

Chapter 2

The Earliest Ceramic Sequence at the Site of Pukara, Northern Lake Titicaca Basin

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Introduction

This chapter presents preliminary results from an investigation of the earliest pottery recovered from the site of Pukara, northern Lake Titicaca Basin. The collection analyzed is from excavations conducted by Proyecto Copesco (or Plan Copesco) during the second half of the 1970s.¹ Due to the passage of time, it was not always possible to locate the exact excavation contexts or specific details of those contexts from which the pottery was recovered. Nevertheless, this pottery serves as an important contribution in discussions of the first occupations in the site of Pukara.

The Formative period in the Lake Titicaca Basin (ca. 2000 BC–AD 450) has received much attention from archaeologists over the last several years due to its importance as one of the few regions of autonomous early state development (e.g., Bandy 2001; Beck 2001; Hastorf 2005; Janusek 2001, 2004, 2005; Klarich 2002, 2003, 2005a, 2005b; Plourde and Stanish 2006; Stanish 2001, 2003). This process corresponds to the actions of groups of individuals within larger groups with interest in accumulating wealth, power and prestige within a social context where others try to maintain their individual autonomy (Stanish 2001:195).

One of the sites that is fundamental to understanding this long and complex process is Pukara—Pukara and Tiwanaku emerged as the two most important regional centers during the Late Formative. However, the earliest documented occupations in Pukara correspond to the Middle Formative, which spans from approximately 1400 to 500 BC (Fig. 2.1).

Location and Description of the Site

The site of Pukara is located in the northern part of the basin, approximately 80 km northwest of Lake Titicaca, on Km. 106 of the Puno-Cusco highway in the Pucara River Valley (Fig. 2.2). The composition of the site, following Elías Mujica (1979:186–87, 1991:278–80, 1996:19–20), has two different architectural components: the monumental sector with at least six truncated pyramids (the Qalasaya to the west, one to the north, two to the east near the river, the Lagunita Mound to the south and one on the peak of Cerro Pucaorqo), and residential zones with rustic structures made of river and field stones held together with adobe. Due to the density of middens—remains of food and ceramics, worked bone and stone and other artifacts—it is inferred that there was a dense, permanent occupation, which was identified by Franco Inojosa (*densísima población*, 1940:129) as extending to the limits of rubbish dumps. Following early studies, Elizabeth Klarich (2005a:57) adds that Pukara has two general areas: a central area with monumental constructions such as the Qalasaya complex, surrounding pyramids, and central pampa, and a peripheral area near the river where domestic constructions and extensive middens are located.

The Qalasaya is the most impressive of the pyramids and has received the most attention from archaeologists. It is a monumental construction that measures 315 m in length (north-south), 300 m east-west, and 32 m in height (Mujica 1996:20). It is composed of artificial platforms, forming a stepped, truncated



Figure 2.1. Chronological chart for the Lake Titicaca Basin.

pyramid with a stone façade on the east and south; the surrounding hilltops of Calvario and Pucaorqo serve as the Qalacasaya’s western and northern edges, respectively. On top of the pyramid are three ceremonial enclosures aligned north-south and facing east (Mujica 1991:280–81) (Fig. 2.3).

The enclosures have received the most attention due to their similarities to constructions at the site of Chiripa in the southern

Lake Titicaca Basin. Of the three, the central enclosure (or White and Red Temple) is the most studied to date, beginning with Alfred Kidder II’s excavations of an area of approximately 1796.5 m², which exposed the entire structure (Chávez 1992:78). This U-shaped structure is composed of a square plaza surrounded by a wall of white stone slabs. Surrounding the plaza and one level higher is a platform marked by walls made of red rocks

