

THE ANCIENT POTTERY FROM PUCARA, PERU

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Editor's Note. The following article began as a Senior Honors Thesis, entitled "A study of the ceramics of Pucará, Perú," in the Department of Anthropology, Harvard University; it was completed March 30, 1967. Because the late Alfred Kidder II was then working on a manuscript detailing the results of his excavations, it was not considered appropriate to publish the results of this study at that time. At the suggestion of Thomas C. Patterson, his advisor, Franquemont edited the thesis into publishable form in the fall of 1967, and dittoed copies of that version were circulated to a number of interested parties. The dittoed version has been cited a number of times. Because of the importance and originality of this work and the frequency of its citation, we felt that it should be available to a wider audience.

Aside from minor editorial changes, the present work is the same as the dittoed version. The term "stepped fret" in the original has been replaced by "stepped motif" to avoid confusion since no distinction was made among the different kinds of stepped motif in the original study. When figure numbers have been changed to fit our style, the original numbers are noted in the Key to Illustrations. Four figures (figs. 2, 27, 68, 70) have been added (the last two inadvertently omitted from the dittoed version); references to illustrations in Rowe and Brandel (1971) have been added by the editors for the reader's convenience. References to other later works on the Pucara style have not been inserted, but we direct the interested reader to articles on the topic in *Nawpa Pacha* 9, 13, 18, 19, and 21. — P.J.L.

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INTRODUCTION

Modern Pucara is located on the Peruvian altiplano at the north end of the Lake Titicaca Basin (fig. 1). The town is dominated by the Peñón, a massive rock formation that rises more than 300 m. above the basin floor, and by the Río Suche, which flows through the rolling grasslands about a kilometer away. The ancient settlement of Pucara was located on the gentle, grass-covered slope between the west bank of the river and the foot of the Peñón. It is difficult to determine the exact extent of old Pucara, because it is covered not only by *ichu* grass but also by the modern town and its debris. Nevertheless, the location of various excavations, erosion channels, and road cuts suggests that the ancient settlement probably covered an area of several square kilometers.

It was the stone sculpture of Pucara that first attracted attention to the prehistoric settlement. Luis E. Valcárcel was the first archaeologist to become interested in the site, and he visited it in 1925 and again in 1934 and 1935. The information he collected during these visits was published in a series of articles appearing between 1925 and 1938 (Valcárcel, 1925; 1932a; 1932b; 1935; 1938); in these, he briefly described some of the pottery, but mainly focused his attention on the mythical beings represented on the stone sculpture. One of these, he called the *gato de agua*, and compared it to certain mythical representations in the Nasca pottery style. Another he termed the *personaje mítico*, and suggested parallels with certain pieces of sculpture found at San Agustín in the south highlands of Colombia. Probably the major contribution of the articles written by Valcárcel is that they pointed out the obvious importance of Pucara and its remains. Within a decade, other archaeologists became intrigued by the site; they visited it, undertook investigations there, and commented on its significance.

The first of these was Julio C. Tello, who had written about the site in 1929, but did not actually visit it until October 1935. Tello's interest in the site

was aroused by the representations on the stone sculpture; he considered these to be earlier than Tiahuanaco and a manifestation of a widespread Chavín culture, which was not only very ancient but also ancestral to many of the later developments in Andean culture history (Tello, 1929; 1940; 1942; 1943). During the few days that he was in Pucara, Tello did not actually excavate, but amassed a substantial collection of decorated pottery from refuse layers, and possibly from offering pits, located on the west bank of the river. The results of this work served to strengthen his views about the Chavín affiliations of the Pucara style.

Two years later, Alfred Kidder II, then of Harvard University, went to Pucara in the course of a general archaeological survey of the altiplano. He returned to the site in 1939, and worked there between January and June. During this period, he made six excavations of various sizes in different parts of the site, including the west bank of the river and in one of the architectural complexes (fig. 2). Kidder emphasized the obvious relationships between Pucara and Tiahuanaco.¹ He pointed out that a substantial number of the mythical representations was shared by the two art styles and that there was no evidence for trade between the two sites. At first, he suggested that there were several possible correlations between the Pucara culture and the Tiahuanaco sequence proposed by Wendell C. Bennett (A. Kidder, 1943, pp. 6-7).

In 1947, Kidder and Bennett reassessed the chronological and cultural relationships of several archaeological assemblages from the altiplano, particularly Chiripa and Pucara. Bennett (1948) changed his interpretation of the age of Chiripa, and now argued that it preceded, rather than followed, the Early Tiahuanaco style. Kidder again showed that many mythical themes were shared by Pucara and Tiahuanaco, and also suggested that Pucara could be partly earlier than Tiahuanaco because of similarities between Pucara Polychrome bowls and those of Chiripa and even Chanapata and Coastal Chavín (A. Kidder, 1948, p. 88).

Kidder returned to Pucara in 1955 and collected a series of charcoal samples from a part of the site known locally as Huayapata, Huaynapata, or Quiriquinapata (fig. 2). These samples were subsequently analyzed by the Radiocarbon Laboratory of the University of Pennsylvania, and yielded the following ages (Ralph, 1959, p. 57):

P-152	2101 ± 108	radiocarbon years B.P.
P-170	2032 ± 106	radiocarbon years B.P.
P-154	1847 ± 106	radiocarbon years B.P.
P-217	1960 ± 90	radiocarbon years B.P.
P-172	2040 ± 109	radiocarbon years B.P.
P-153	2041 ± 107	radiocarbon years B.P.

Kidder expected these measurements to be nearly contemporary with each other as, indeed, they are. In light of measurements associated with various parts of the Tiahuanaco style, these dates confirmed the pre-Tiahuanaco age of the Pucara style. Shortly after the measurements were available, John H. Rowe pointed out that there could in fact be an appreciable span of time separating Pucara from Classic Tiahuanaco.² In 1964, Walter Tapia Bueno, Jorge Flores Ochoa, and other students from the Universidad del Cuzco, under the direction of Máximo Neira, went to Pucara, and excavated at Huayapata in order to obtain a collection of Pucara pottery, and to determine, if possible, the cultural associations of the carbon samples upon which the radiocarbon measurements were made.³

In spite of the relatively large amount of field work that has been carried out at Pucara, virtually nothing is known about change within the Pucara style. The study upon which this paper is based was undertaken in 1966 and 1967 in order to see if stylistic change could be observed in the ancient pottery of Pucara, and, if so, to use this chronology as a basis for better understanding of the culture history of the altiplano. The study was based exclusively on an examination of the Pucara artifacts excavated by Kidder in 1939, a large collection of which is now deposited at the Peabody Museum of Archaeology and Ethnology, Harvard University.

CERAMICS FROM PUCARA

The ancient pottery of Pucara consists of plain wares with heavy mica temper and sophisticated decorated wares on which both plastic and painted decorative techniques were used. Seldom do only painted designs appear on a vessel; more commonly, they are associated with incisions that were used to outline color zones and design elements. Many vessels have highly polished, lustrous surfaces, and are aesthetically pleasing pieces of art.

Wares

The clays that were used to make ancient Pucara pottery probably came from the rich deposits located in and around the town, deposits that are still being exploited. The principal inclusions in the ancient pottery are crushed rock, mica, and long, angular particles. The most abundant inclusion is crushed rock, which is angular and white-colored when well oxidized, but may be red-colored in places when the oxidization was incomplete. The micaceous inclusions are of all three common forms: black-colored biotite; muscovite,

which appears white; and phlogopite, which is gold or brown in color. Usually only one kind of mica appears in a single specimen, but occasionally more than one color is found. There does not seem to be a correlation between the color of the micaceous inclusions and other variables in the manufacture of the ancient pottery. The long, angular, red-colored inclusions are less common than crushed rock or micaceous particles, but they still occur in a significant number of the sherds examined. Essentially two kinds of paste were used by the ancient potters of Pucara: those that contain a great deal of crushed rock, and those that were tempered mainly with mica. The distinction in pastes is probably a functional one. For descriptive purposes, it is convenient to distinguish six wares in ancient Pucara pottery.

Ware A

White-colored particles of crushed rock account for 10-25% of the visible surface area, and are usually about 0.5 mm. in diameter. Mica flakes also occur, but are considerably less common, never accounting for more than 7% of the visible surface area; these flakes vary in size from barely visible to about 0.12 mm. in diameter. The inclusions were well-mixed with the clay, and the pottery is fairly compact. Vessels made of this ware were well-fired in a controlled oxidizing atmosphere, and their colors vary from bright red to red-brown. Fireclouds occur only rarely on the surfaces, and incompletely oxidized bands in sherd cross sections are even less common.

A less well-fired variant of this ware also occurs. The vessels fired in this manner have brown-red surface colors, fireclouding, and incompletely oxidized cores.

Ware B

This ware is very similar to the preceding one, being distinguished from it largely by angular black, gray, or red inclusions in addition to the crushed rock and mica particles. These angular inclusions never constitute more than 5% of the cross section. Another difference is that the surface colors of Ware B vessels are not so vivid a red as those of Ware A.

Ware C

Several specimens appear to have the same temper inclusions as those of wares A and B, but differ from the latter because of their black-colored cross sections. Whether the color is due to firing in a reducing atmosphere or to heavy smudging is not clear, but the evenness of the black color on all of the specimens indicates that it was certainly intentional. As a result of the differences in firing methods, the temper particles also differ in color from those of wares A and B. A more precise study of this ware will be necessary to determine whether it is significantly different from the other wares or merely a firing variant. Surfaces are black and usually polished.

Ware D

The white-colored inclusions of Ware D specimens constitute about 25-30% of the visible surface area, and are larger than those of the three wares already described. The median diameter of these particles is about 1.0 mm. Micaceous inclusions occur only rarely in Ware D. Although the temper is well mixed with

the clay, pottery of this ware is considerably more porous than those made of the other wares, possibly as a result of the size of the inclusions. The vessels are evenly fired, and usually have red-brown surface colors that are slightly darker than those of wares A and B.

Ware E

This ware is heavily tempered with micaceous particles, which may account for as much as 20-30% of the visible surface area of the core. The mica flakes vary in size from barely visible to 2.0 mm. in diameter, with large flakes occurring fairly frequently. Angular white-colored particles also occur in amounts ranging from mere traces to about 8% of the cross-sectional surface. Vessels of Ware E are poorly fired; their surface colors vary from drab red to brown, and they frequently have incompletely fired cores, fire-clouds, or heavy smudges.

Ware F

This ware is essentially the same as Ware E, except that it completely lacks any white-colored temper particles. As far as can be determined, the only inclusions are large flakes of mica. The result of this composition is that the vessels made of Ware F tend to be structurally weak in planes parallel to their surfaces, which therefore flake or foliate. Vessel surfaces are heavily smudged, and their cores frequently contain bands of incompletely fired materials, but, since several are completely black in color, some black-firing may have been intentional.

The Cusipata Style

The sherds that have been used to define the Cusipata style were segregated from the remainder of the collection because of the distinctive shape and design features that they share. There is no unequivocal evidence from the excavations to demonstrate the unity of the style, but the vessels included in it share a number of distinctive features that distinguish them from specimens assigned to the Pucara style. As a stylistic unit, Cusipata is poorly understood, because the entire sample consists of fragments from thirty vessels with the same shape and ware characteristics. Kidder recognized the existence of this material, and referred to it as a polished redware with simple designs executed in white (A. Kidder, 1942).

All of the Cusipata sherds come from Excavation IV (fig. 2). Kidder writes that the white-on-red sherds come from the lowest levels of one part of the site (A. Kidder, 1948, p. 89); this is difficult to verify, however, because only twelve sherds have stratigraphic provenience. The remainder of the Cusipata sherds are associated with walls in Excavation IV. Even if the stratigraphic relationships of these walls were clear, Kidder's statement must be viewed critically, because all but three of the Cusipata sherds share their proveniences with the later Collao Black-on-Red and Collao Plain types, as well as with examples of Pucara pottery. It seems unlikely that the Cusipata sherds were carried into the area of Excavation IV by the water action that Kidder noted, because few show water-eroded surfaces.

All of the Cusipata sherds were made from the poorly fired variant of Ware A. The vessels were

coiled, and the coil junctures were usually smoothed, although they are visible on a few fragments of base angles. The only vessel form that can be attributed to the style at this time is an open, flat-bottomed bowl. The bowl has straight flaring sides and a distinct base angle setting the sides off from the bottom. Occasionally, a lug handle is placed immediately below the rim (fig. 3). The rims are interiorly beveled, and the outside edge is frequently marked by a pronounced lip or ridge (figs. 3-7). The vessels vary from 16 to 25 cm. in diameter.

Most Cusipata sherds are decorated with painted designs. Three pigments are used: brown and red are used as background or slip colors; and cream, or off-white, as the design color. The bowls were slipped red, and brown-colored design panels were placed on the exterior surfaces and in a circumferential band on the beveled part of the rim interior. The white pigment was used to outline the panels on the exteriors and to execute designs within the panels. Two of the Cusipata vessels were entirely brown-slipped, and two others lacked the brown-colored design panels.

The most frequent combination of design elements is concentric diamonds in the exterior panels and a band of dot-filled diamonds on the interior of the rim (fig. 4). Another combination that occurs with some frequency consists of systems of lines in both design areas (fig. 7). A third group of sherds has stepped motifs on the rim interior and lacks designs on the outside surface (fig. 5).

Only three Cusipata sherds are decorated with non-geometric design elements; unfortunately, none of these is large enough to be identified. These sherds are unusual in other ways as well. One is fired so that the core is a dark brown-red, while the surfaces are brown-black in color and apparently intentionally smudged. Because of the darker surfaces, both the red and brown pigments have a darker hue, while the white pigment is faint and difficult to see. The rim interior was beveled, but was not used as a design area, and the interior of the vessel was entirely red-slipped. The other two sherds are more heavily tempered than usual, but their surface colors, profiles, and sizes are typical. The locations of the exterior designs are standard, but there is a major departure from the tenets of the style with respect to the beveled rim interior. The white pigment was used to fill blocks of the stepped motifs, which were outlined with fine incised lines. Furthermore, the white pigment was applied directly on natural-colored surfaces instead of brown-painted areas. The interiors of these vessels were red-slipped.

The Pucara Style

Pucara will be discussed as a unit in spite of the fact that there are probably several chronologically distinct phases in the style. This treatment is necessary because the existing data will not support any convincing argument about the nature of the stylistic divisions. I can, however, offer some evidence about possible divisions in the style, and shall discuss this question later.

The Pucara pottery can be described in terms of seven major shape categories, five of which can be subdivided.

Open Bowls

Three hundred forty-four vessels in the collection are open bowls. These can be divided into three subclasses, which I shall call Bowl A, Bowl B, and Bowl C.

Bowl A (figs. 8-12)

Vessels of this category are made of both Wares A and B and are very similar in general shape to the Cusipata bowls. The bottom is flat, the sides straight and flaring, and there is often a lug handle located below the rim. The rims are more varied than those of the Cusipata bowls and, in about four out of ten examples, lack the pronounced interior beveling of the Cusipata pieces. The surfaces of the bowls undulate slightly and may, therefore, have been finished with some kind of yielding tool. The rim diameters of Bowl A vessels vary from 18 to 24 cm.

