered 114; but only 111 are listed in Hyde's Table 2 (Pepper 1920:359-362). In addition, 8 were found in Room 28B; 19 in Room 39B; 1 in Room 53; 2 in Room 33 and 4 in Room 32. Fragments of an unknown number of jars were found in Room 52, the second story room above Room 32. If the larger vessel count is used, 148 whole jars were found. Adding the 18 Judd recovered, a total of 166 cylinder jars have been found at Pueblo Bonito, 70% of which were stacked in Room 28.

In December, 1976 I was able to examine Pepper's collections at the American Museum of Natural History, but could only locate 109 of the 148 cylinder jars he recovered. Table 1 lists the proveniences and numbers of jars Pepper found and those I located at the museum. Nevertheless, I was able to analyze 74% of all jars that Pepper recovered from the 5 rooms (28, 32, 33 39B and 53); 75% of all jars that Pepper recovered from Room 28, and of these, 74% of the decorated jars.

Pepper also recorded the various kinds of handles on the jars. Table 2 lists those he found and those I was able to locate and study. I located all four of the vessels with unusual handle arrangements: the polished red vase with no handles; one with a strap handle, and two with perforations for hanging. Of the other 110 vessels, 80 have 4 handles and I was able to study 92% (74) of these jars.

The first remarkable aspect of these cylinder jars is their uniformity in size and shape. The 109 vessels examined have a mean neck diameter of 10.4 cm; mean base diameter of 10.4 cm; and mean height of 23.7 cm. A scattergram of the relative jar sizes by height and neck diameter shows the decorated jars to be more tightly grouped around the mean height of 23.7 cm than the plain jars (Figs. 1a, 1b). It is also clear that the variation that exists in jar size is in the range in neck diameter, not in height. There is no discernable difference in size among vessels with 3 or 4 handles or those with handles oriented vertically or horizonally. Neither are there size differences in the jars from Room 28 compared to those from the other rooms.

It is clear, however that twice as many undecorated jars had four handles oriented vertically, but that about five times as many decorated jars had four handles oriented horizontally (Table 3). A functional reason for the difference is unclear since either vertical or horizontal loop handles would allow the vessel to be hung in similar fashions. It may be that, although there was no great size difference between decorated and undecorated jars, the difference in orientation of the handles is indicative of a stylistic difference between the work of two potters. It is also clear (Fig 2) that the potter who designed the vessels with four handles oriented vertically allowed half as much variation in neck diameter as did the potter who designed the jars with four horizontal handles.

Evidence that these Room 28 cylinder jars were the work of one or, at the most, of a very few

TABLE 1 Cylinder Jars from Pueblo Bonito

Room	Number of Vessels Analyzed: Pepper's sample	Washburn's sample: Decorated	Washburn's sample: Undecorated
28	114	49	38
28B	8		
39B	19	10	6
32	4	3	1
33	2	1	1
53	1		
	148	63	46

TABLE 2 Distribution of Handle Types from Pueblo Bonito

Handle Type	Number of Handles Analyzed: Pepper's sample	Washburn's sample
none	1	1 (polished red)
perforated	2	2 (undecorated)
strap	1	1 (decorated)
2	1	
3	23	18
4	80	74
unknown	6	13
	114	109

TABLE 3 Distribution of Handle Types on Decorated and Undecorated Jars, Pueblo Bonito

	3 Handles Vertical	3 Handles Horizontal	4 Handles Vertical	4 Handles Horizontal
Decorated Jars	4	1	8	39
Undecorated Jars	8	5	16	8

Fig. 1a

Fig. 1b

Fig. 2

A

B

C

D

E

Figure 3 Repeated Designs found at Pueblo Bonito
A) 6 repeats B) 8 repeats C) 5 repeats D) 9 repeats E) 10 repeats

potters, comes from close examination of the construction techniques and workmanship and the manner of design execution. All are fairly well smoothed; some have a thin slip which does not always cover the gray clay base. The black hatched designs have frequent overlaps where the hatching lines which fill the pattern go beyond the edges of the pattern outline. The sureness of the line application and general demeanor of the design on the 66 decorated vessels all bespeak of the work of one or, at the most, several potters.

It is notable that only 66 vessels are decorated; 42 are simply finished with a plain white slip. Were these vessels to be decorated at some later time? If so, why were they stacked with vessels apparently completely decorated? It may be that these 48 vessels were never intended to be decorated and that the reason which caused 114 cylindrical vessels to be produced was so urgent that there was time to decorate only slightly more than half of them. It should be noted that the cylindrical vessels in burial contexts in Monte Alban tombs are not decorated, but merely have a smooth gray surface; some are lightly polished.