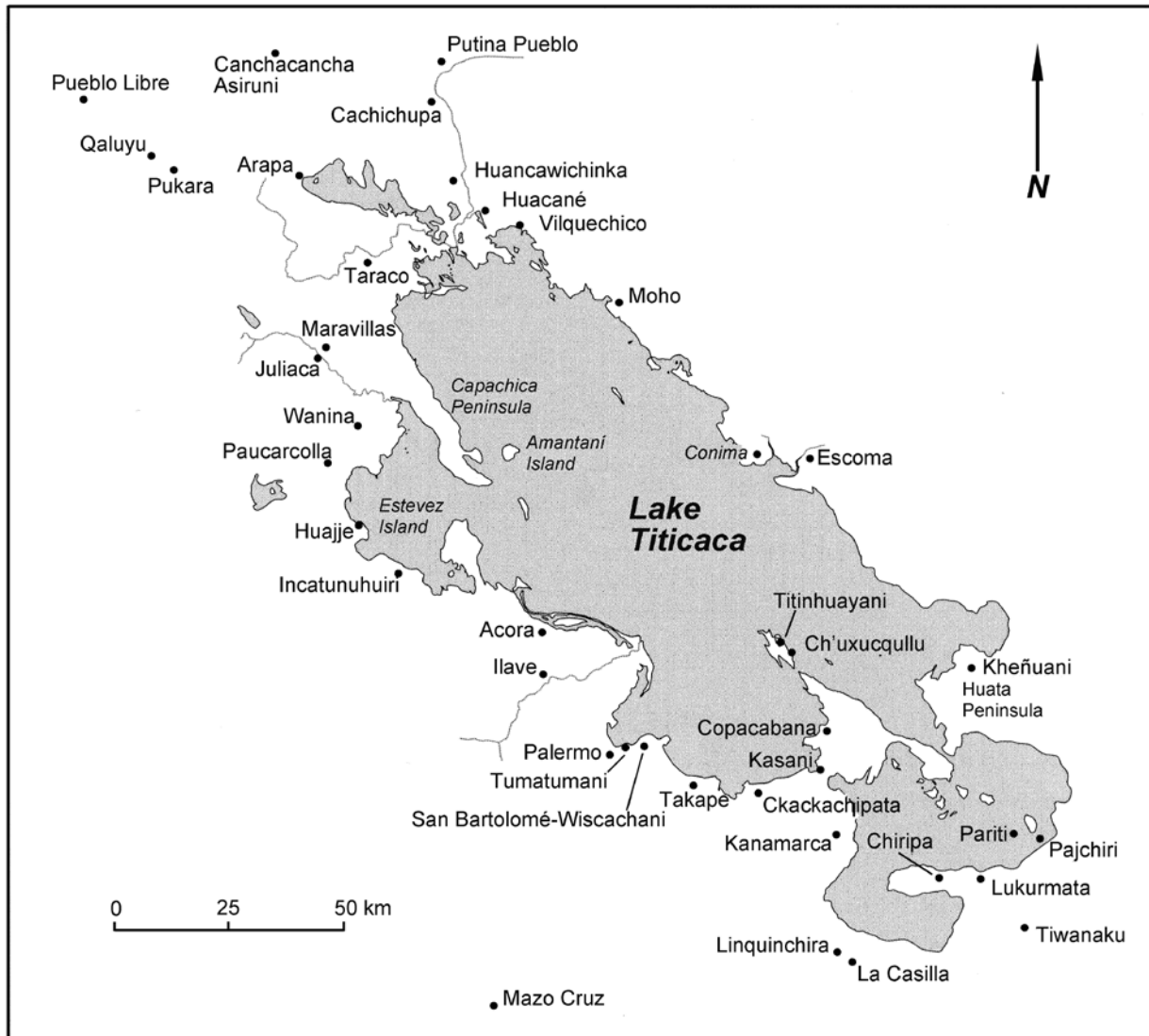


Figure 2.2. Map with Pukara and other major Formative sites within the Lake Titicaca Basin (adapted from Stanish 2003).

that form small rooms (Mujica 1991:282). Kidder (1942:343–44) indicated that in total the structure measured 50 m by 40 m while the sunken plaza measures 15 m² and 1.5 m in depth (Fig. 2.4). The Copesco Project, directed by Mujica and Nakandakari, also excavated in this plaza hundida (sunken plaza or sunken court), which they designated as Sector BB. As discussed below, these excavations continued until they reached bedrock, producing the majority of the material analyzed here.

The pyramid's façade is composed not of a single wall, but of groups of platforms with different characteristics that form

three blocks or sectors associated with the ceremonial enclosures described above (Fig. 2.5). Furthermore, in the lower part of the pyramid is a large platform that measures 160 m long by 60 m wide; it is connected to the upper platform through a central stairway (Mujica 1991:281). The site's monumental zone includes other structures—less known due to lack of research—that provide evidence for major corporate labor. Klarich (2005a:59) notes that the Lagunita Mound and the Northern Mound serve as the limits of the site's monumental sector.

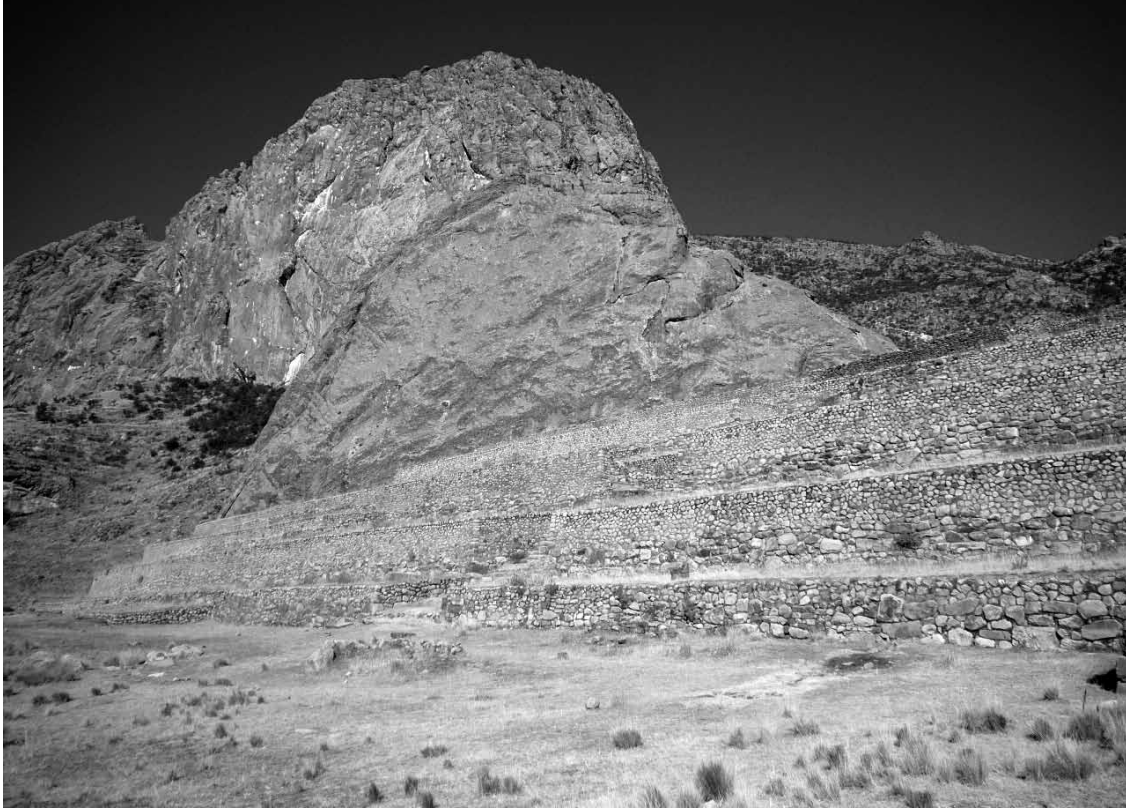


Figure 2.3. View of the front of the Qalasaya pyramid (from northeast).



Figure 2.4. View of the sunken court excavated by Kidder (White and Red Temple) and the Copesco Project (Sector BB).



Figure 2.5. View of the front of the Qalasaya pyramid with the main staircase visible (from the east).

Original Contexts of the Analyzed Materials

The ceramic materials for this study were recovered from excavations in three sectors. In Sector BB, Mujica and Nakanakari excavated in grid units and in areas within the sunken court while in BF and BG they primarily excavated in trenches on the terraces along the front edge of the Qalasaya pyramid (Fig. 2.6). Given that it was impossible to find all the necessary documentation for Sectors BF and BG, we relied solely

on drawings of general profiles. These drawings correspond to cuts that show the construction fill of the platforms that form the stepped pyramid; although the excavation units are identified, there is no stratigraphic information available (Figs. 2.7, 2.8). In regard to Sector BB, while the strata are not described in detail and many of the profiles are not available, the recovered information is of value. Visible in Figure 2.9 are a plan view of this sector, the grid system, and the location of the profiles that are detailed below.