The decoration of Bowl A vessels also differs from that of the Cusipata style. The entire exterior and most of the interior surface was covered with a red slip that was polished to a medium luster. A painted stepped motif outlined with incision occurs in a circumferential band located immediately below the rim on the interior surface. The colors of the fret alternate red, black and cream. Two kinds of incision were used to outline the painted elements: the first is very light, barely marking the surface, and the second is deep, narrow, and wavering, and was probably made while the clay was still fairly wet. There are several examples on which the incision is intermittent and does not outline all the steps in the band.

Bowl B (figs. 13-24)

Vessels of this category have flat bottoms, distinct base angles, and straight flaring sides. Lug handles are located on the top of the rim. The rims are rounded at the top with no interior beveling, and there is often a distinct lip on the exterior surface below the rim. Full-sized vessels made of Wares A and B range in rim diameter from 15 to 27 cm. Miniatures also occur, and are usually 8-10 cm. in diameter. A few examples made of Ware E have rim diameters of 13-27 cm.

Bowl B vessels made from Wares A and B were probably finished with a scraping tool, because the surfaces are even and regular. The most common form of decoration is an overall red slip that was polished to a very high luster. There are no traces of the finishing operations, but occasionally circumferential polishing marks are seen.

Painted and incised designs occur in circumferential bands around the interior or exterior of the rim. One motif is a band of stepped elements; occasionally, small rectangles are placed inside them. The colors of the frets alternate red and black or red, black, and cream. A slightly more common motif is a band of trophy heads executed in the same manner. The details of the heads vary considerably, but are consistent on any particular vessel; they may face in either direction (figs. 17-22). Miniature vessels always have bands of trophy heads on their outside surfaces. The "snake" motif occurs rarely in this kind of circumferential band, but it is not clear whether every figure in the band faced in the same direction, as the trophy heads do, or whether they were paired face to face, as the snakes are in other contexts [Rowe and

Brandel, 1971, fig. 30]. The stepped motifs occur throughout the entire size range of the shape category, while the trophy heads tend to be on vessels with diameters of 19-27 cm.

Some Ware A vessels of this category are decorated on the exterior surface below the rim, while the interiors are red-slipped and polished to a high luster. The design elements that appear in this context are usually mythical birds set in panels that are delineated by geometric motifs (fig. 16).

On Bowl B vessels, the rim zone is used for decoration more frequently than are the outside surfaces. On two specimens, both the body and rim panels were used; series of llamas are used on the rim interiors while different zoomorphs appear in the body panels. The illustrated examples show that, while the specific elements in the exterior panels vary, the themes expressed by these vessels may be quite similar (figs. 23, 24).

Ware E examples of Bowl B are made with less care than those of Wares A or B, and are never decorated. The surfaces undulate, suggesting the use of a yielding type of finishing tool, and the rims are simply rounded. Often the rim is irregular, and it is difficult to determine the mouth diameter of the vessel. One unusual specimen sits on four small, knoblike supports instead of resting on the flat base.

Bowl C

These vessels are made of Wares A or E, and differ greatly from the other open bowls. The base was probably circular, but it is not clear whether it was flat or rounded. The sidewalls are convex, and the vessel is unrestricted, with diameters ranging from 14 to 19 cm. None of the examples in the Kidder Collection have handles. The sides of the vessel undulate, and, while they may be polished, they are not lustrous. These vessels are always undecorated.

Annular Based Vessels (figs. 25-31)

Probably the most striking characteristic of the Pucara pottery style is these well designed and executed vessels. The upper chamber has flaring convex sides with lugs located on opposite sides of the rim. The rims are either flattened (fig. 25) or are slightly beveled on the interior (fig. 26). The sides of the lower chamber are straight and expand towards the base. The mouth diameters of the upper chamber range between 13 and 21 cm., with the majority of the specimens being either 15 cm. or 19 cm. in diameter. The diameter of the lower chamber is 3-5 cm. smaller than that of the upper one. The floor of the vessel is at the point of maximum constriction; the lower chamber is hollow, and the floor is 5-6 cm. above the bottom of the vessel. Nearly all of the 287 vessels of this shape category are made from Ware A, but there are a few examples made from Ware C (fig. 27).

Four distinct systems of decoration appear on vessels with annular bases. Twenty-one vessels have overall red-slipped surfaces that were polished circumferentially to a high luster. The red-slipped vessels differ slightly from the general pattern of the shape category in that their bases are proportionately lower than the upper chambers and that their lug handles are occasionally pierced.

The second decorative system is illustrated in fig.

28. The vessel represented is reconstructed from fragments of several vessels. The upper chamber is decorated with contiguous circumferential bands composed of pairs of L-shaped elements that interlock. These elements are painted in black, red, and cream, and are outlined with incision. Often the zone below the lug handles is undecorated, but sometimes the L-shaped elements continue around the vessel without interruption. Only the upper chamber is decorated; the base is red-slipped. The entire vessel was polished to a high luster. There are 30 vessels with this decorative system, and all have diameters of either 15 or 19 cm.

The dominant theme of the third decorative system is expressed by two Felines, each of which covers half of the upper chamber of the vessel (fig. 29; Bennett, 1946, pl. 37a). Polychrome incised appliqué heads were placed on opposite sides of the vessel in such a way that the Feline ears reached to the rim. The remainder of the design was painted red, black, and cream or yellow, and was outlined with incision. The body of each Feline extends halfway around the vessel, and has four feet and a tail. The bodies are filled with rectangles, diamonds and/or crosses, and the feet are always three-toed and painted in two colors. The color zones of the feet are not separated with incised lines.

The exterior rim of the Feline vessels is decorated with a geometric fret that covers the zone from the head to the lug handle, about one quarter of the circumference of the vessel. Sometimes the fret continues around the entire exterior rim, interrupted only by the lugs and the appliqué heads. The fret shown in fig. 29 is only one of several such designs that occur. Others are simple stepped motifs with or without interior squares, and interlocking L-shaped elements [Rowe and Brandel, 1971, figs. 62, 69]. The lower chambers of these vessels are decorated with geometric forms clearly related to the kind of design that appears on the rim.

The particular piece shown in fig. 29 was selected because it is the most complete single vessel of its kind in the Kidder Collection. Unfortunately, some of its characteristics are less common variants of the ways in which the theme is generally represented. The neck ornament is the less common of two varieties that occur [compare Rowe and Brandel, 1971, figs. 62, 69]. Other less typical aspects of the specimen are seen in the treatment of the mouth and the areas above the eyes. The mouth usually appears as an inverted U, formed by either a single curved incised line or by three straight incised lines, rather than as a single straight incised line. Above the eyes, in place of four incised lines, there are more often only three and, thus, two zones of black instead of three with color alternation. It should be stressed, however, that the illustrated piece is certainly not unique; there are many other examples in the collection that show one or more of these traits. Other atypical features of the Feline theme are short incised lines or black-painted spots in the cream-colored zone above and between the eyes. The two incised lines that connect the eyes with the nose often meet on the bridge of the nose to form a Y; the tops of the eyes may also be connected by a single incised line, leaving a black-painted rectangular area above the nose. All of these variations suggest seriatinal possibilities that should

be explored further.

When the annular based vessels with Feline themes are made of the black-colored Ware C, they were polished but not painted; the designs were rendered only by incision. In one Ware C example, the body of the feline and the rim frieze were raised by excising the decorated area; the incision on the feline and the rim frieze is broader than usual and was done while the clay was wetter than usual.

The fourth decorative system used on the annular based vessels consists of mythical themes covering the entire exterior surface; there is no geometric component in this decorative system. The Kidder Collection contains fragments of at least 80 different examples that show 3 readily identifiable themes. Several other themes are represented but cannot be defined.

These vessels are made of Wares A and B and vary in shape from the general pattern in that they have smaller lower chambers in proportion to the upper ones. Decoration covered the entire exterior surface, and it seems that the potters did not consider the base to be a distinct decorative field. In this sense, these annular based vessels differ from those with Feline themes. Almost all of the specimens have rim diameters of 19 cm.

The most common theme is that of the Running Figure, which is the most complete in the Kidder Collection (fig. 30). Other specimens with the same theme vary slightly from the illustrated example with respect to the placement of the colors and may have triangular elements mounted arrow-head fashion on the ends of the two similar rays of the headdress. Unfortunately, neither the head of the Running Figure nor the blank zone in the upper left of the illustration is identifiable, but the latter may possibly have been filled by elements from some sherds that show the head of an axe on the end of a shaft and disembodied limbs. The Running Figure appears to be holding two trophy heads similar to those represented on Bowl B vessels.

Other mythical themes that occur are Llamas and Birds. The evidence suggests that one design motif, poorly known, included a front-face human head that was incised, modeled, and painted; this was attached to the vessel in a position analogous to that of the Feline heads. All of the human heads are squat and squarish, and have hair descending from their upper corners. Frequently the hair is depicted as a series of chevrons, and there are often circular ornaments at the upper corners. The mouth is a single incised line, and the faces are decorated below the eyes (Bennett, 1946, pl. 37e; [Rowe and Brandel, 1971, figs. 14, 17, 70]).

Two fragments deserve special mention even though most of their design themes cannot be recognized. These are thin vessels decorated with bodiless rayed heads (fig. 31). The head is located at the base of the vessel; it is a front view, and was possibly connected to another design element by a shaft. There is no resemblance between this face and trophy heads, which are always shown in profile. The rays are single-line shafts, which end in circular elements that contain three short incised lines.

Necked Jars

This broadly defined shape category contains four

classes of vessels, two of which were commonly decorated.

Jar A (figs. 32-34)

Vessels of this category are characterized by globular bodies, small circular flat bases, and short distinct necks that have parallel or slightly everted straight sides. A short handle usually connects the rim with the body. These vessels were made from Wares A and B, and their surfaces are smooth, regular, and always decorated. The rim diameters vary from 6 to 10 cm. One hundred fourteen specimens in the Kidder Collection were assigned to this shape category.

One decorative system that appears on the Jar A category is a broad, nearly circumferential band around the middle of the vessel. The band is composed of opposed step blocks with internal squares (fig. 32). The squares are often orange in color rather than yellow or cream; the orange color, where it appears, is the natural color of the vessel. The remainder of the body of the vessel is painted red, and the entire surface is polished to a high luster. Unfortunately, the necks that belong to this shape category cannot be positively identified, but the most likely ones are red-painted and polished, lacking further decoration.

A second decorative system uses geometric designs on the exterior surface of the neck. Both simple stepped and L-shaped elements appear, and are executed by incision and three-color alternation. It is difficult to relate the kind of decoration that appears on the neck to that which appears on the body of the vessel; however, one nearly complete specimen with this kind of neck decoration has a polychrome Feline with an incised appliqué head on the body panel. The Feline is similar to those found on the annular based vessels. The Feline is holding a bird by its neck in his outstretched left hand. The bird does not resemble the mythical birds, but is a more naturalistic representation of a duck.

Our understanding of other decorative systems used on Jar A vessels is less complete. One series of jar necks has bands of trophy heads, while another shows the snake motif (fig. 33); however, there is no evidence concerning the body decoration of these specimens. Three neck fragments show parts of an elaborate mythical scene of two birds over a prostrate human form; unfortunately, these sherds are water worn, and nothing can be reconstructed of the color scheme except that the beaks of the birds were yellow or cream (fig. 34).

Miniatures of Jar A vessels exist, and they are almost identical to the larger specimens except in size [e.g., Rowe and Brandel, 1971, figs. 62, 63]. The first decorative system never occurs on miniature vessels. A few miniatures have squarish bodies, and some have small modeled feet that project from their bases, when the body is decorated with the Feline motif. A white-colored substance, probably lime, was often packed into the miniature jars.

Jar B (figs. 35-40)

This shape category consists of cooking ollas with straight-sided necks, which may be vertical or slightly flaring. The rim profiles are marked by a thickening below the rim and a pronounced exterior lip. The top of the rim is usually flat, but occasionally comes to

a point. There is a clear distinction between the base of the neck and the body of the vessel, which was probably globular or hemispherical. Sixty-four rim sherds have been assigned to this shape category.

Jar B vessels were made from Wares A and B, as well as the poorly fixed variant of Ware A. The surfaces are regular and were polished while they were fairly moist so that circumferential polishing striations are visible.

Every Jar B vessel is decorated. The minimal decoration consists of an overall red slip on the exterior surface and the interior surface of the neck. The slipped areas were polished, but, since many of the sherds were weathered, it is difficult to determine how lustrous they were. Several vessels have painted and incised designs on their exterior surfaces. A circumferential incised line set the neck off from the body of the vessel, which is the area that was decorated. The design elements are always geometric, and were painted in black, red, and cream; the painted designs are occasionally outlined with incised lines. The incision varies from very fine lines that barely mark the surface to deep, narrow wavering lines that were probably cut while the clay was still fairly wet; only one kind of incision was apparently used on a vessel (figs. 35-40). It should be pointed out that the incising techniques used on Jar B vessels are similar to those used on Bowl A vessels.

Sherds from seven vessels represent a variant of the Jar B shape category. Five come from the part of Excavation IV (fig. 2) that yielded many fragments of Jar B vessels. This variant has a complex silhouette with at least two constrictions. All of the sherds are decorated with stepped motifs that are painted in red, black, and cream, and the incision used to outline these elements is deep, narrow, and wavering (fig. 41).

Jar C (figs. 42-48)

Vessels of this shape category are best called decanters. The body is globular or hemispherical, and there is no sharp distinction between the body and the neck. The neck is usually longer than those of the Jar A vessels, and has straight sides that are parallel or slant slightly inward. The rims are usually thickened on the exterior, and there is lip below the thickened part. The bases are flat and circular, but there is evidence suggesting that some of them had slightly thickened edges that produced a pedestal (figs. 49, 50). Rim diameters vary from 7 to 16 cm.

Jar C vessels were made of all wares except C and F. They were probably coil-built. About half of the vessels have regular surfaces, while the remainder have surfaces that undulate; about 40% of the vessels were polished. The thickened part of the neck and rim was polished circumferentially, while the remainder of the vessel was polished vertically. The vessels are never decorated, and, where luster exists, it is always low.

Jar D (figs. 51-60)

The 179 ollas assigned to this shape category lack the distinctiveness of the Jar C vessels and are highly variable in form. The rims of these vessels are irregular in curvature and profile, but many of them were everted. The necks vary in height, and there is no clear distinction between them and the globular, or

hemispherical, bodies of the vessels. The bases are circular and flat, and may have thickened edges like those of the decanters. Strap handles connect the rim and the body; horizontal strap handles on the body of the vessels also occur. Both types of handles may occur on the same vessel. Rims range from 9 to 27 cm. in diameter.

Most vessels are made of Wares E and F, though a few ollas were made of Wares A and B. The surfaces are uneven and rough in texture because of the pitting around the micaceous flakes in the paste. Some sherds show evidence of coiling. About 30% of the sherds were polished to a low luster while the clay was wet, and circumferential striations are visible on these surfaces. A number of the vessels are sooted, which indicates that they were probably placed over open fires.

Ceramic Tubes (figs. 61-65)

These tubes are made of Ware A, and were shaped around a bundle of reeds or grass. There is a mouthpiece (fig. 61) at one end, and a short flaring bell at the other (figs. 62, 63), which suggests that they were used as trumpets. The interior and exterior diameters of the tubes increase gradually from the mouthpiece to the bell. Unfortunately, none of the 32 fragments in the Kidder Collection is complete enough to permit an estimate of their total length.