Other evidence which suggests the "mass-produced" workship nature of these cylindrical forms is the identical nature of the designs. Repetitive use of a pattern is almost non-existent on Anasazi wares where the same design elements are repeated but there is endless variation in the specific ways they are combined. On the 52 decorated cylindrical vessels analyzed several patterns were repeatedly painted on a number of vessels and they appear to have been executed by the same hand.

In particular, five patterns were used more than twice on vessels that Pepper recovered from Bonito and three of these patterns also appeared on jars that Judd found in rooms in another part of Bonito (Fig 3). There are four other designs which appear once on jars from Pepper's rooms and once on jars from Judd's rooms. This use of identical patterns on jars from two areas of the pueblo suggests that all the jars were made in the same workshop and/or by the same potter(s) and were found in different rooms by virtue of their special use in a funerary context. A further interesting aspect of these repeated designs is that they are all, with one exception, found on cylinder jars with four horizontal handles. This lends ever more support to the idea that one person executed jars with vertical handles while another did those with horizontal handles.

All but one vessel from the pile in Room 28 were decorated with black-on-white designs. The exception, H-3378, is a plain, polished red vessel with sloping rather than vertical sides and no loop handles or hanging holes (16 cm diameter; 24.2 cm height). Pepper suggests the ". . . possibility of this piece having come from some other part of the country to serve as a model for the potters in making their white ware." (Pepper 1920:120). Plain red polished jars of cylindrical form are known as early as the Pueblo I period with the Abajo wares and later with the Pueblo Black-on-red and Wingate Black-on-red types.

The three Pueblo Del Arroyo polished red jars from Room 15 (Plate 55 a,b,c) have a mean base diameter of 8.2 cm, a mean neck diameter of 15.0 cm and a mean height of 25.1 cm. These figures are closer to the size of the polished red jar from Room 28 of Bonito (whose base diameter is 8.5 cm; neck diameter is 15.0 cm; and height is 24.6 cm) than they are to the smaller size of the other black-on-white or plain slipped white vessels with a mean base diameter of 10.4 cm; neck diameter of 10.4 cm and height of 23.7 cm. The high degree of similarity in size and surface treatment between the red Bonito cylinder jar from Room 28 and the three jars from Room 15 of Pueblo Del Arroyo seems to suggest that they are all imports, or if they were made locally, they may have been made by the same person/workshop.

One very important difference relevant to the problem of which jars were locally made and which were imported, possibly as models, can be noted in Figure 2 where the dimensions of the polished red vessels (#3378) and the decorated jar with the strap handle (#3381) were plotted and compared to the decorated and undecorated jars with four loop handles. It is immediately clear that both the polished red and strap-handled jars are well outside the size range of the major group of cylinder jars found at Bonito. If these two outsized jars fell within the mean size of the other

Bonito jars (as do the two examples with hanging holes), the difference in color or handle type themselves would offer less evidence of their Mesoamerican origin. However, the difference in size in conjunction with the color and handle differences strengthens the possibility that these two vessels were not made by either of the potters who produced the other docorated or undecorated jars, and thus, that these jars may be imports.

Given all these observations, it is now possible to suggests that this pile represents the work of artisans specifically directed to "mass-produce" a quantity of pottery of a specific form probably for a specific function. This high degree of identity in design and form is atypical for the Anasazi and suggests that their source of inspiration lies outside the American Southwest.

Although earlier Teoihuacan potters produced cylindrical vessels, these were much shorter, stood on tripod legs, and had fesco and/or incised designs. Another potential source of influence are Late Classic Mayan vases which, although shorter and typically slipped orange and painted with detailed activity scenes and glyphs, do exhibit the same cylindrical, flat-based plain rim form (Rands and Smith, Fig 16, 1965). By early post Classic times many of the Mayan jars carried incised rather than painted scenes (Smith and Gifford, Fig. 10, 1965; Shook, 1965) which were placed in bands around the vessel or in patterns which covered the greater portion of the jar. The red background color and the period of manufacture suggest that they could possibly be prototypes and thus that the one cylinder jar from Room 28 those from Del Arroyo may well be imports.

Finally, mention should be made of plain black cylindrical forms in Late Classic San Juan Plumbate (Shepard, 1948, Fig 7). This is a ware type which may have largely been made in Guatemala and traded widely throughout Mesoamerica. Pepper cites vessels recovered from Finca Pompeya in Guatemala as being similar to the Chaco cylinder jars (1920:121-122).