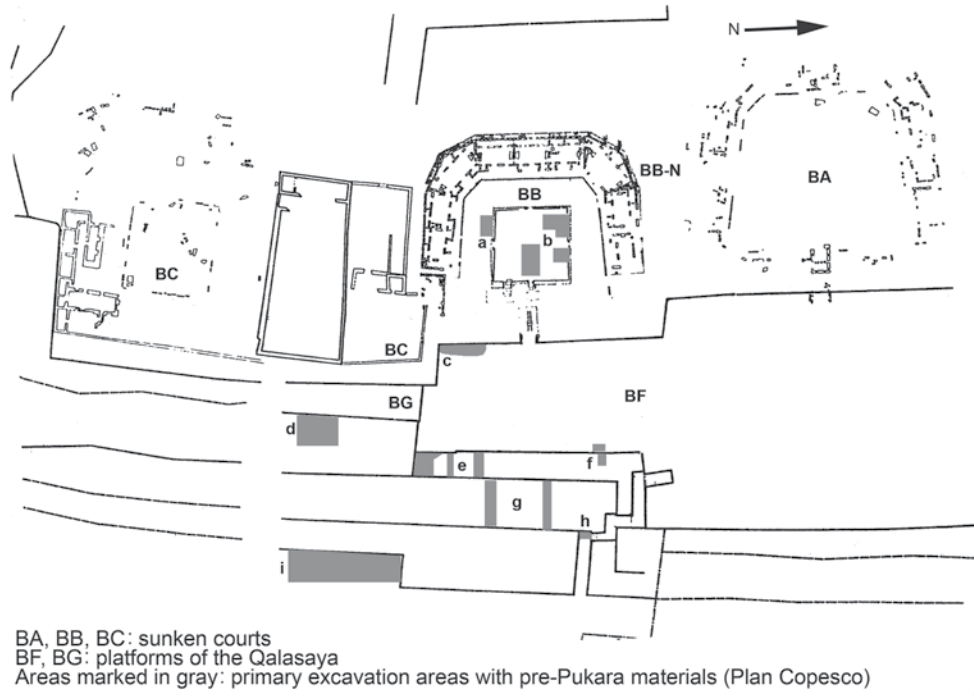


Figure 2.6. Sectors of the Qalasaya pyramid (adapted from Wheeler and Mujica 1981).

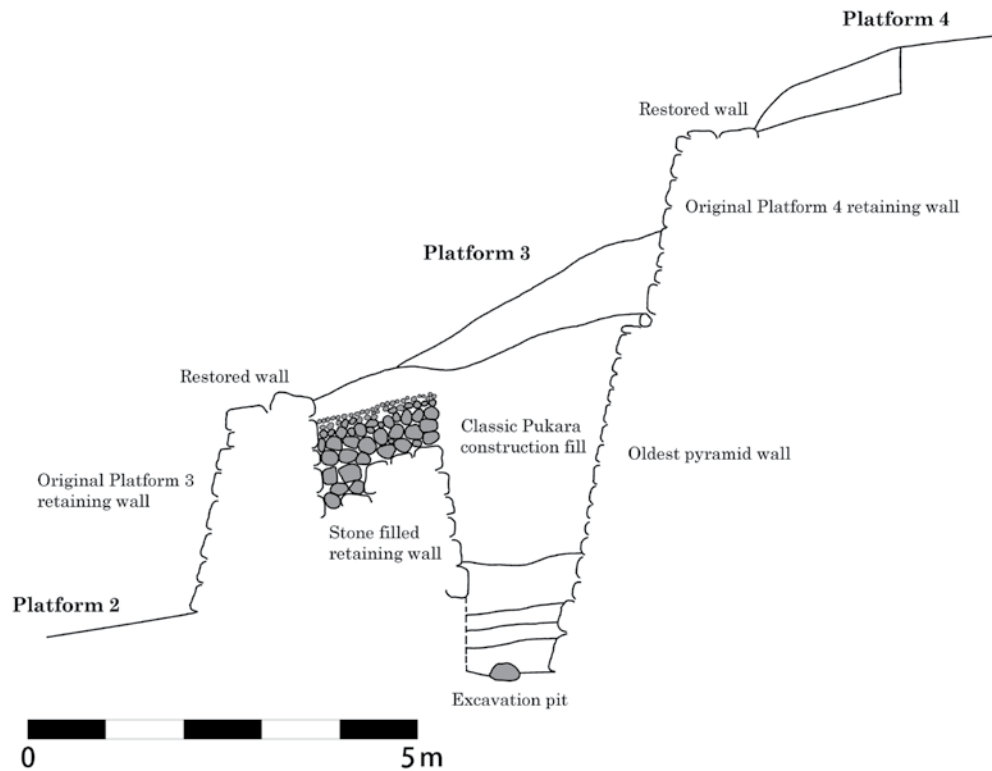


Figure 2.7. Profile of the North 44 Axis, Sector BF, with the detail of Platform 3 (adapted from Wheeler and Mujica 1981).