The exteriors of the tubes are very smooth and regular, and are always decorated. Some were probably covered with a red slip that was polished to a high luster; others were decorated with appliqué, incised, and painted designs. Three systems of decoration can be discerned. The first consists of raised appliqué bands that girdle the tube not far from the bell (fig. 64a). The band is outlined with incision, and is divided by short, incised lines, which are either perpendicular or diagonal to the circumferential axis. These subdivided zones are painted alternately black, red, and cream. The remainder of the tube was apparently red-slipped and polished, but the bell may have been decorated with an opposed triangle motif. A second group of sherds suggests a feline motif, which differs from those already discussed. The appliqué head is similar to those that occur on annular based vessels, and the feline body extends circumferentially around the tube. The hind feet of the feline figure rest on an appliqué, and the front limbs extend in front of the body, and grasp a distinctive staff (fig. 64b; [Rowe and Brandel, 1971, fig. 72]). The entire motif was polished to a high luster. The third design system used on the ceramic tubes is illustrated in fig. 65; several of these are present in the Kidder Collection, but the illustration is based on a sketch made of a fairly complete specimen in the Museo de la Universidad del Cuzco [Rowe and Brandel, 1971, figs. 71, 73-74, 76]. The theme is a winged animal that lies along the longitudinal axis of the tube; the four feet of the winged animal grasp the tube. Both the head and the wings are appliqué.⁴

Not all of the tubes were used as trumpets, however. Two sherds from Excavation III, Level 6, that were decorated with different designs have carbonaceous deposits on the inner surfaces of the bells (fig. 63). Both sherds were made from Ware B but come from different tubes.

Beakers ? (fig. 66)

The 21 vessels assigned to this shape category have flaring, slightly concave sides. All of the beakers are made of Ware A, and have rim diameters ranging from 9 to 13 cm. The lower part of the rim is slightly thickened, and there is a distinct exterior lip at the thickest part of the rim. No bases have been identified, and it is possible that the sherds assigned to this category are actually long necks from vessels with globular bodies.

There are no indications of the methods of manufacture, but the even regular surfaces suggest that part of the finishing process included scraping. The rim and the upper part of the exterior surface was red-painted and polished to a high luster. Two circumferential appliqué bands, separated by a circumferential red-painted area, occur on the body of the vessel. The upper appliqué band is decorated in the same manner as those found on the ceramic tubes. The elements of the lower band are not complete enough to permit definition, but one may consist of a band of three alternating colors similar to those on the upper appliqué strips.

The interior surfaces of these vessels are finished in three zones. The upper part is red-painted and polished like the exterior surface. About 1 cm. below the slip is a natural-colored band that has been polished to a low luster. The remainder of the interior surface is scraped.

One exceptional sherd is discussed here because its decorative pattern resembles that of the beakers (fig. 67). It is made of Ware A, and has a diameter of more than 20 cm. If it is in fact from a beaker, then its size makes it unique among the artifacts in the Kidder Collection. The elements in the area immediately below the appliqué band consist of two birds, placed back to back, on different background colors. The tail designs are not outlined with incision, and brown paint is used on the bird on the right side of the illustration. The head shown on the upper right was probably appended to the head of the bird, and is interesting because it lacks a nose.

Incurred Bowls and Tumblers (figs. 68-75)

The common feature of this shape category is that the vessels assigned to it all have convex sides.

Thirty-one sherds in the Kidder Collection have been called tumblers. The rims of these vessels are rounded and unthickened or thickened on the interior and beveled. They have diameters ranging from 11 to 18 cm. The sides are convex and there is a distinct base angle setting the flat, circular base off from the sides. All of the specimens assigned to this category are made of Ware A.

All of the tumblers are decorated. The minimal decoration, which occurs on only a few specimens, consists of a polished red slip. The sides are usually decorated with zoomorphic or mythical beasts, whose feet rest upon a single, circumferential incised line or on a circumferential color band outlined with incision (fig. 68). The rims are also decorated. The design motifs include Llamas, a front-faced animal (fig. 69), and trophy heads in a circumferential band at the rim. The only good examples of the trophy-head motif were made of a porous, orange-fired variant of Ware A,

and have chevrons incised in their hair. Fig. 70 is unique in the Pucara style in that a purple pigment was used in place of the cream color.

Fourteen incurved bowls occur in the Kidder Collection; twelve of these were made from Ware A or B, while the two remaining ones were made from Ware E. The rims are rounded and unthickened. The surfaces are regular.

The Ware E examples are undecorated, and have compacted surfaces (fig. 71). All of the remaining examples are decorated with red-slipped areas and polychrome design elements outlined by incision. The motifs are a geometric stepped motif located about 2 cm. below the rim (fig. 72), the snake motif (fig. 73), and unidentifiable geometric elements that probably covered most of the surface (figs. 74, 75). One sherd from Excavation I has a black-painted line around the mouth of the vessel.

Box-shaped Vessels

Fifteen box-shaped vessels are found in the Kidder Collection. Vessels of this category have straight sides perpendicular to a flat, rectangular base; the top of the box is slightly curved rather than flattened, and is set off from the sides by a sharp angle. There was probably a neck or spout in the center of the top. Two of the specimens had handles connecting the top and the spout. The sizes of the vessels are not clear.

The base and top of these vessels were red-slipped and polished. Polychrome painted and incised design elements appear on the side panels. One series of sherds from vessels of this shape shows the Feline motif painted in red, black, and yellow. All other vessels are decorated with panels of stepped motifs.

Other Ceramic Artifacts

In addition to the seven classes of vessels already discussed, the Kidder Collection contains several kinds of ceramic artifacts that cannot be properly defined. Many of these sherds came from Excavation VI in one of the Pucara temples (fig. 2), and the fragments may, therefore, be special.

One interesting form is represented by two Ware A specimens from Excavation III, Level 5 (fig. 76). The illustrated specimen has an exterior diameter of 17 cm., while the other piece has a diameter of more than 30 cm. and thicker walls. A highly polished red slip covers the exterior and extends to the interior of the rim. The remainder of the interior was finely scraped. Wear marks on the flat portion of the rim suggest that this form may, in fact, have been a base. In any case, it is difficult to imagine what the rest of the vessel looked like.

Several distinctive representations of the Feline motif occur, but the contexts in which they occur are not clear. There are four examples of feline heads like the one shown in fig. 77. They are the same kind of Feline as those used on annular based vessels, but they are executed more realistically. The mouths lack canines. Ware B was used in the manufacture, but water erosion has removed the surfaces so that nothing is known about the color scheme. These heads were applied to some kind of pottery vessel.

There is one example of a Feline head that is considerably rounder in profile and more naturalistic than

those on the annular based vessels (fig. 78). It also has N-shaped canines made by incision. All of the color is gone from this specimen, and there is no way of knowing what kind of vessel shape it came from. Muelle and Blas illustrate a remarkably similar specimen (Muelle and Blas, 1938, lám. 71a); it is associated with an incised body and is located below the bell on a ceramic tube. The bell of this tube is decorated with a frieze of trophy heads, and the body of the Feline figure is similar to those that appear on the annular based vessels.

N-shaped canines appear on only one other sherd in the Kidder Collection, but the context of this head is completely unknown. It is the Ware B body sherd illustrated in fig. 79. The head is incised and painted black and red; some areas were left in the natural light brown-red color of the ware. It is probably a Feline, though highly stylized. The Feline head with N-shaped canines shown by Bennett was probably excavated by Kidder, but cannot be found in his collection at the Peabody Museum (Bennett, 1946, pl. 37b).

There are four examples of another kind of head from Excavation VI (fig. 80). These differ from the Feline heads. We know that they did not sit on the rim of a vessel, but little else is known about the vessels they came from, except that they were made of Ware B, and had scraped interiors. The surface of the head is polished and matte. One specimen has large flakes of mica in the paste, and its surface is pitted.

Other sherds, mostly from Excavation VI (fig. 2), are characterized by a large amount of appliqué and modeling. There are three examples of a large front-face head encircled by a raised appliqué band; their association with similar sherds showing two wings and a tail suggests that the figure is a bird, possibly an owl (fig. 81). Two of the three examples are made of Ware A, the other of Ware B; unfortunately, we do not know what kind of vessel form they come from. Possibly related to these heads are two sherds from Excavation III, Level 4, and one from Excavation IV, Trench V, which have a horizontal appliqué band and apparently modeled nose. The nose of these pieces, which is incomplete on both specimens, is apparently not beaklike as are those of the Excavation VI examples, but rather flattens to meet the appliqué band. Both of these sherds are painted brown, with painted spots on the "nose" portion and longitudinal incised lines on the appliqué band (figs. 82, 83).

A unique specimen from Excavation VI is the flat, circular bottom from a vessel that may be similar to the tumblers already described. It is decorated with a small, presumably human, figure with an appliqué head, arms, and legs. The figure is seated. Its hands are in its lap in a manner that is reminiscent of some pieces of stone sculpture executed in the Pucara style (A. Kidder, 1943, pl. II, no. 1). The feet of the figure extend below the plane of the base, and may have supported the vessel. The sherd is badly water damaged, and none of its colors is preserved. If the parallel between the specimen and the stone sculpture continues, then the figure may have been holding a trophy head. Other unique pieces from Excavation VI include a small, thick-walled cylindrical vessel made from Ware C, with gray unpainted surfaces and a curved appliqué strip, as well as a massive hollow ceramic foot with five round toes and an eroded

surface. Excavation VI also produced a large number of body sherds with low-relief modeled or appliqué features. The design elements executed in this way include crosses and profiles of snake heads that are similar to the one appended to the bird on the right in fig. 67. These sherds are all of Ware B.

One more vessel from Kidder's excavations should be mentioned. Mary B. Kidder discusses the find in her published diary of the 1937 and 1939 trips to Peru and Bolivia made with her husband. This specimen would have come from Excavation I, and, since it is not present in the collection at the Peabody Museum, it was probably among the artifacts deposited at the Museo Nacional de Antropología y Arqueología in Lima. Mrs. Kidder's thought-provoking description reads:

. . . Friday, February 17, [1939] . . .

Teddy found pieces of an interesting vase this morning when he cleaned the shelf in the west side of the Excavation About half the rim was there, representing a god with elaborate headdress and tattooed cheeks, clutching a fancy sceptre in each hand. The god reminds me of the central figure on the gateway of the Sun at Tiahuanco [*sic*], and I'm sure there must be some connection between the civilization there and this one. (M. Kidder, 1942, p. 121)

CHRONOLOGICAL CONSIDERATIONS AT PUCARA

One of my major goals when I began this study was to formulate an internal chronology for the ancient pottery of Pucara. Unfortunately, I was not able to do this to the extent that I had originally hoped; however, it is possible to make some suggestions concerning the chronological change within the style, and it may well turn out that additional information will support a few of these suggestions.

Since the vessels of the Cusipata style are related to those of the Pucara style by ware characteristics, it seems likely that they were manufactured in the same locality. Similarities between the open bowls of the two styles indicate that they shared one major vessel form and suggest that they may represent more or less chronologically distinct parts of the same pottery tradition. The Bowl A vessels of the Pucara style resemble the open bowls of the Cusipata style in rim profile, the position of the lug handle, and, to a certain extent, decorative technique. Incision is certainly not as fundamental a part of the Pucara Bowl A vessels as it is of other vessels of the Pucara style. Moreover, there are two Bowl A vessels that combine decorative schemes used on the Cusipata bowls with those that appear on Pucara Bowl B specimens. These pieces form, in a sense, a transition between the two styles. It is also clear that the Jar B vessels share both ware characteristics and decorative techniques and elements with Bowl A vessels, which suggests that the two vessel forms may be contemporary. On the basis of this rather slim argument, it is possible to distinguish three stylistic units in the ancient pottery of Pucara, each of which has certain distinctive features:

The Cusipata Style is characterized by open bowls with painted designs applied in cream on brown-

slipped design panels located on vessel exteriors and in circumferential bands on interior surfaces immediately below the rim (figs. 3-7). Possibly the two brown-painted heads described on p. also belong to the Cusipata style (figs. 82, 83).

The Pucara Pampa Phase includes Bowl A (figs. 8-12) and Jar B (figs. 35-40) vessels. The open bowls of this unit share features with both the Cusipata and Pucara River units. It is likely that other shape categories belong to this phase, but they cannot yet be segregated.

The Pucara River Phase includes the remainder of the Pucara style ceramics in the Kidder Collection. In a sense, this unit is a grab bag, including everything that was not assigned to the other units. It appears that the annular based Feline vessels and the bands of trophy heads assigned to this unit might possibly be seriated; however, these possibilities have not been explored fully.

It is difficult to orient this three-unit sequence in time, since neither stratigraphic evidence nor other well-defined ceramic complexes from the immediate area are available. Several lines of evidence, however, suggest that the Cusipata Style is the earliest of the three units.

In his 1948 paper, Kidder expressed the opinion that the "white-on-red" sherds in the lowest levels of one part of the site. While it has already been shown that this statement must be viewed critically, the impression of the excavator must be given some credence. It is true that later materials were found in the same levels with the Cusipata fragments, but Cusipata sherds themselves did not occur in the upper levels of Excavation IV.

The second line of evidence for dating the Cusipata style comes from the site of Qaluyu, which is located about 4 km. north of Pucara. A road cut has exposed a stratum containing habitation refuse, which overlies sterile river gravels, and which underlies what appears to be a Pucara temple. Pucara sherds, as well as those of a distinctive style known as Qaluyu, have been collected at the site. Radiocarbon samples associated with the Qaluyu style have yielded ages of 2522 ± 114 (P-155) and 2962 ± 120 (P-156) years B.P. (Ralph, 1959, p. 57). While there are problems with these measurements, they do support the idea that the Qaluyu style is earlier than the Pucara style. Unfortunately, the Qaluyu pottery has been described only briefly as having "2 types of decorated vessels . . . , one with broad incision and no paint and the other with simple geometric designs in red on cream or chocolate on cream and no incision at all" (Rowe, 1956, p. 144).

In 1966, Margaret Hoyt and I made a small collection from the pre-Pucara stratum at Qaluyu. This collection contained a number of sherds made from black micaceous and brown nonmicaceous wares. Another sherd that we collected, though not from the stratum itself but rather in the backdirt from the road cut, comes from an open bowl with a diameter of 16 cm. The paste is made of a red-firing clay mixed with large gritty inclusions of a grey color. The vessel

was fired to an even light brown color after the surfaces were slipped and polished. The rim profile of this specimen resembles those of the open bowls in the Cusipata style (fig. 84).

The final line of evidence comes from an excavation made at Huayapata in 1964 by Walter Tapia, Jorge Flores, and a group of students from the Universidad Nacional de Cuzco under the direction of Máximo Neira. To date nothing has been published about the results of this excavation; however, Flores has provided Patricia Lyon with an outline of the excavation methods used and what was found.⁵ A square, approximately 2 m. on a side, was excavated by artificial horizontal levels. The lowest levels produced brown ware sherds that were said to resemble those of the Chanapata style in the Cuzco area; possibly this material is related to the brown ware sherds that Hoyt and I found at Qaluyu, which are definitely not Chanapata pieces. The earliest Pucara sherds in the excavation were decorated with geometric designs, and may correspond to what I have called the Pucara Pampa Phase. Overlying these materials were two more stylistic units, both of which were characterized by representational designs. The earlier of these contained representations of felines, while the later one contained bird motifs. These components would correspond to the Pucara River Phase, and give added credence to the belief that this phase can be further subdivided.