> They range from 5 to 11 inches in height and from 3 to 5 inches in diameter. One is of a light buff color and would readily pass as a specimen from Bonito, so nearly does it approach some of the specimens from Room 28. the ornamentation of this piece is confined to a band of decorative lines near the rim; in fact, almost all of the decorations are confined to this part, some have painted bands of solid color, some incised lines and figures, some raised lines. Most of the pieces are dark, either a dark red or a dull black, no handles are in evidence. . . ."

These are apparently Plumbate forms (cf. Seler 1904b, Fig 15, p. 86; Seler 1961, Fig 242; and Seler-Sachs, 1925:219).

In short, cylindrical vessels appear to be an endemic form in Mesoamerica throughout the pre to post Classic periods.

However, the closest analogs to the Chaco cylinder jars are those from Monte Alban. It has usually been assumed that the complex cultures in the Valley of Oaxaca were too far away to have affected developments in the American Southwest; at least no mention has been made in the literature of the extremely close similarities between the cylinder jars and duck pots from Monte Alban and Anasazi forms. I suggests that distance may not be a mitigating factor.

According to Caso, Bernal and Acostas' monumental compendium of the ceramics from Monte Albán (1967) the cylindrical vessel form was made and used throughout the occupancy of the site, often found in quantity as grave furniture. Fragments of large gray jars narrower at the neck than at the body center with four holes perforated near the rim were recovered from Period I (400-100 BC) burial V-19A (Caso et al., 1967, Figs. 161, 173). Caso, Bernal and Acosta suggest that these vessels may have been suspended with a cover to protect the honey contents from insects and animals. (Caso, Bernal and Acosta, 1967:203). Two other Monte Albán I examples are jars with flat bases ranging in diameter from 5.5 to 6.5 cm in diameter and 12 cm high without suspension holes that are of cream clay (Fig. 77) and gray clay (Fig. 82a). The former contained an obsidian knife. These were not found in a burial context but in Mounds Y and YW respectively and may suggest their use as containers for luxury goods.

Period II (100 BC-AD 200) cylindrical jars are more numerous; 118 examples were recovered

(Caso et al., 1967, Figs. 215, 217, 238-240). Generally the height of these jars is twice the diameter; the bases are flat and they have a plain or slightly polished surface of a cream to brown or gray clay. Some have smaller mouth diameters than bases; others have smaller bases than mouth diameters. Another common form during this period are jars with rims indented to receive a flat lid.

During the Transition from Monte Albán II-IIIA several types of jars were made. Jars with flat bottoms and plain rims are now larger (15 cm high and 9 cm in diameter). These were recovered in tomb contexts as were a new variant measuring 16 cm high and 7 cm in base diameter which had two vertical loop handles (Caso et al., 1967, Fig. 260). Apparently, the plain-rimmed jars were not produced in quantity, or at least were not recovered, for their numbers decreased by Monte Albán IIIA (AD 200-550). However, Monte Albán IIIB (AD 650-900) the plain forms again predominate. These generally have a greater diameter (10 cm) while maintaining a height somewhat less than twice the diameter. Even during the demise of Monte Albán as a ceremonial center during Period IV (AD 900-1350), the vases continued to be produced, although in smaller frequencies. Later varieties have slightly outcurved rims; some have vertical loop handles evenly spaced around the jar below the rim. These later forms in particular recall Bonito jars.

It is puzzling that so little was found in the many jars recovered at Monte Albán. Perhaps they were no different from the other funerary furniture, hastily made in quantity to be piled beside the deceased. Linne observed one instance among the grave furniture at Xolalpan, Teotihuacan where a candelero had been placed inside a tripod vessel and". . . on top of the latter was set an undecorated and footless cylindrical vessel, also mouth upwards." (Linne 1934:59). This stacked placement suggests that the vessels were never intended to contain anything, but to serve as token offerings for the deceased.

Since the cylindrical vessels which most resemble those from Bonito were made at Monte Albán in period III, especially IIIB, this would enable them to slightly predate the building activity of the early 11th century in Chaco Canyon, the period in which presumably these black-on-white hatched cylindrical vessels from Room 28 were made. The connection between the two areas is of course open to debate since although there is a fair degree of similarity in vessel form between the two areas, the Monte Albán jars are plain gray, while the Chaco jars are slipped white and decorated with black hatched designs. Wholesale identical borrowing of a trait is an infrequent cultural response; more frequently cultures absorb and revise a trait to fit their own system. In this instance, for some reason, perhaps functional, the formal properties were slavishly copied, but they were decorated within the local black-on-white tradition.