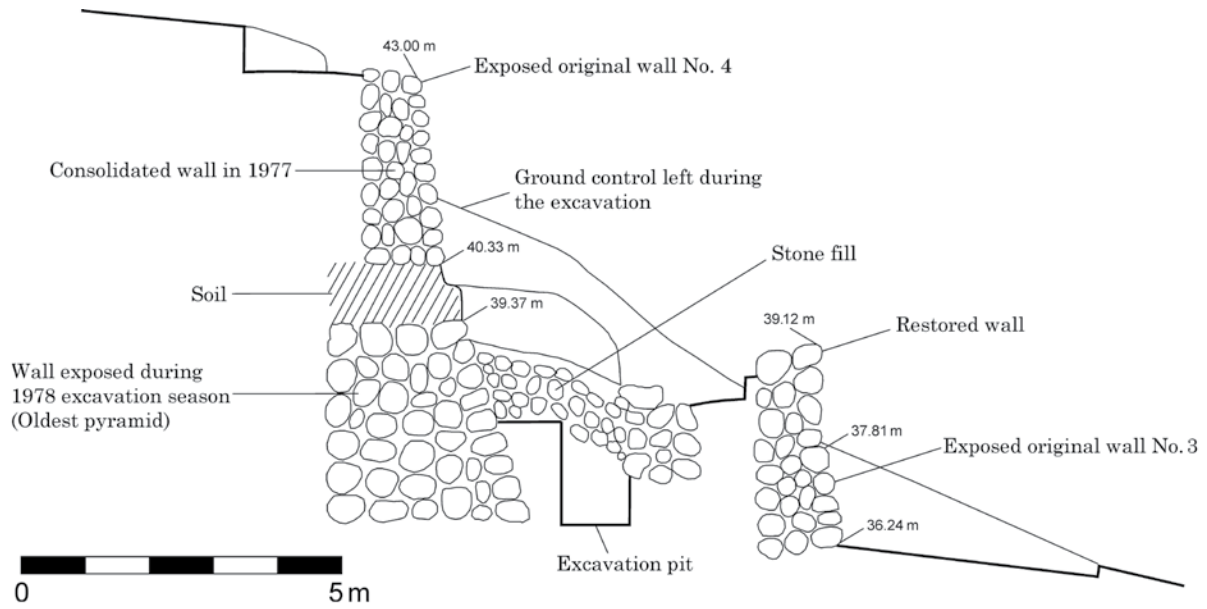


Figure 2.8. Profile of the North 42 Axis, Sector BG, with the detail of Platform 3 (adapted from Wheeler and Mujica 1981). Note that the metric designations refer to Copesco datum levels.

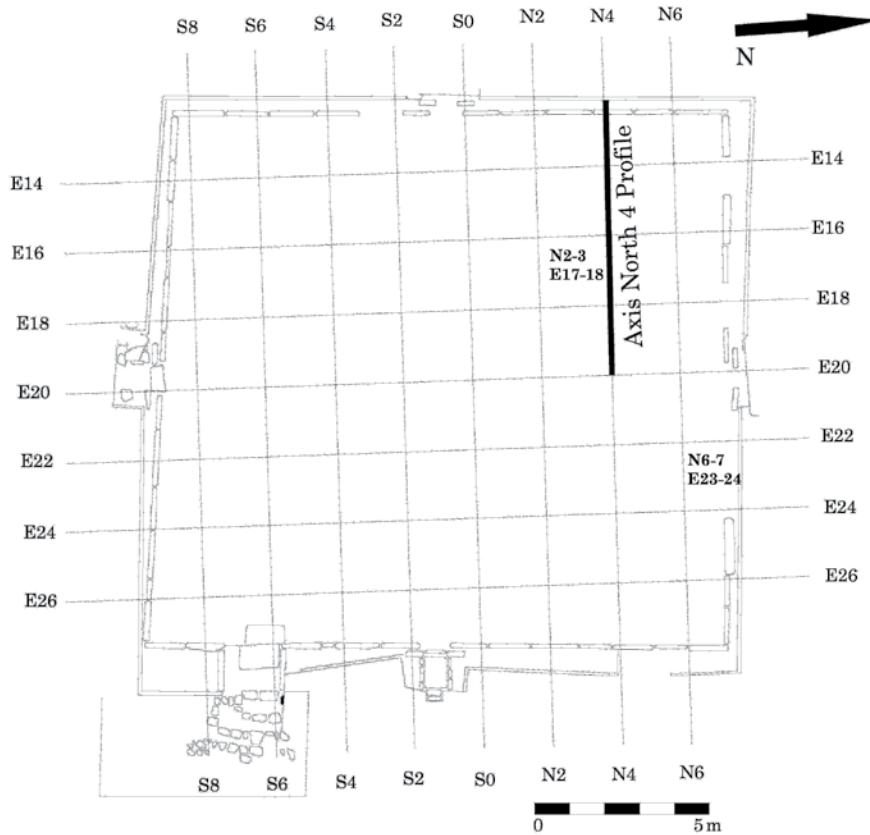


Figure 2.9. Plan of Sector BB with the location of the excavation units and the profiles cited in text (adapted from drawings of the Proyecto Copesco).

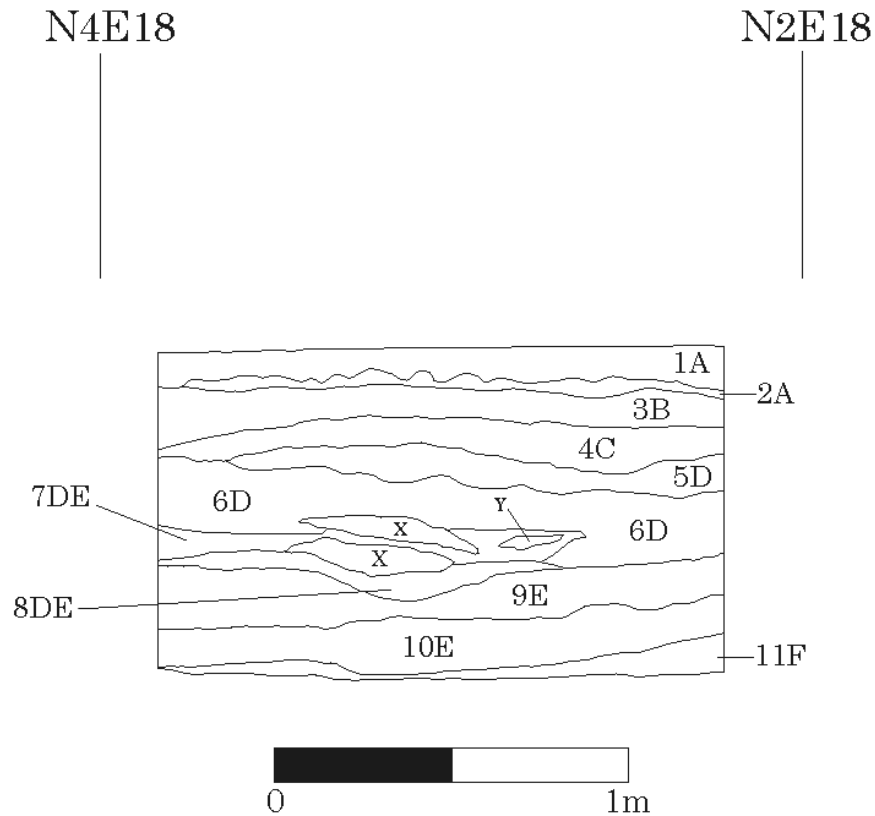


Figure 2.10. Western profile of Unit N2-3 E17-18, Sector BB (adapted from drawings of the Proyecto Copesco).

Strata Descriptions, Sector BB, Unit N2-3 E17-18 (Fig. 2.10)

2A: Black soil. Fragments from this stratum were not analyzed because they pertain to the Middle/Classic Pukara period.

3B: Red soil with gravel. Fragments from this stratum were not analyzed because they pertain to the Middle/Classic Pukara period.