The fact that brown pigment and similar bowl forms appear in both the Cusipata and Qaluyu styles suggests that these units are close to each other in time. When this interpretation is combined with the stratigraphic evidence reported from Huayapata, it suggests, but certainly does not prove, that the stylistic sequence that I proposed is correct.

THE GEOGRAPHICAL DISTRIBUTION OF THE PUCARA STYLE

Our understanding of the extent of the Pucara style is limited at the present time because of the small amount of reconnaissance that has been carried out in the altiplano of southern Peru and northern Bolivia. Most of our information about its distribution comes from surveys carried out by Alfred Kidder II and Manuel Chávez Ballón. Additional data concerning the extent of the style have been collected by John H. Rowe and Thomas C. Patterson.

The Pucara style, as defined in this paper, is best known from the site of Pucara itself, but it has also been reported from a number of other sites in the south highlands of Peru. The majority of these (Cerro Huacapata, Incatunahuirí, Taraco, Escallani, Ayrapuni, and Amantaní) are located at the northwestern end of Lake Titicaca. The distribution of Pucara pottery extends from Incatunahuirí in the south to Nuñoa in the north;⁶ the eastern limit of the style is the site of Muñani near Azángaro, where both pottery and a shrine have been found.⁷ It is interesting to note that the Pucara pottery from Incatunahuirí and Taraco is similar, but never exactly identical, to the pottery from Pucara, which suggests that there may be regional variations within the style.

It is also useful to consider the distribution of stone sculpture that is not carved in the Tiahuanaco

style in order to understand more fully the possible extent of Pucara influence, because many pieces have been found at Pucara (Rowe, 1958, p. 258). These data must be used with caution, however, because of the great variation that exists in this material and because of the fact that the relationships between the sculptural and ceramic styles of the area are poorly understood.

Kidder (1943) gives the most complete list of sites in the northern part of the Titicaca Basin where non-Tiahuanaco stone sculpture has been found. Franco Inojosa and González (1936) report a specimen from Mauka-Llajta near Nuñoa that belongs to the Pucara sculptural style. Rowe (1958) discusses Pucara sculptures from the province of Chumbivilcas and from Tiahuanaco. Several pieces were found in both areas, and it seems, therefore, that they cannot be explained as isolated imports. The evidence indicates that Pucara and other non-Tiahuanaco stone sculptural styles have a much greater geographical distribution in all directions than the Pucara pottery style. If these styles reflect Pucara influence, as a number of the pieces certainly do, then the area of the Pucara sphere of influence was more than 500 km. long and included both sides of Lake Titicaca.

CULTURAL RELATIONSHIPS

In order to provide the proper perspective for viewing the Cusipata and Pucara styles, it is useful to consider not only the materials that may be contemporary with them, but also those that are earlier. Many of the contemporary and earlier styles of the area share ware characteristics and shape categories with the Pucara materials, but few of them have the design vocabularies found on the styles in the Kidder Collection.

One type of Qaluyu pottery includes flat-bottomed bowls with beveled rims, which have unpainted designs formed by broad incised lines on their exterior surfaces (Rowe, 1956, p. 144). The combination of this vessel form, broad incised decoration, and its location on bowl exteriors is shared by a number of other styles in the altiplano. These include Marcavalle in the Cuzco area,⁸ Llawllipata near Lake Pomacanchi (Peterson, ms., p. 15), Yanamancha from the Sicuanitinta area (Peterson, ms., pp. 15-16), the materials from the lowest levels at Taraco (Peterson, ms., pp. 17-18), and Incatunahuirí (A. Kidder, 1943, fig. 2, no. 44). The specimens from Incatunahuirí and Taraco also have red-painted exteriors. A radiocarbon measurement of 2645 ± 115 years B.P. (GX-0453) [J. Rowe, pers. comm. to T. C. Patterson] and another of 2600 ± 150 years B.P. (GaK-?) from early refuse at Chanapata suggest that these styles may all date to the seventh century B.C., or roughly the middle of the Early Horizon. This estimate of their antiquity is not contradicted by the two radiocarbon measurements from Qaluyu, the precise archaeological associations of which are not known.

The type of Qaluyu pottery that includes bowls with painted, nonincised designs on their exterior surfaces shares these features with some specimens from Marcavalle,⁹ Incatunahuirí,¹⁰ and Chiripa (Mohr, ms.; Bennett, 1936, pp. 439-445). The evidence from Lyon and Barreda's excavation at Marcavalle does not

support the idea that the painted styles are more recent than those with broad incised designs, but it does not preclude the possibility either. The similarities between the Cusipata style and painted Qaluyu bowls, and the radiocarbon measurements from Chiripa, which are associated with the Chiripa style and range from 1928 to 2550 years B.P.,¹¹ give some credence to the view that the painted styles are slightly more recent than the broad incised in the Lake Titicaca Basin. This interpretation would also mean that the painted styles of the Titicaca Basin are contemporary with the Chanapata style of the Cuzco area, and that all of them date from the middle to the later part of the Early Horizon.

Drexel A. Peterson has pointed out that there is considerable variation in the Wimpilley or Derived Chanapata, collection that he analyzed (Peterson, ms., pp. 13-15). Some of the Wimpilley bowls have rounded rims, while others have interior beveled rims. Most bowls have white-painted geometric designs on red-slipped backgrounds; on a few specimens, however, the designs are outlined with narrow incised lines, but this is not a particularly common trait. The variation in the Wimpilley style, he suggests, may indicate that it can eventually be divided into several chronologically distinct units. Peterson also points to some general resemblances between Wimpilley and the Cusipata style. The features shared by these units include bowls with beveled rims, interior rim friezes, white-painted geometric designs that are not outlined with incision, and white-painted zigzags. One of the rims illustrated by Peterson resembles a Jar B rim of the Pucara Pampa Phase (Peterson, ms., fig. 14 top right). Perhaps some of the painted designs outlined with fine incised lines are also related in a general way to those of the Pucara Pampa Phase. The majority of the Wimpilley bowls that he illustrates in his fig. 15 have rims that resemble those of the Pucara River Phase. This evidence suggests that the closest parallels exist between Wimpilley and the Cusipata-Pucara Pampa part of the Pucara sequence.

The Hunt'uma style has been described by Rowe as "a red fired ware with comparatively narrow incised lines outlining areas painted in black, red, and sometimes white. In rim forms and designs it resembles most closely the Derived Chanapata style of the Cuzco area" (Rowe, 1956, p. 144). A collection made at Hunt'uma in 1965 shows few of these features; in fact, Peterson has pointed out that only one sherd in this collection fits Rowe's description of the style (Peterson, ms., p. 16). It is a fragment with a red-painted band, which is outlined with incision, on the beveled interior of the rim. The remainder of the collection more closely resembles the broad incised wares of Marcavalle and Llawllipata. The Hunt'uma site is fairly large, and the materials described by Rowe may well have come from a different area of the site than those collected in 1965. The Hunt'uma style, as described by Rowe, shares a few very general features with the Pucara sequence. Specifically, these are geometric designs painted in black, red, and white, and outlined with incised lines, circumferential friezes on rim interiors, and flat-bottomed bowls. The closest resemblances are with the Pucara Pampa Phase.

Several important facts are apparent about the ceramic styles of the altiplano, whether or not the chronological correlations that I have suggested in the

preceding paragraphs are completely accurate. The first is that the ware characteristics and at least one shape category (the flat-bottomed bowl with flaring sides, thickened beveled rim, and geometric designs) of the Cusipata-Pucara sequence is shared by every other early ceramic style in the area. In fact, one could speak of a widespread stylistic tradition in the region during the middle and later parts of the Early Horizon. The second fact is that the front-face human heads with thick lips and combined eyebrow-nose or joined eyebrows that appear in the Pucara style have antecedents in the Chiripa style (Bennett, 1936, figs. 28b, d); however, there are no apparent antecedents in any of the altiplano styles already discussed for the mythical and naturalistic representations that appear in the Pucara River Phase. These facts suggest that these themes were introduced into the Pucara region from elsewhere in the Andean area. Only two stylistic traditions dating to this period have mythical and/or naturalistic design themes that bear some similarity to those of the Pucara River Phase. They are the late Paracas and early Nasca styles of the south coast of Peru and the Qalzasaya style of Tiahuanaco.

The most striking resemblances are between the Pucara River Phase and the Ocucaje 10 and Nasca 1 styles. The Ocucaje 10 and Pucara River phases have representations of birds with wings and tails that are decorated with short incised lines (Menzel, Rowe, and Dawson, 1964, figs. 61d, e, f), stepped motifs (Menzel, Rowe, and Dawson, 1964, figs. 62d, e, h, i), vessels with design themes placed on opposite sides, and figures with three-toed feet. The pendent heads on the Oculate Being of the Ocucaje style have similarities to the heads appended to the arms of the Running Figure in the Pucara River Phase. Stepped motifs occur in both the Nasca 1 and Pucara River phases but on different vessel forms (Strong, 1957, fig. 7D). The figure on the Nasca 1 vessel illustrated by Wendell Bennett has the same kind of foot and neck collar as those that appear on a Pucara Feline figure and on several pieces of Pucara stone sculpture. The curved figure on the Nasca 1 jar illustrated by Tello is similar to ones that occur in the Pucara style (Bennett, 1946, pl. 20c; Tello, 1959, lám. LXXXII).

The figure represented on the closed jar of the Qalzasaya style consists of an outlined round front-face head with concentric circle eyes and a horizontal mouth with teeth (Ponce Sanginés, 1961, p. 22 top). In addition to the front-face, there are several sets of concentric rectangles or what appear to be concentric rectangles; however, it is impossible to determine what their relation is to the face. The parallels of this figure are to the Paracas style rather than to Pucara. A bodiless front-face head with horizontal mouth occurs in the Ocucaje Basin substyle of Ocucaje 8 (Menzel, Rowe, and Dawson, 1964, pp. 281-282, fig. 43c).

If the correlation between the Qalzasaya and Ocucaje 8 styles is correct, then the former is earlier than the Pucara River Phase, which has its most specific resemblances to the Ocucaje 10 and Nasca 1 styles. Menzel, Rowe, and Dawson point out that there are geometric designs in the Ocucaje 8 style that are not outlined with incised lines (Menzel, Rowe, and Dawson, 1964, pp. 155-156); this kind of decoration occurs on traditional Ocucaje open bowl forms.

Though the specific designs and bowl shapes differ considerably from those of the Pucara area, it should be pointed out that unzoned painted designs on bowls are also typical of the Cusipata style. This evidence suggests possible correlations between Ocucaje 8 and the Cusipata and Qalacasaya styles of the altiplano, between Ocucaje 9 and the Pucara Pampa Phase, and between Ocucaje 10 and Nasca 1 and the Pucara River Phase.

Many problems still cloud the archaeology of the altiplano, but one fact emerges clearly from this study. A detailed knowledge of the Pucara style and its development is crucial for even an elementary understanding of the culture history of the altiplano.

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The drawings were inked by Jane Britton from my pencil originals. Figs. 3-84 were originally rendered at a scale of 1:1. [The figs. in this version were reinked by Jean Sandifer from the original pencil (29, 31, 41, and 69 from the inked) versions. (PJL)]

NOTES

¹Wallace (1957, pp. 172-199) gives a detailed discussion of the relationships between the Pucara and Tiahuanaco styles.

²Personal communication to Thomas C. Patterson, 1960.

³Patricia Lyon, personal communication to Thomas C. Patterson, 1964.

⁴Bennett illustrates a similar specimen (1946, pl. 37f).

⁵Patricia Lyon, personal communication to Thomas C. Patterson, 1964.

⁶Luis Barreda, personal communication to Thomas C. Patterson, 1965.

⁷John H. Rowe, personal communication to Thomas C. Patterson, 1965.

⁸Patterson, 1967, p. 143; illustrations and notes made by John H. Rowe, Patricia Lyon, and Luis Barreda.

⁹Patterson, 1967, p. 143; illustrations made by John H. Rowe and Patricia Lyon.

¹⁰Collections made in 1965 at Incatunahuri contain fragments of several bowls with painted designs that are not outlined with incised lines.

¹¹The radiocarbon measurements from Chiripa are listed by Ralph (1959, pp. 56-57).

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KEY TO ILLUSTRATIONS

Figure numbers in parentheses are from the ditto version that was circulated. Catalog numbers of all specimens bear the prefix 39-101-30/.

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 Fig. 4 (Fig. 2B). Diam. 20 cm.; #2432; Excav. IV, Room 2 (Level 3).
 Fig. 5 (Fig. 3A). Diam. 21 cm.; #2533; Excav. IV, Wall S.
 Fig. 6 (Fig. 3B). Diam. 18 cm.; #2529; Excav. IV, Wall R; interior badly water worn.
 Fig. 7 (Fig. 3C). Diam. 21 cm.; #2553; Excav. IV, Wall S.

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 Fig. 9 (Fig. 4A). Diam. 24 cm.; #2588; Excav. IV, Inner wall of South Gateway.
 Fig. 10 (Fig. 4B). Diam. 25 or 26 cm.; #2419; Excav. IV, Room I.
 Fig. 11 (Fig. 4C). Diam. indeterminate; #2415; Excav. IV, Wall A (West Section).
 Fig. 12 (Fig. 4D). Diam. ca. 25 cm.; #2655; Excav. VI, Central Enclosure (Grey Earth).
 Fig. 13 (Fig. 8A). Diam. indeterminate; #2232; Excav. III, Level 2.
 Fig. 14 (Fig. 8B). Diam. ca. 15 cm.; #2451; Excav. IV, Wall A.
 Fig. 15 (Fig. 8C). Diam. 19 cm.; #2221; Excav. II.
 Fig. 16 (Fig. 8D). Diam. 21 cm.

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 Fig. 19 (Fig. 9 [row 2]). Diam. 27 cm.; #2249; Excav. III, (Level 4).
 Figs. 20, 21 (Fig. 9 [row 3]). Diam. indeterminate; #2249; Excav. III, (Level 4).
 Fig. 22 (Fig. 9 [bottom row]). Diam. 21 cm.; #2323; Excav. III (Level 6).
 Fig. 23 (Fig. 10). Diam. 24 cm.; #2555; Excav. IV, Trench U (Upper Level).

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- Fig. 24 (Fig. 11). Diam. 24 cm.; #2555; Excav. IV, Trench U (Upper Level).
 Fig. 25 (Fig. 12C).
 Fig. 26 (Fig. 12B).
 Fig. 27. #2231; Excav. III, Level 2; polished black ware.
 Fig. 28 (Fig. 12A).

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- Fig. 29 (Fig. 13A). Diam. 19 cm.; #2352; Excav. III, West Extension.
 Fig. 30 (Fig. 14). Diam. 20 cm.; #2398; Excav. III, House Extension.

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- Fig. 31 (Fig. 13B). #2373; Excav. III, West Extension.
 Fig. 32 (Fig. 15A). #2294; Excav. III, Level 5.
 Fig. 33 (Fig. 15B). Diam. 12 cm.; #2247; Excav. III, Level 4.
 Fig. 34 (Fig. 15C). Diam. 10 cm.; colors worn off.
 Fig. 35 (Fig. 5). Diam. 16 cm.; #2596; Excav. IV, NE Corner (Level 2).