To strengthen the case that these jars are indeed related to those from the southern highlands, despite the different decoration, I describe one aspect of formal identity which would only have occurred by slavish copying. Recalling that some Monte Albán I II cylinder jars had small vertical loop handles near the rim, it is notable that the same handle type occurs on vessels from Bonito, although here in both vertical and horizontal positions and in series 3 or 4 loops around the jar rim area (Fig. 4). Of the 109 jars examined, 63 had horizontal loop handles, 38 had vertical loop handles, and 8 either had no handles or the rim area was missing and thus could not be observed. Of the 109 jars, 19 had 3 handles, 73 had 4 handles, and 17 had no handles or it was impossible to determine how many handles there may have been.

Close examination of the handles on the Bonito jars revealed that they had never been used for hanging, as was suggested by Caso et al. (1967). The thin loops of clay had been pressed on after the main vessel body was formed. Although the jar body surface was smoothed, the area on the inside of the loop between the vessel wall and the lop was not smoothed since it is not readily accessible or visible. It is this area which gives the critical clue of slavish copying, for here are found small pieces of clay still sticking out from the unsmoothed loop. If the vessel had been hung, these small pieces would have been worn off. However, they still remain, clues that these handles were slavishly copied from some jars where handles were functional requirements. Alternatively, the Chaco jars may have been just manufactured and piled in Room 28 awaiting use. If this is the case,

Fig. 4

Fig. 5

Fig. 6

then the claim that the handles are vestigial copies cannot be supported. However, there are two other aspects of these handles which eliminates this latter possiblity.

On several Bonito jars, the handles appeantly fell off after they were applied. Perhaps this was due to hasty or faulty application procedures, or perhaps it was due to the potters' inexperience with the local clays. In any case, the handles were not reapplied, but rather the join area was smoothed over and the vessel was slipped and decorated in the usual manner (see Fig. 5). Since the handles were evenly spaced around the neck area, loss of any one would cause the jar to hang at an angle. If, however, these jars were intended to be hung, the potters would presumably have taken care to insure that the full complement of handles was on every jar. The fact that some are missing, but that the jars were finished anyway (i.e., painted) strongly suggests that they were never intended to be hung.

The second aspect which suggests that the handles on the Bonito jars were vestigial and that at least some of the jars were actually used is a series of use marks observed on the inside of several jars (Fig. 6). They are clearly not finishing marks, but are grooves made after the clay was hardened and fired. Some of the scratches occur near the base, others near the rim, and others near the center. They appear to suggest marks caused by inserting and removing an item too big for the jar. The item would have had to have sharp edges to have caused such scratches. The hardness of the vessel wall indicates that an object of at least equal hardness rather than food or liquids would have causes such scratches. Since obsidian and shell were found in Monte Albán cylinder jars, I suggest that these vessels may have been used to store the raw matrix of shell or turquoise, and it was the edges of matrix which may have scratched the vessel walls as it was being placed in and out of the jar.

In sum, from the above evidence, the loci of Mesoamerican influence—at least for cylinder jars—appears to be in the Valley of Oaxaca, although the red slipped jars from Bonito and Del Arroyo argue for a Mayan source. What is clear, however, is that the cylinder jars from Bonito, both in their unusual contexts and in their formal characteristics, are not typical Anasazi containers. In fact, the vestigial nature and lack of use of the loop handles, the unusual interior wear scratches, and the uniformity in vessel size and design would suggest that these jars were manufactured, perhaps after a model brought from Mesoamerica, by several potters for some special function, probably related to the activities of the few pochteca who may have lived at Bonito.

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ACKNOWLEDGMENTS

Thanks go to David Thomas who made available the Pueblo Bonito material at the American Museum of Natural History, to Emily Garber who helped me record the designs at the American Museum, to the National Science Foundation grant #75-13720 for support of field research, and to the Miller institute for Research in the Basic Sciences, University of California, Berkeley who hosted me as a Research Fellow during the analysis of the data. Figures 4, 5, and 6 were photographed by James Garber.

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TABEL 1 Cylinder Jars from Pueblo Bonito

Number of Vessels Analyzed

Room	Pepper's sample	Washburn's sample	Undecorated
28	114	49	38
28B	8		
39B	11	10	6
32	4	3	1
33	2	1	1
53	1		
	148	63	46

TABLE 2 Distribution of Handle Types from Pueblo Bonito

Number of Handles Analyzed

Handle Type	Pepper's Sample	Washburn's sample
none	1	1 (polished red)
perforated	2	2 (undecorated)
strap	1	1 (decorated)
2	1	
3	23	18
4	80	84
unknown	6	13
	114	109

TABLE 3 Distribution of Handle Types on Decorated and Undecorated Jars, Pueblo Bonito

	3 Handles Vertical	3 Handles Horizontal	4 Handles Vertical	4 Handels Horizontal
Decorated Jars	4	1	8	39
Undecorated Jars	8	5	16	8