4C: White soil. Fragments from this stratum were not analyzed because they pertain to the Middle/Classic Pukara period.

5D: Red soil. A large bowl (tazón) with straight, diverging walls and a flat, beveled rim was found.

6D: Black soil. The following objects were recovered: a small bowl (cuenco) with diverging walls and round rim; a large jar (cántaro) with slightly concave, diverging neck and externally thickened, rounded rim; a medium-necked olla with slightly concave, vertical walls and a beveled rim; a neckless olla with steeply inclined walls and round, internally thickened rim; and a large bowl (tazón) with straight, diverging walls and a flat, inclined rim.

7DE: No description of the stratum was found and the following objects were recovered: a medium-necked olla with slightly concave vertical walls and an externally thickened rim; a medium-necked olla with slightly concave, converging walls and an externally thickened rim; two medium bowls [tazones] with straight, diverging walls and rounded rims; a medium jar (cántaro) with a slightly concave, vertical neck and beveled border; and a small jar (cántaro) with a slightly concave, diverging neck and an externally thickened, round border.

8DE: Black soil. A medium bowl (tazón) with straight, diverging walls and a flat, inclined border was recovered.

9E: Red soil with gravel. No diagnostic rims were encountered.

10E: Yellow, sandy soil. No diagnostic rims were encountered.

11F: Black, sandy soil. No diagnostic rims were encountered.

X: Red lenses. No diagnostic rims were encountered.

Y: Black, sandy soil. No diagnostic rims were encountered.

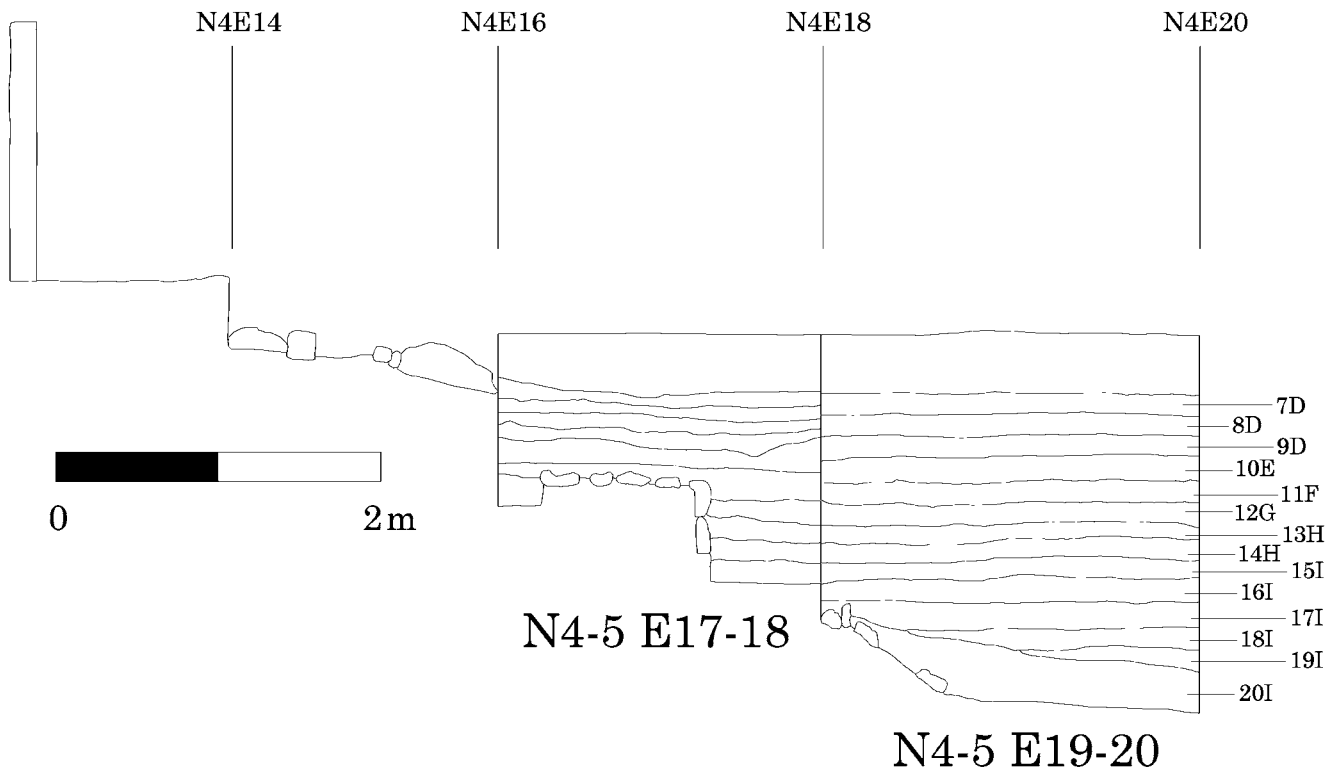


Figure 2.11. Profile of the Cross Section 4 North Sector BB (adapted from drawings of the Proyecto Copesco).

Strata Descriptions, Sector BB, Cross Section 4 North, Units N4-5 E17-18 and N4-5 E19-20 (Fig. 2.11)

7D: Black soil with red lenses and gravel. The following artifacts were recovered: a medium plate (plato) with an externally thickened rim; a vertical, short-necked olla with an externally thickened rim; a medium-necked olla, slightly concave and converging, with a rounded rim; large jar (cántaro) with a slightly concave, diverging neck and horizontal, flat, externally thickened rim; medium bowl (tazón) with straight, vertical walls and a flat, horizontal rim; and a large bowl (tazón) with straight, diverging sides and a slightly rounded rim.

8D: Black soil with white, sandy lenses. The following artifacts were recovered: small jar (cántaro) with concave, diverging neck and externally thickened, rounded rim; medium jar (cántaro) with concave, diverging neck and externally thickened, rounded rim; large jar (cántaro) with slightly concave, diverging neck and flat, horizontal, externally thickened rim; and a medium bowl (tazón) with straight, diverging sides and rounded rim.

9D: Red soil with compact, sandy gravel. A neckless olla with inclined walls and pointed, rounded rim was recovered.

10E: Red soil interspersed with sandy black and white soil. A medium bowl (tazón) with straight, diverging sides and rounded rim and a large bowl (tazón) with straight, diverging sides and a slightly rounded rim were recovered.

11F: Soil that was half red with gravel and half white and sandy. A medium-necked olla, slightly concave and vertical with a rounded rim, was recovered.