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- Fig. 36, 37 (Figs. 6A, 6B). Diam. 13 cm.; #2594; Excav. IV, NE Corner (Level 2).
 Fig. 38 (Fig. 6C). Diam. 12 cm.; #2596; Excav. IV, NE Corner (Level 2).
 Fig. 39 (Fig. 6D). Diam. 13 cm.; #2451; Excav. IV, Wall A.
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- Fig. 41 (Fig. 7A).
 Fig. 42 (Fig. 16). Diam. 8 cm.; #2323; Excav. III (Level 6).
 Fig. 43 (Fig. 17 [top left]). Diam. 11 cm.; #2303; Excav. III (Level 6).
 Fig. 44 (Fig. 17 [top center]). Diam. 13 cm.; #2300; Excav. III (Level 6).
 Fig. 45 (Fig. 17 [top right]). Diam. 11 cm.; #2300; Excav. III (Level 6).
 Fig. 46 (Fig. 17 [bottom left]). Diam. 13 cm.; #2256; Excav. III (Level 5).
 Fig. 47 (Fig. 17 [bottom center]). Diam. 11 cm.; #2573; Excav. IV, Trench V.
 Fig. 48 (Fig. 17 [bottom right]). Diam. 12 cm.; #2573; Excav. IV, Trench V.
 Fig. 49 (Fig. 19 [top]). #2164; Excav. I (Level 1).
 Fig. 50 (Fig. 19 [center]). #2172; Excav. I (Level 4).

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- Fig. 51 (Fig. 19 [bottom right]). Diam. 15 cm.
 Fig. 52 (Fig. 18 [top left]). Diam. 15 cm.
 Fig. 53 (Fig. 18 [top center]). Diam. 11 cm.
 Fig. 54 (Fig. 18 [top right]). Diam. 17 cm.
 Fig. 55 (Fig. 18 [center left]). Diam. ca. 15 cm.
 Fig. 56 (Fig. 18 [center right]). Diam. 19 cm.
 Fig. 58 (Fig. 18 [bottom left]). Diam. 9 cm.
 Fig. 59 (Fig. 18 [bottom right]). Diam. 17 cm.
 Fig. 60 (Fig. 19 [bottom left]). Diam. ca. 10 cm.
 Fig. 61 (Fig. 21A). #2234; Excav. III (Level 4).
 Fig. 62 (Fig. 21C). Bell diam. 6.5 cm.; #2614; Excav. V, North Wall.
 Fig. 63 (Fig. 21D). Mouth diam. 6 cm.; #2322; Excav. III (Level 6).
 Fig. 64 (64a=Fig. 21B, 64b=Fig. 22A). #2614; Excav. V, North Wall.
 Fig. 65 (Fig. 22B). Length 15 cm.; #15/970, Museo Arqueológico, Universidad Nacional del Cuzco.

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 Fig. 67 (Fig. 20B). #2323; Excav. III (Level 6).
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- Fig. 71 (Fig. 23C). Diam. ca. 13 cm.; #2647; Excav. VI, Central Enclosure (Fill).
 Fig. 72 (Fig. 23A). Diam. 11 cm.; #2479; Excav. IV, Wall C.
 Fig. 73 (Fig. 23D). Diam. ca. 9 cm.; #2247; Excav. III (Level 4).

- Fig. 74 (Fig. 23B). Diam. < 10 cm.; #2294; Excav. III (Level 5).
 Fig. 75 (Fig. 23E). Diam. 12 cm.; #2249; Excav. III (Level 4).
 Fig. 76 (Fig. 25A). Diam. 17 cm.; Excav. III (Level 5).
 Fig. 77 (Fig. 27). #2653.
 Fig. 78 (Fig. 26A). #2372; Excav. III, West Extension.
 Fig. 79 (Fig. 26B). #2655; Excav. VI (Grey Earth).

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- Fig. 80 (Fig. 25B). #2623; Excav. VI, West Side.
 Fig. 81 (Fig. 24A). #2641; Excav. VI, NW Corner.
 Fig. 82 (Fig. 24B). #2251; Excav. III, Level 4.
 Fig. 83 (Fig. 24C). #2249; Excav. III, Level 4.
 Fig. 84 (Fig. 26C). Diam. 16 cm.; Qaluyu?



COLOR KEY

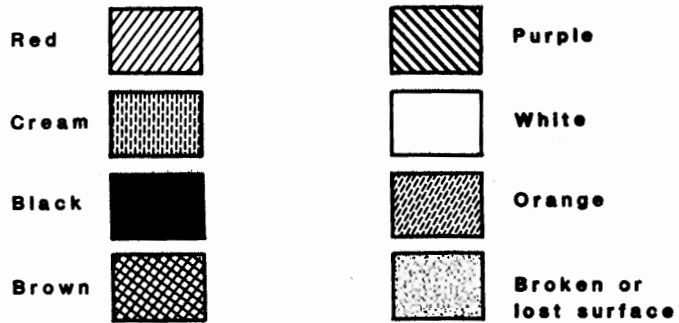


Fig. 1. Sketch map of the southern highlands.

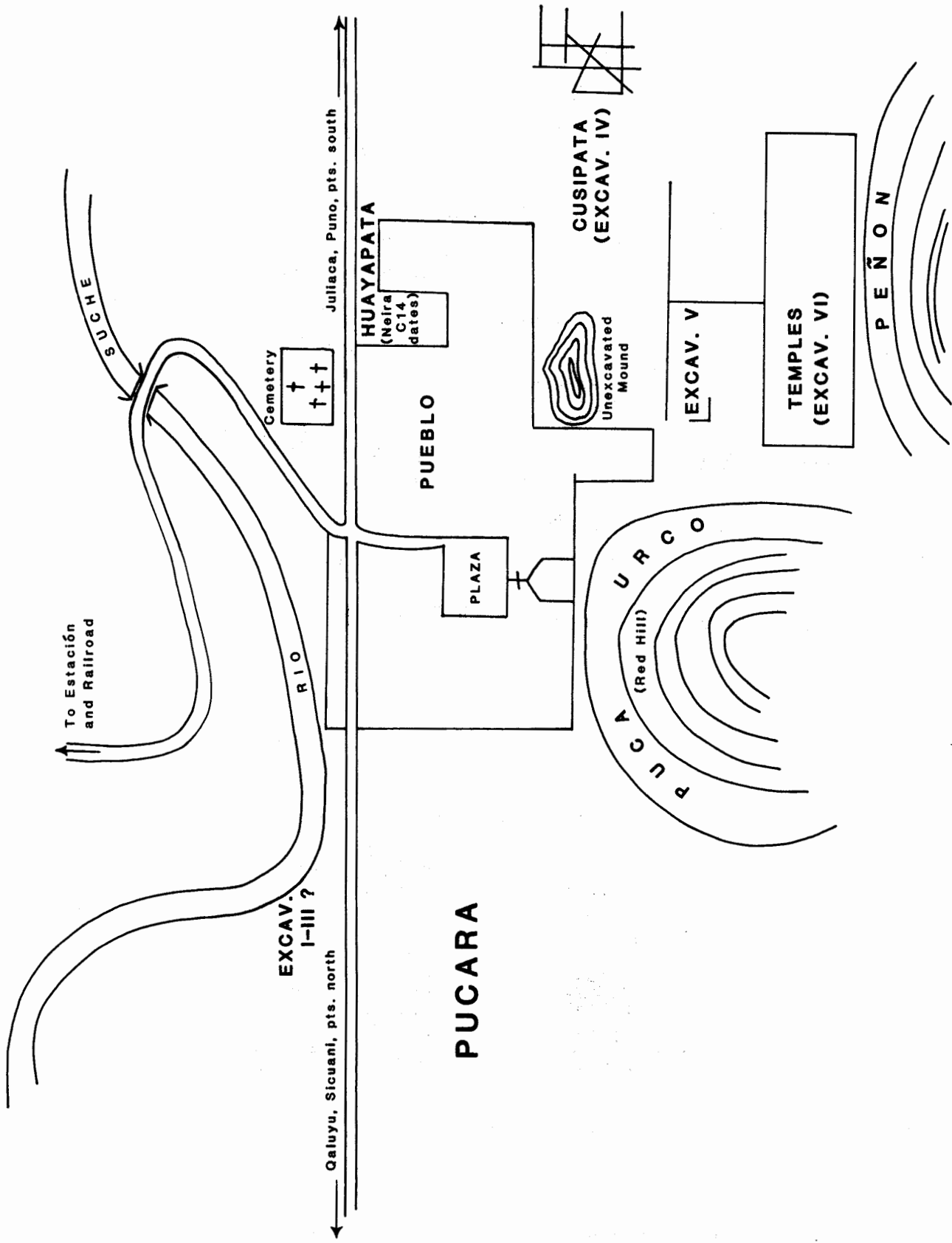
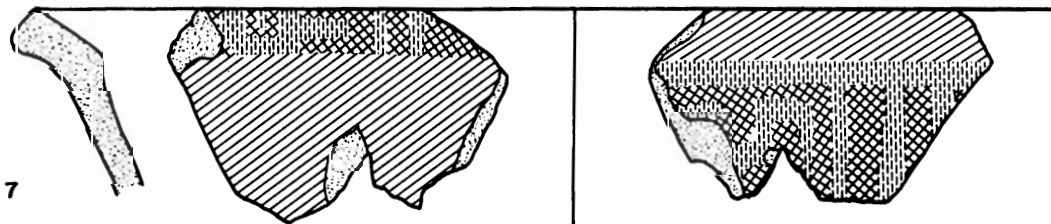
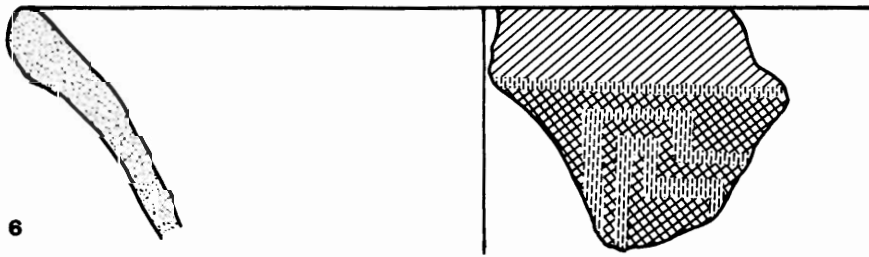
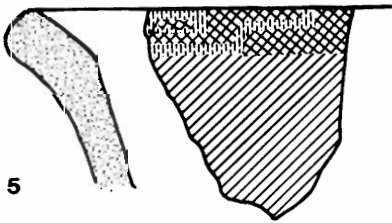
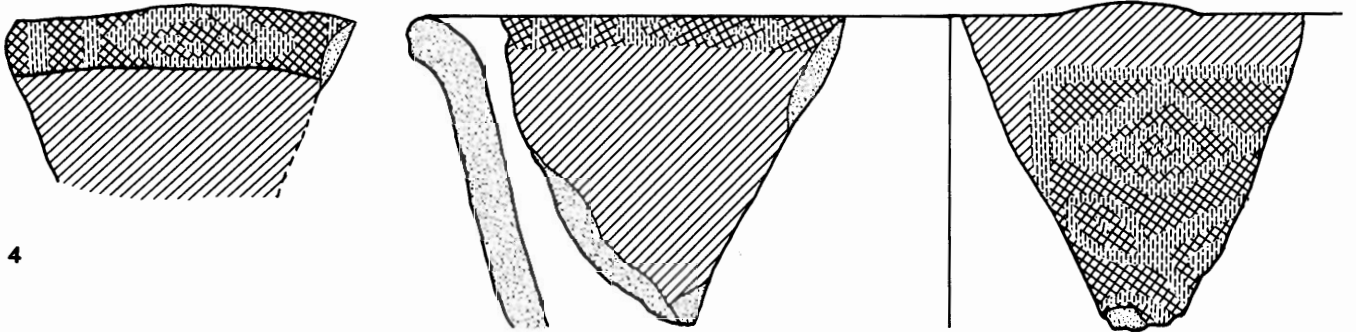
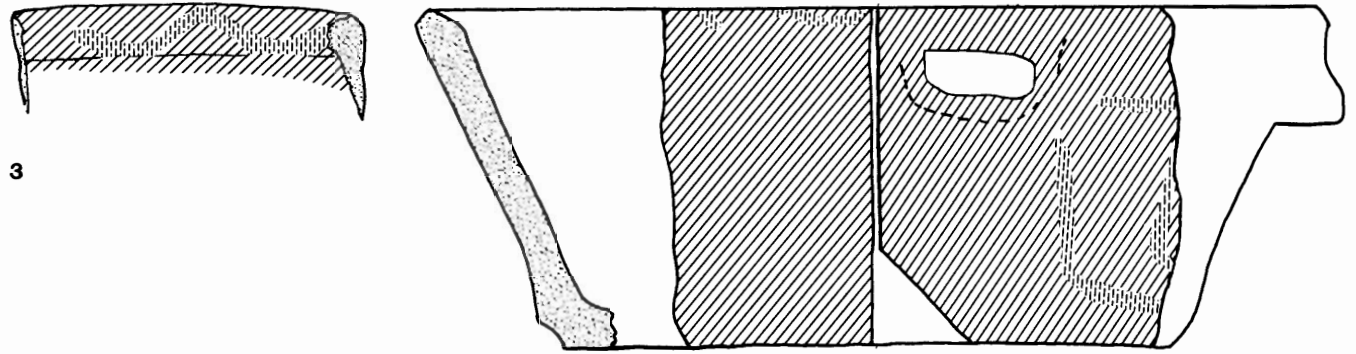
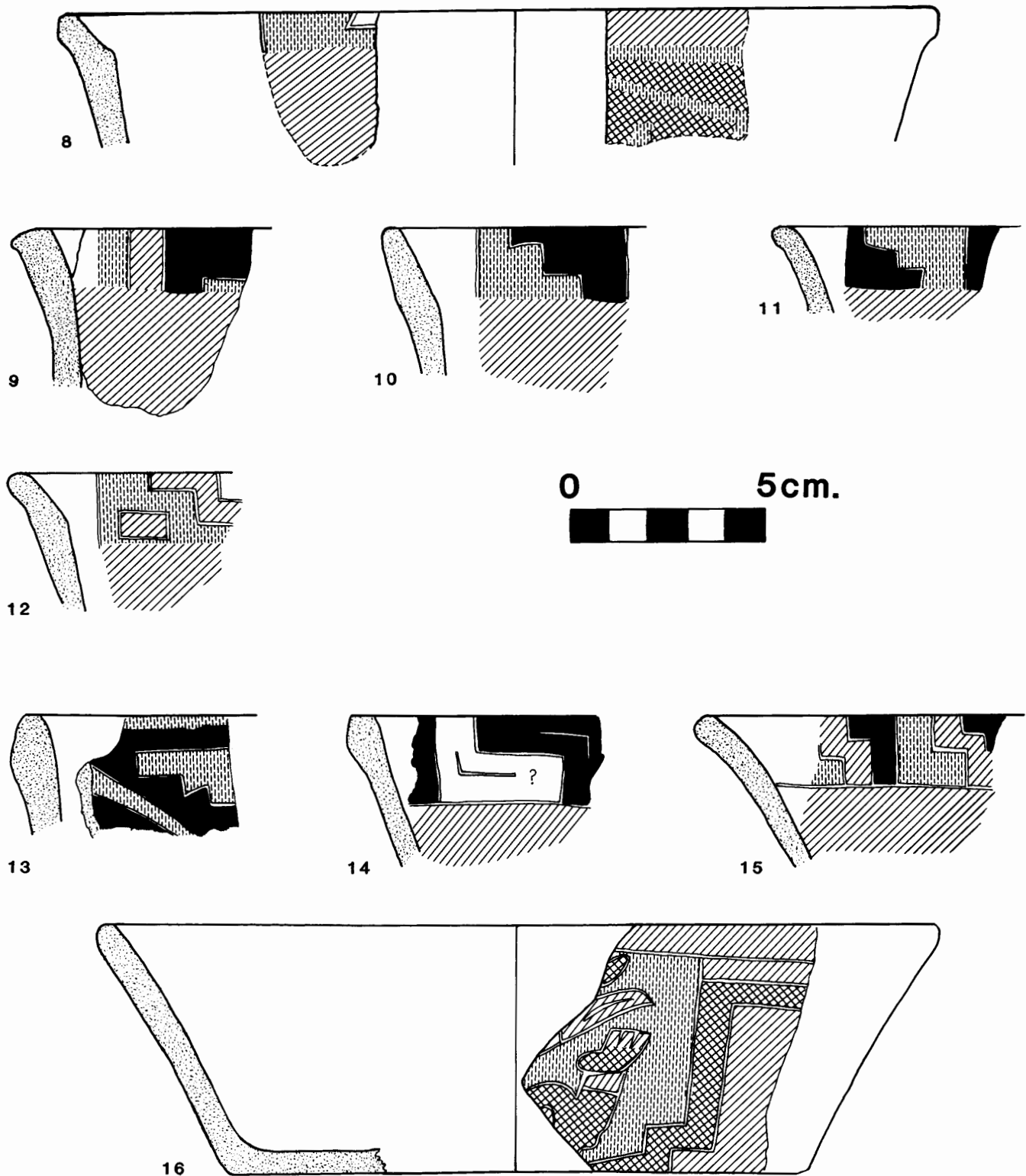