12G: Black soil with sandy yellow lenses. A vertical, short-necked olla with a horizontal, flattened rim was recovered.

13H: Red soil with sandy gravel with black sandy lenses. No diagnostic rims were identified.

14H: Soft gray sandy soil. A large bowl (tazón) with straight, vertical walls and rounded rim was recovered.

15I: Black, compact sandy soil. No diagnostic rims were identified.

16I: No description of the stratum was found. The following artifacts were encountered: a neckless olla with inclined walls and an elongated, rectangular rim; a large jar (cántaro) with a slightly concave, vertical neck and externally thickened rim; and a medium bowl (tazón) with straight, diverging walls and an inclined, flat rim.

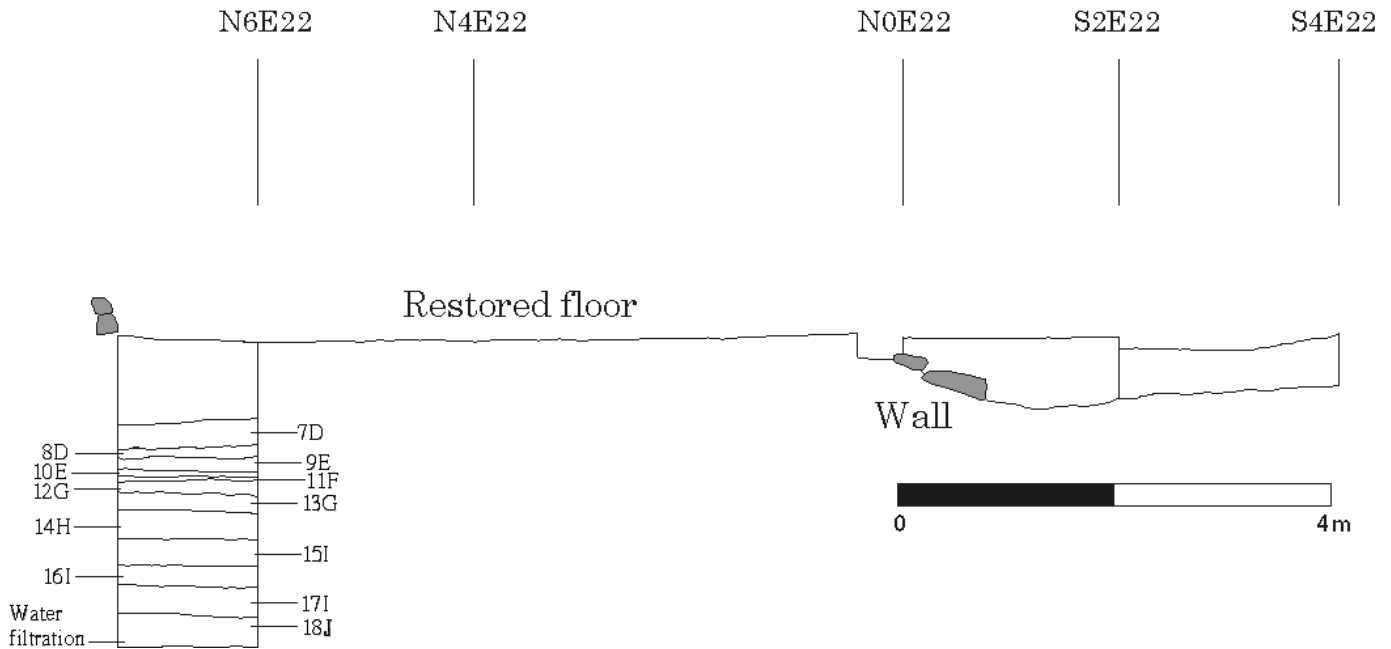


Figure 2.12. Profile of the East 22 Axis, Sector BB, with the profile of Unit N6-7 E23-24 (adapted from drawings of the Proyecto Copesco).

17I: No description of the stratum was found. A medium bowl (tazón) with straight, diverging walls and an externally thickened rim and a medium bowl (tazón) with diverging, concave walls and rounded border were recovered.

18I: No description of the stratum was found. The following artifacts were encountered: a small plate with a rounded border; a small bowl (tazón) with convex, diverging walls and a rounded rim; a medium bowl (tazón) with straight, vertical walls and a slightly rounded rim; a large bowl (tazón) with straight, vertical walls and a horizontally flattened rim; and a large bowl (tazón) with convex, diverging walls and rounded rim.

19I: No description of the stratum was found. A neckless olla with slightly inclined walls and flat, inclined rim and a large bowl (tazón) with straight, diverging walls and an externally thickened rim were recovered from this context.

20I: No description of the stratum was found. A medium bowl (tazón) with straight, diverging walls and a rounded rim was recovered.

Strata Descriptions, Sector BB, Unit N6-7 E23-24 (Fig. 2.12)

7D: Black soil with red lenses and gravel. A small bowl (cuenco) with diverging sides and a rounded border was recovered.

8D: Black soil with sandy, white lenses. No diagnostic rims were identified.

9E: Red soil with compact, clay-rich gravel. No diagnostic rims were identified.

10E: Red soil interspersed with black and white sandy soil. No diagnostic rims were identified.

11F: Context composed of half red soil with gravel and half sandy white soil. A medium plate (plato) with an externally thickened rim was recovered.

12G: Black soil with yellow, sandy lenses. A neckless olla with inclined walls and a round, elongated rim and a neckless olla with slightly inclined walls and a flat, horizontal rim were recovered.

13G: Red soil with clayey-gravel with black, sandy lenses. No diagnostic rims were identified.

14H: Smooth, sandy gray soil. No diagnostic rims were identified.

15I: Compact, sandy black soil. The following artifacts were recovered: a small jar (cántaro) with slightly diverging, concave neck and rounded rim; two neckless ollas with slightly inclining walls and rounded rim; and a small bowl (tazón) with straight, diverging walls and an externally thickened rim.

16I: No description of the stratum was found. A large plate (plato) with a rounded rim was encountered.

17I: No description of the stratum was found. The following artifacts were recovered: a large bowl (cuenco) with diverging walls and rounded rim; a small jar (cántaro) with slightly concave, diverging neck and elongated, flattened, inclined rim; neckless olla with very inclined walls and an internally thickened, rounded rim; neckless olla with slightly inclined walls and externally thickened rim; a medium plate (plato) with rounded rim; a large bowl (tazón) with vertical, convex walls and rounded rim; and a large bowl (tazón) with straight, diverging walls and externally thickened rim.

18J: No description of the stratum was found. A large bowl (tazón) with diverging, convex walls and a rounded rim was recovered. They halted excavation at this level due to the filtration of water.

The Ceramics

In the morpho-functional analysis, open vessels such as plates (*platos*) and bowls (*cuencos* and *tazones*) and closed vessels such as neckless ollas, necked ollas and jars (*cántaros*) were identified. A total of 4582 sherds were analyzed, but the majority of these were too small to identify as part of a specific vessel form. Therefore, pottery sherds were included in this analysis when over 5% of the rim was present, which totaled 300 identifiable vessels.

Open Vessels (N = 150, 50% of total) (Fig. 2.13)

Plates/Platos (N = 5, 1.67% of total). These vessels have a flat base with very short, very steep sides. Despite the fact that the number of samples is very limited and therefore not representative, their manufacture is consistent. The interior surface was smoothed, the exterior was burnished and both surfaces were slipped, but not decorated. Very few examples were recovered, but they have been classified, according to their size and the form of the lip, into three categories (Fig. 2.14).

Bowls/Cuencos (N = 8, 2.67% of total). These vessels have convex walls and a rounded base and the maximum diameter can be found on the rim or the body. The interior surface was generally smoothed or burnished while the exterior was smoothed and burnished. However, in the majority of the cases it was difficult to determine the type of surface finish because of erosion. Both surfaces were slipped and undecorated. There were few total specimens, but they were classified based on size, shape of the walls, and form of the lip; one group had two subcategories (Fig. 2.15).

Bowls/Tazones (T) (N = 137, 45.48% of total). These vessels have a flat base and the maximum diameter is at the rim. Interior surfaces were generally smoothed or polished. The internal wiping was likely done with some type of cloth based on the marks, although in many cases a blunt object was used, such as a corncob or simply a hand. The exterior surfaces were generally polished or burnished. In the case of a polished exterior, the interior surface was also polished while in the cases where the exterior was burnished the interiors were wiped. Both surfaces were slipped and almost always undecorated. When there was decoration present, in the vast majority, it was only on the interior or exterior surface, very few on both surfaces.

The primary classification of these vessels is based on the diameter. Three sizes are defined based on data collected during this study regarding size ranges and from previous classifications of ceramics from the same site (e.g., Klarich 2005b) (Fig. 2.16).

(A) *Small bowls/Tazones pequeños (T1) (N = 16, 5.35% of total).* These bowls have a diameter between 5 and 10 cm with the median at 9 cm. They were divided into five categories based on the orientation and form of the walls and into thirteen subcategories based on the lip.

(B) *Medium bowls/Tazones medianos (T2) (N = 61, 20.06% of total).* These bowls have a diameter between 11 and 16 cm with the median at 14 cm. They were divided into four

categories based on the orientation and form of the walls and into eighteen subcategories based on the form of the lip.

(C) *Large bowls/Tazones grandes (T3) (N = 60, 20.06% of total).* These bowls have a diameter between 17 and 29 cm with the median at 20 cm. They were divided into six categories based on the orientation and form of the walls and twenty-one subcategories based on the form of the lip.

Closed Vessels (N = 150, 50% of total) (Fig. 2.17)

Neckless ollas/Ollas sin cuello (N = 21, 7.02% of total). The vessels are typically globular with medium-sized mouths, convex walls, and a narrow base. The majority of the vessels were wiped on the interior with a cloth and one-third of the samples were not slipped. On the exterior surfaces the great majority were burnished and almost all were slipped. Neckless ollas were classified into three categories based on the orientation of the walls and eleven subcategories were developed based on the form of the lip (Fig. 2.18).

Necked ollas/Ollas con cuello (N = 42, 13.71% of total). Necked ollas are mostly globular with wide mouths, convex walls, and narrow bases.² The majority of the interiors were wiped with cloth and slipped. Of the exterior surfaces, almost an equal number were wiped with a cloth or polished although in various cases it was difficult to determine due to erosion. These were classified into three categories based on the length of the neck and the form and orientation of the walls, and into twenty subcategories based on the form of the lip (Fig. 2.18).

Jars/Cántaros (Ca) (N = 87, 29.09% of total). These are necked vessels, with a narrow base, that are typically between globular and elliptical shapes. It is important to emphasize that because we are dealing only with rim fragments, it is possible that some of the examples designated as jars are actually ollas. The interior surfaces were generally wiped with a cloth and slipped. The exterior finish is almost equally divided between surfaces that have been wiped (with cloth), burnished and polished and all were slipped. There are three size categories based on diameter of the rim (Fig. 2.19).

(A) *Small jars/Cántaros pequeños (Ca1) (N = 39, 13.04% of total).* These jars have diameters between 5 and 11 cm with the median at 9 cm. They were classified into two categories based on the form and orientation of the walls of the neck and into thirteen subcategories based on the form of the lip.

(B) *Medium jars/Cántaros medianos (Ca2) (N = 25, 8.36% of total).* Medium jars have a diameter between 12 and 15 cm with the median at 13 cm. They were classified into three categories based on the form and orientation of the walls of the neck and into twelve subcategories based on the form of the lip.

(C) *Large jars/Cántaros grandes (Ca3) (N = 23, 7.69% of total).* Large jars have a diameter between 16 and 30 cm with the median at 19 cm. They were classified into three categories based on the form and orientation of the walls of the neck and into nine subcategories based on the form of the lip.