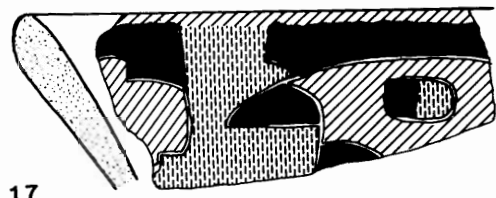
Fig. 2. Sketch map of the immediate Pucara area, with approximate location of Kidder and Neira excavations.



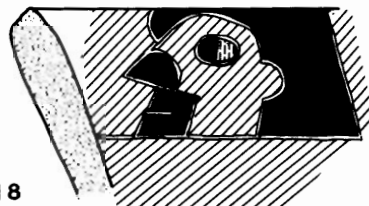
Figs. 3-7. Cusipata style bowls. See Key to Illustrations.



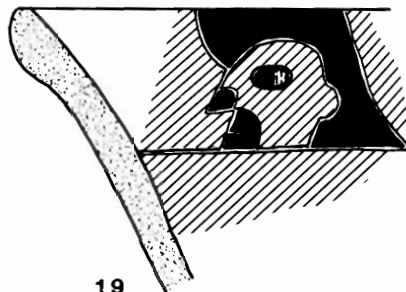
Figs. 8-12. Pucara Pampa Phase, Bowl A vessels. **Figs. 13-16.** Pucara River Phase, Bowl B vessels. See Key to Illustrations.



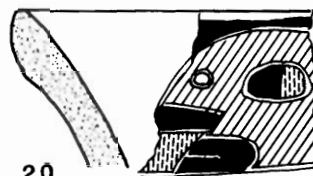
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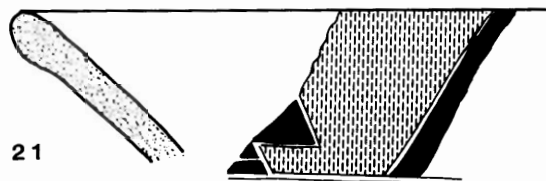
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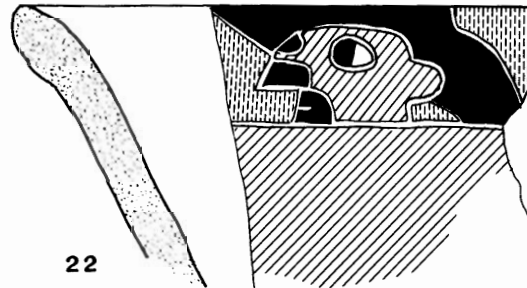
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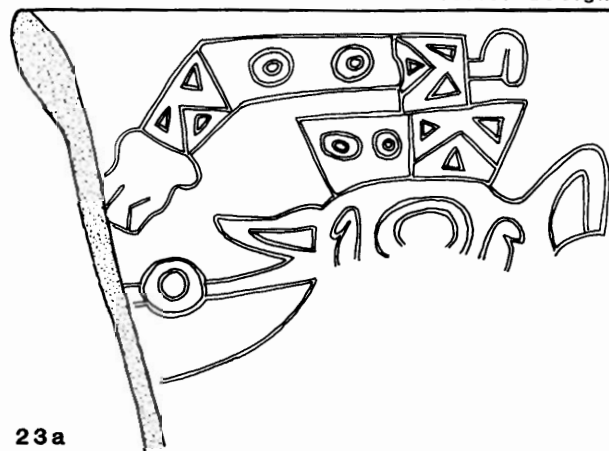


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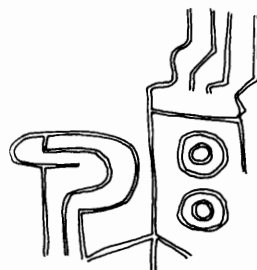


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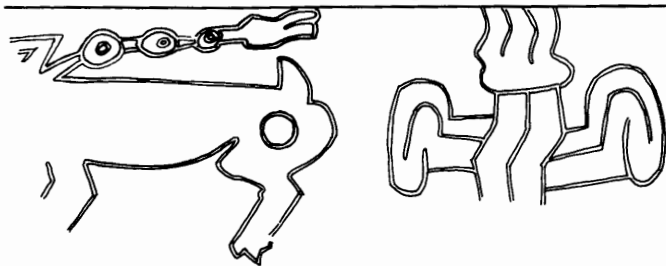
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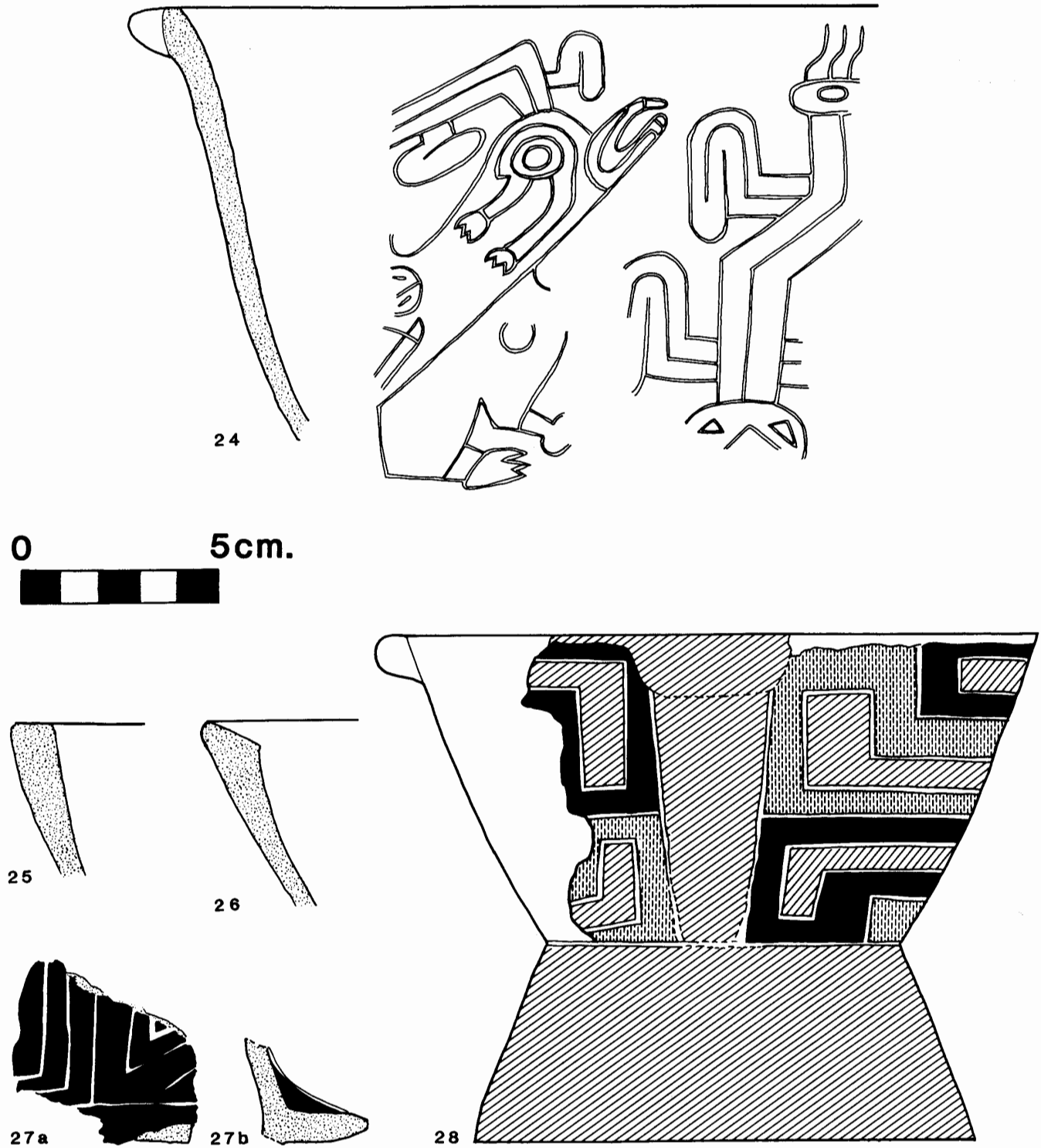


interior design

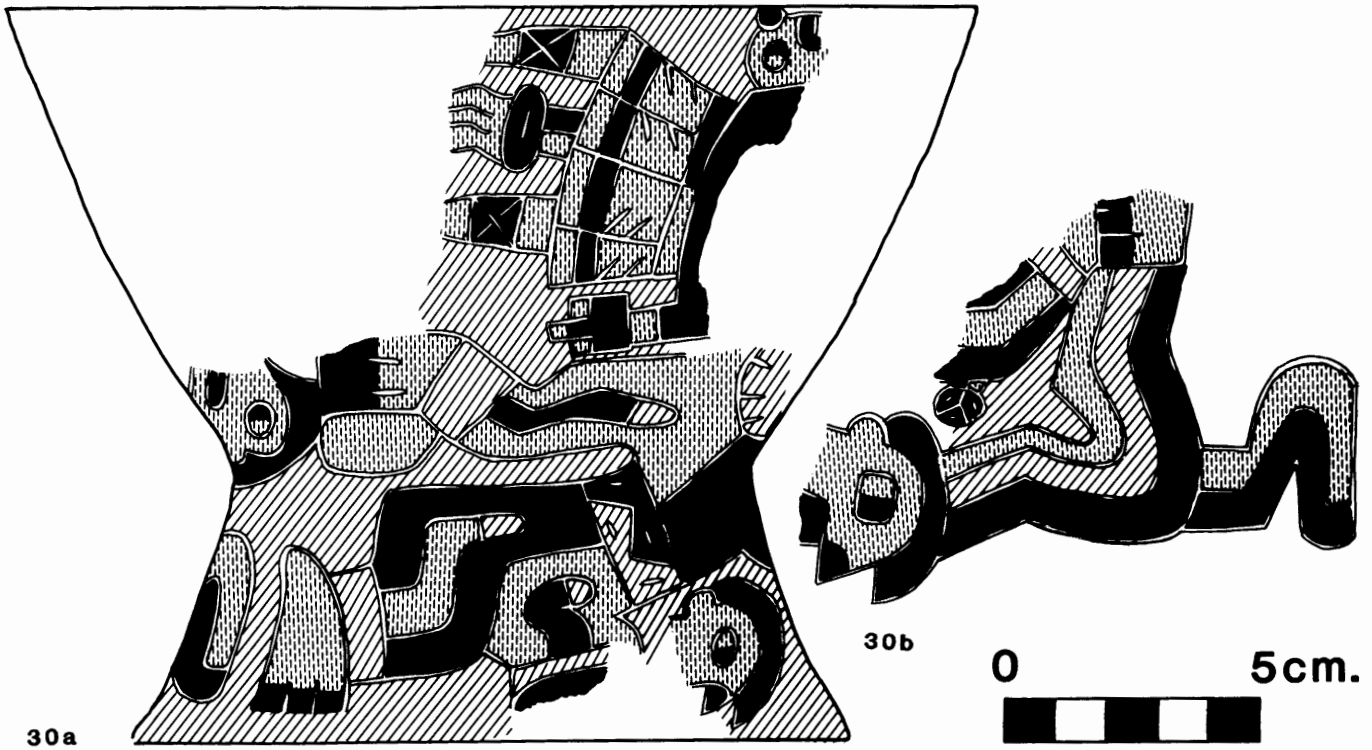
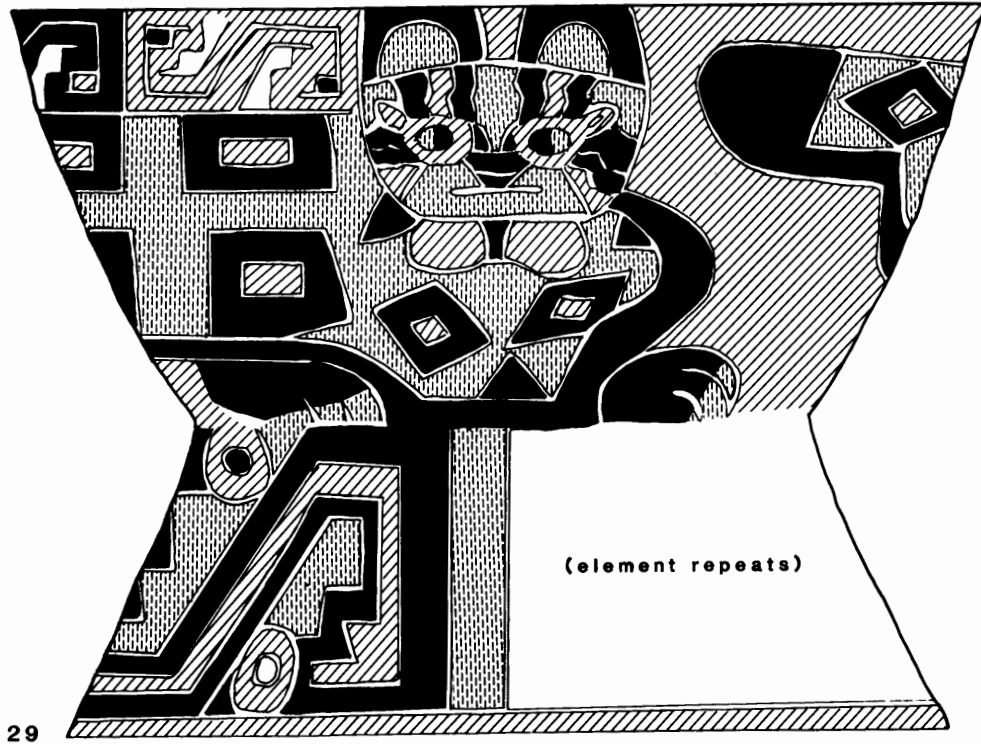


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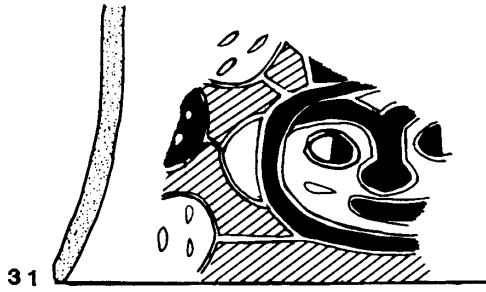
Figs. 17-23. Pucara River Phase, Bowl B vessels. See Key to Illustrations.



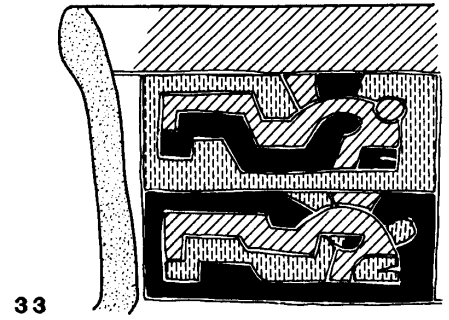
Pucara River Phase. **Fig. 24.** Bowl B. vessel. **Figs. 25-27.** Annular-based vessels. **Fig. 28.** Reconstruction of annular-based vessel based on several vessel fragments. See Key to Illustrations.



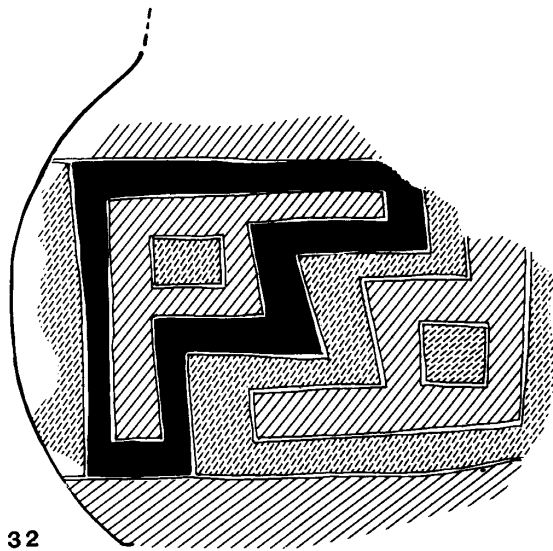
Figs. 29, 30. Pucara River Phase, annular-based vessels. **Fig. 30b.** Detail of design not visible in fig. 30a. See Key to Illustrations.



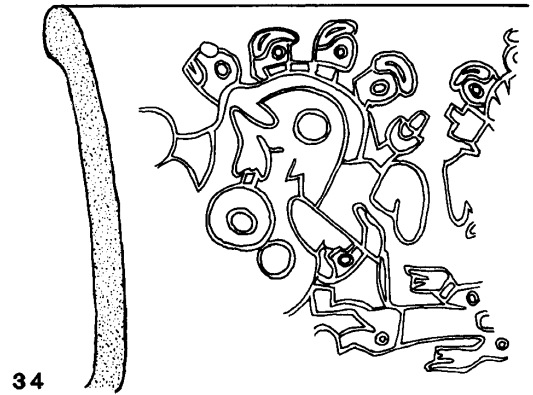
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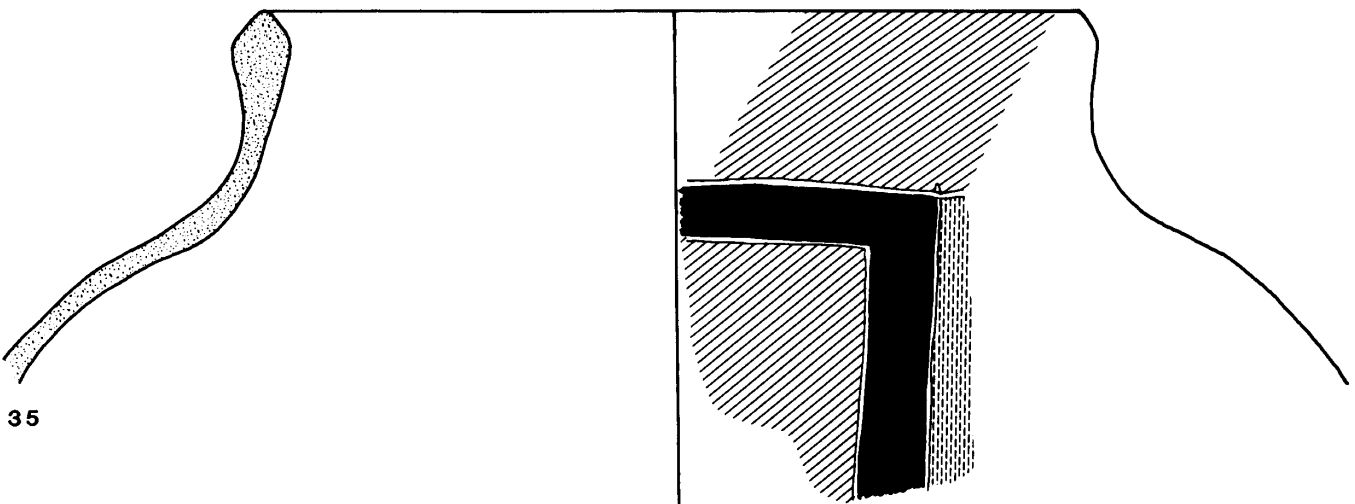
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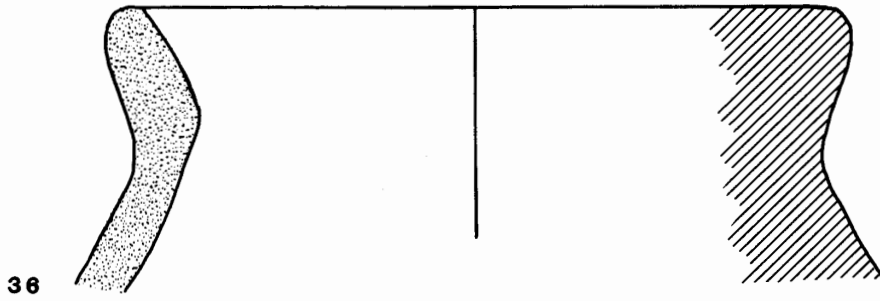


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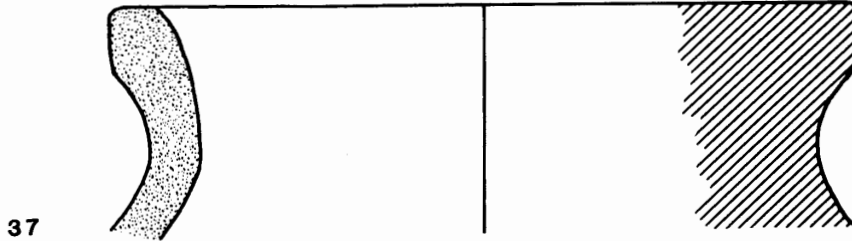


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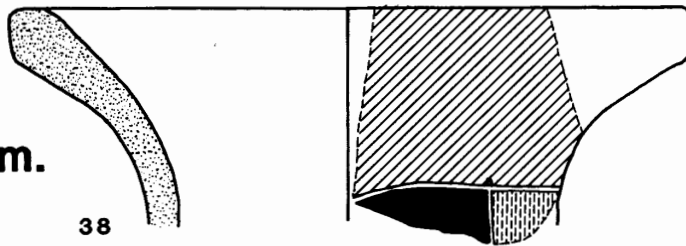
Fig. 31. Pucara River Phase, annular-based vessel fragment. Figs. 32-34. Pucara River Phase, Jar A vessels. Fig. 35. Pucara Pampa Phase, Jar B vessel. See Key to Illustrations.



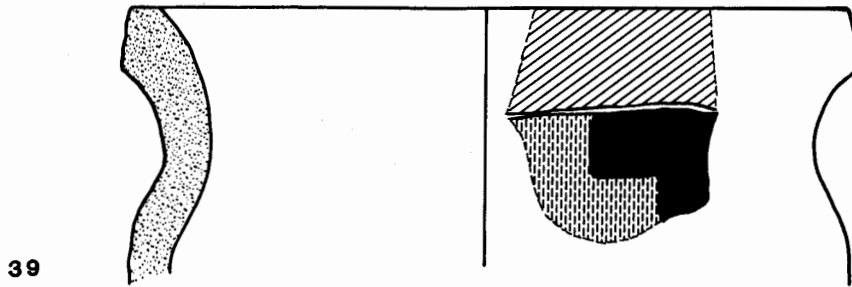
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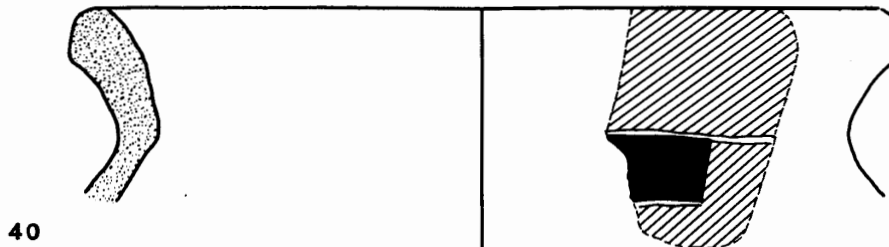
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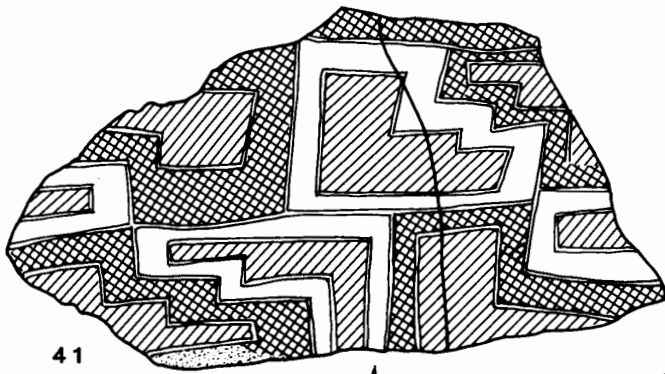


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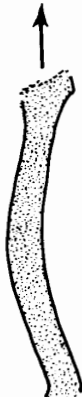


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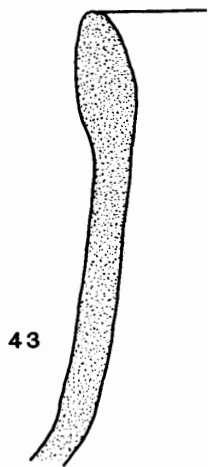
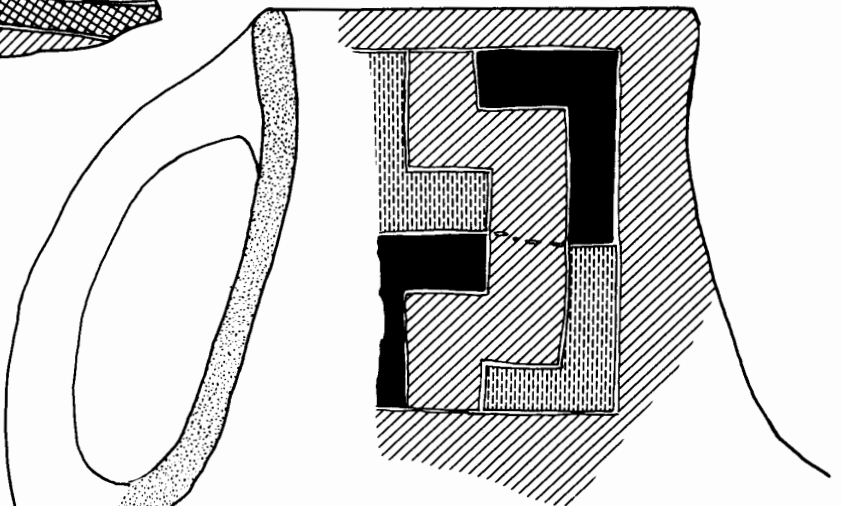
Figs. 36-40. Pucara Pampa Phase, Jar B vessels. See Key to Illustrations.



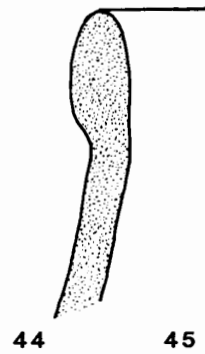
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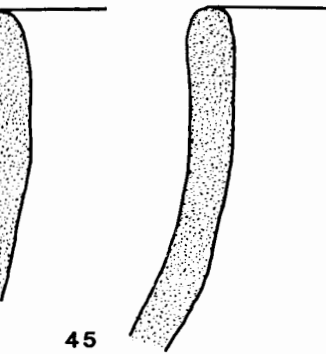
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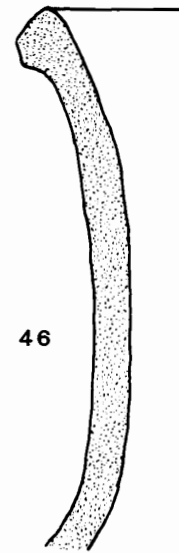
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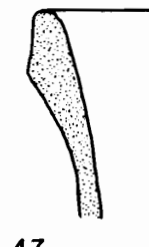
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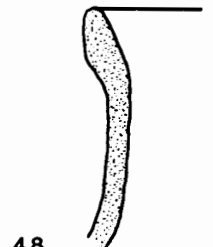
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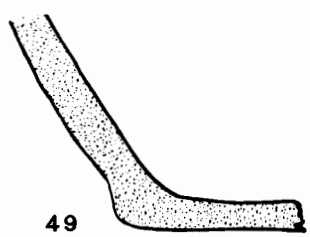
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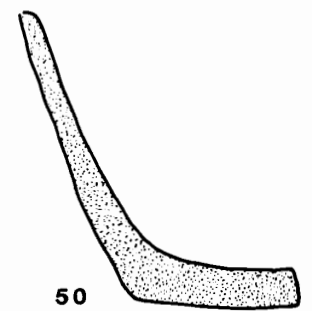
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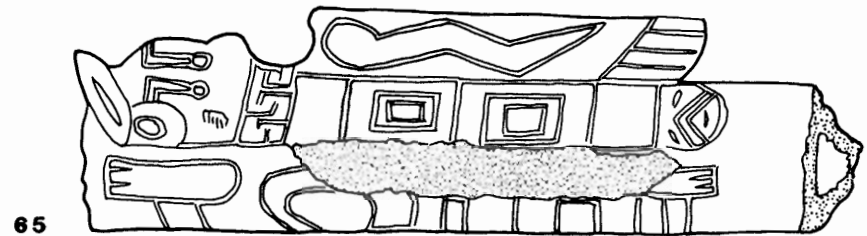
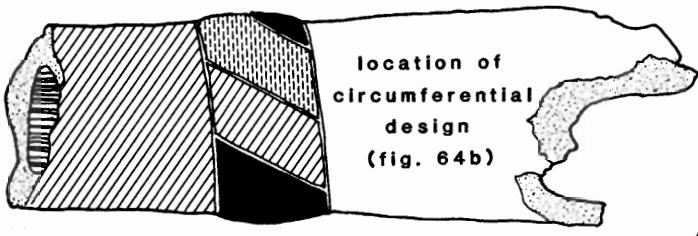
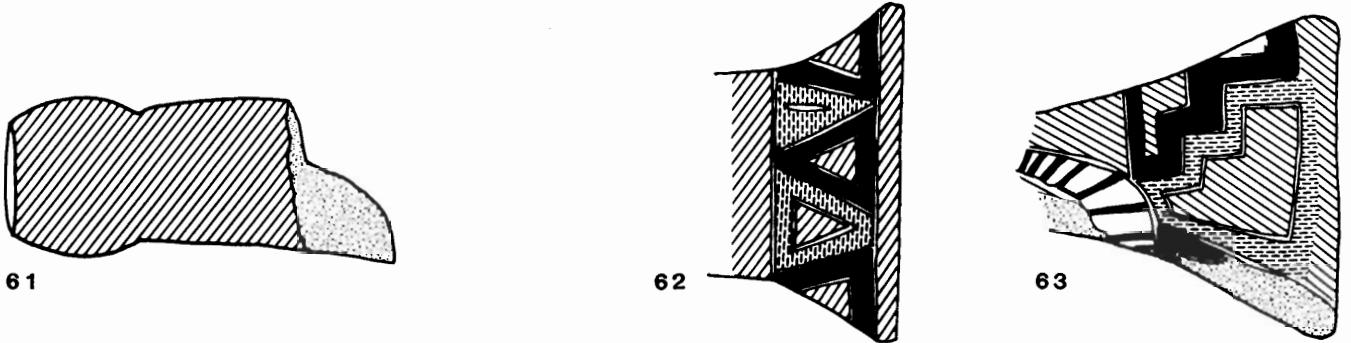
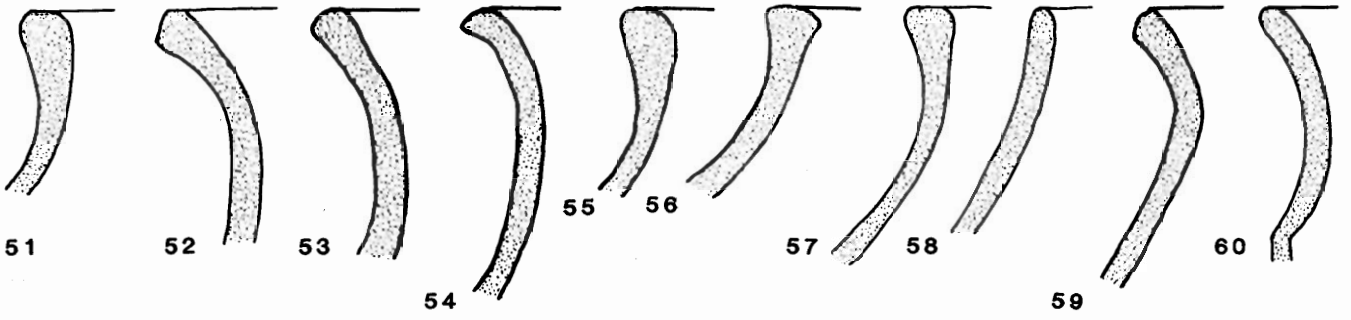


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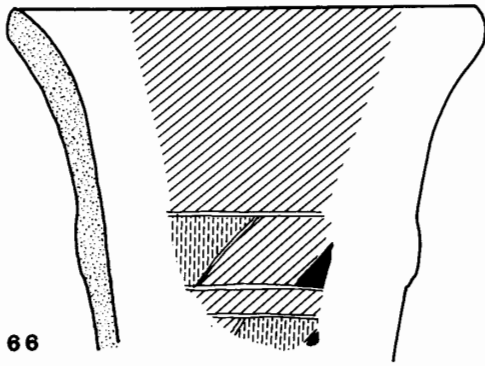


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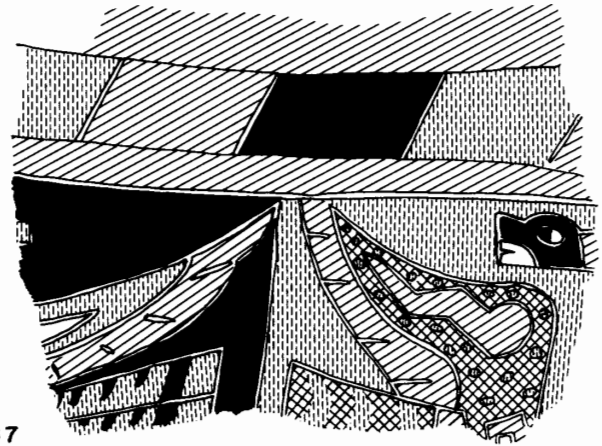
Pucara River Phase. Fig. 41. Jar B variant. Figs. 42-50. Jar C vessels. See Key to Illustrations.



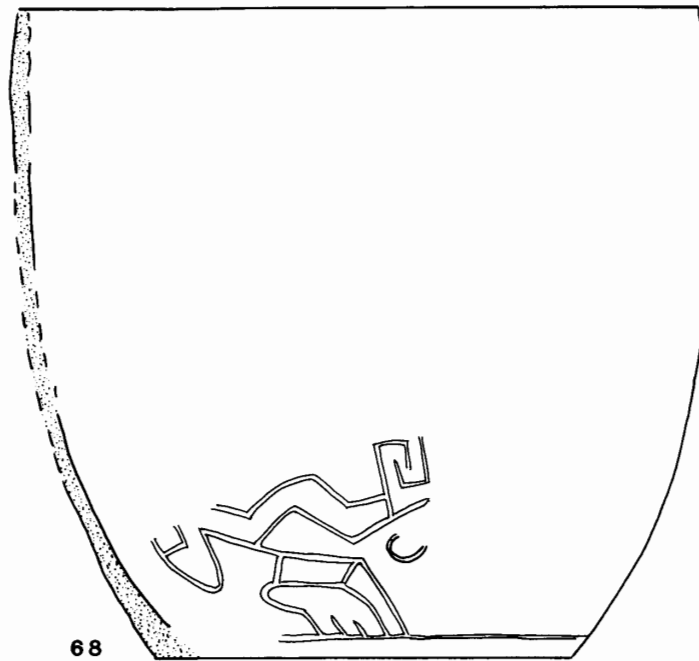
Pucara River Phase. Figs. 51-60. Jar D vessels. Figs. 61-65. Ceramic tubes. See Key to Illustrations.



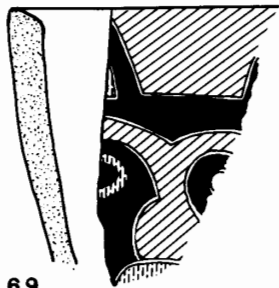
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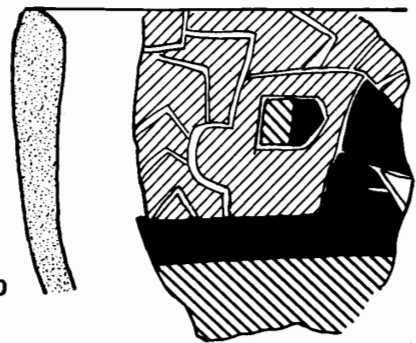
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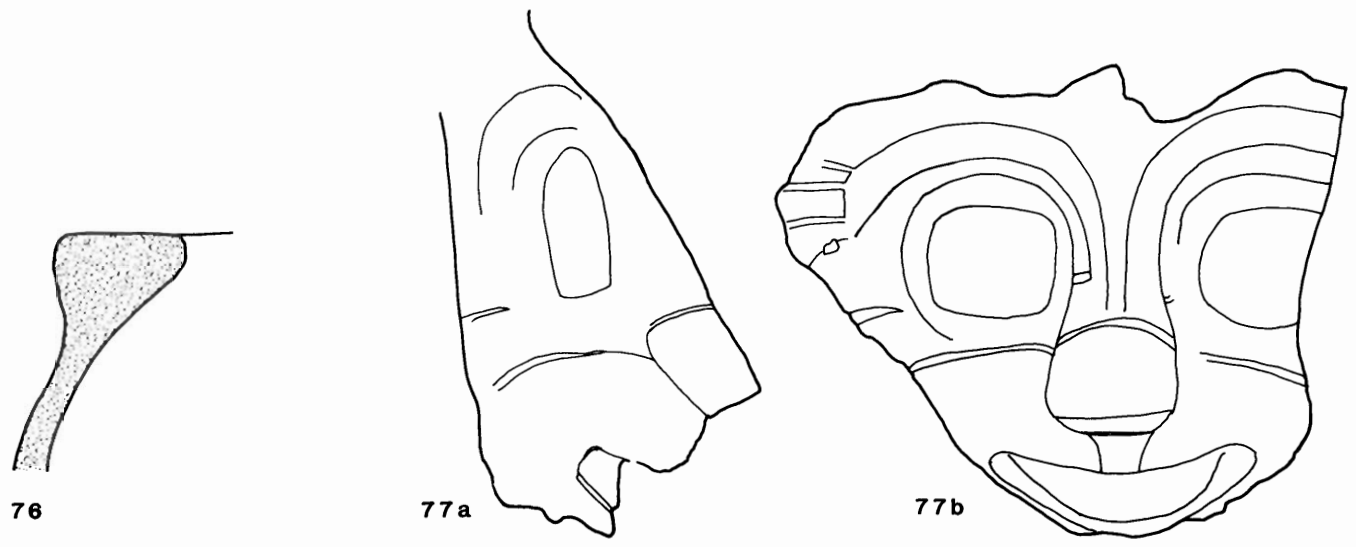
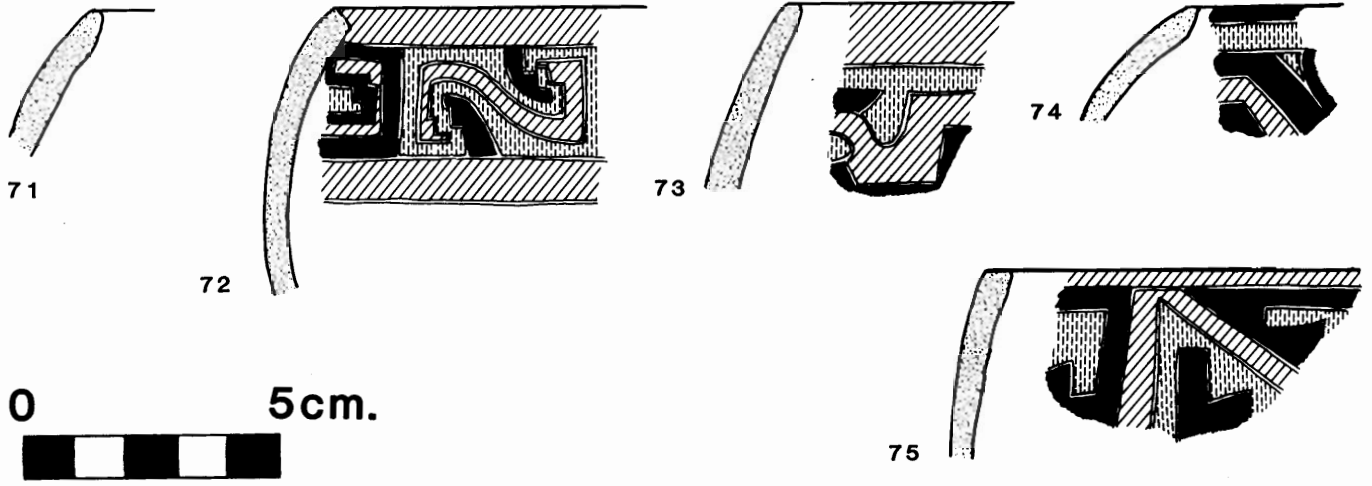


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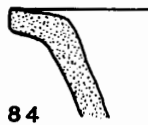
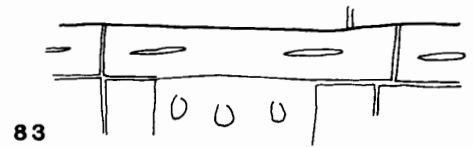
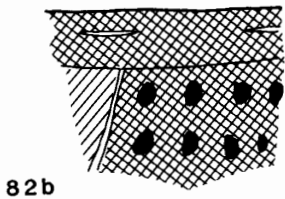
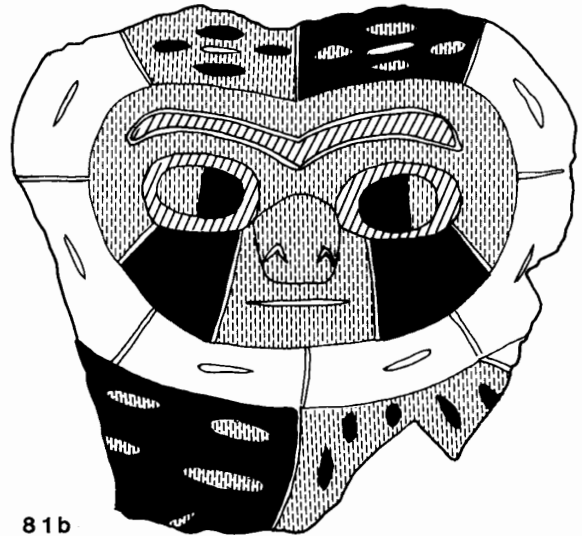
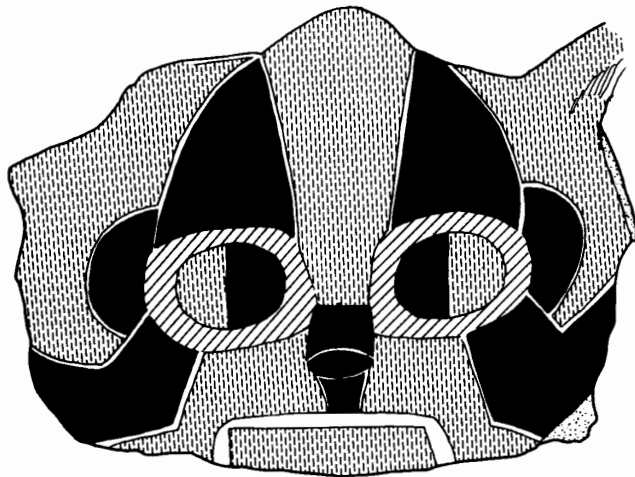
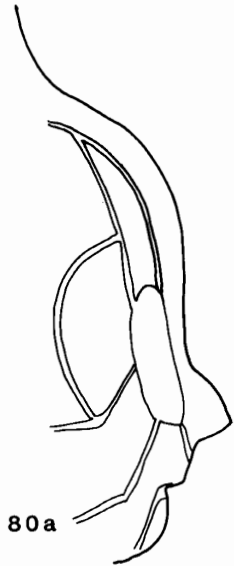


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Pucara River Phase. Fig. 66. Beaker(?). Fig. 67. Decorative element possibly from a beaker. Figs. 68-70. Tumblers. See Key to Illustrations.



Figs. 71-75. Pucara River Phase, incurred bowls. **Figs. 76-79.** Other ceramic artifacts from Pucara. See Key to Illustrations.



Figs. 80-83. Ceramic artifacts from Pucara. **Fig. 84.** Vessel fragment from pre-Pucara stratum at Qaluyu. See Key to Illustrations.