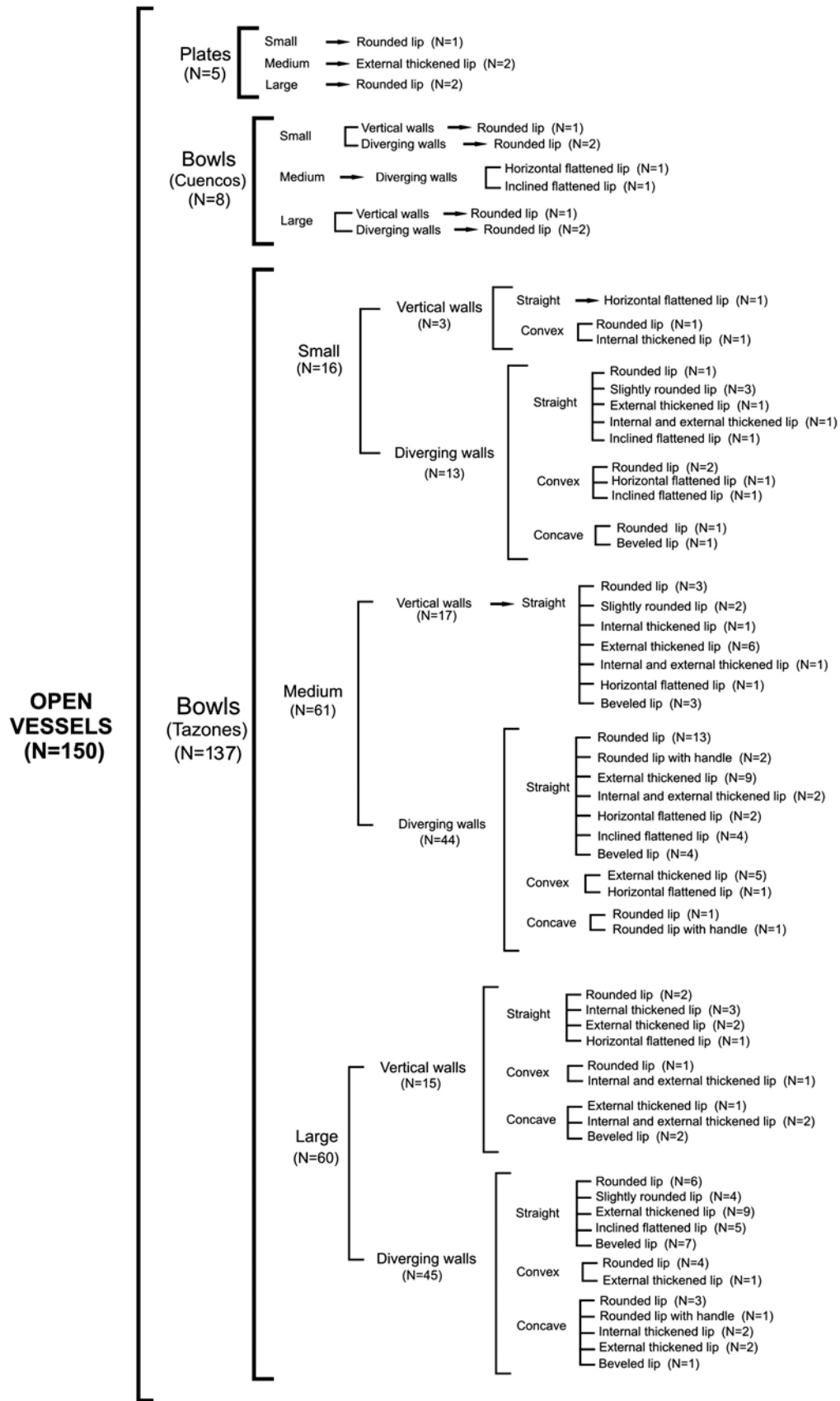


Figure 2.13. Morphological classification of open vessels.

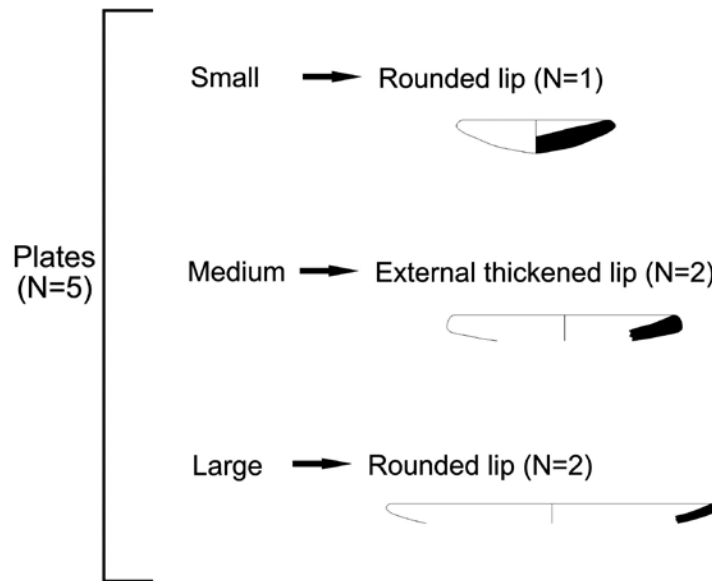


Figure 2.14. Morphological classification of plates.

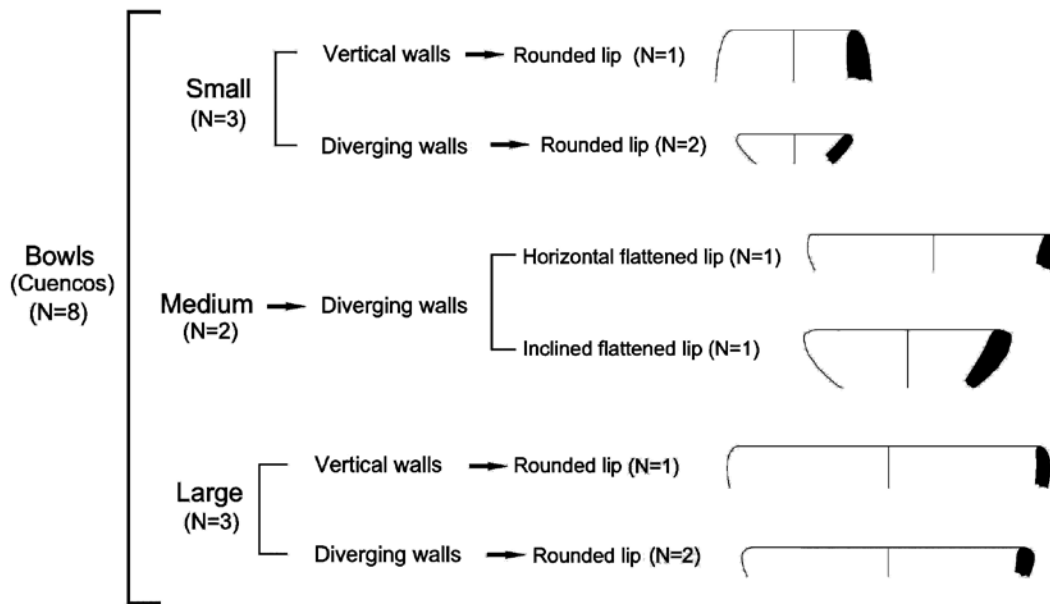


Figure 2.15. Morphological classification of bowls (cuencos).

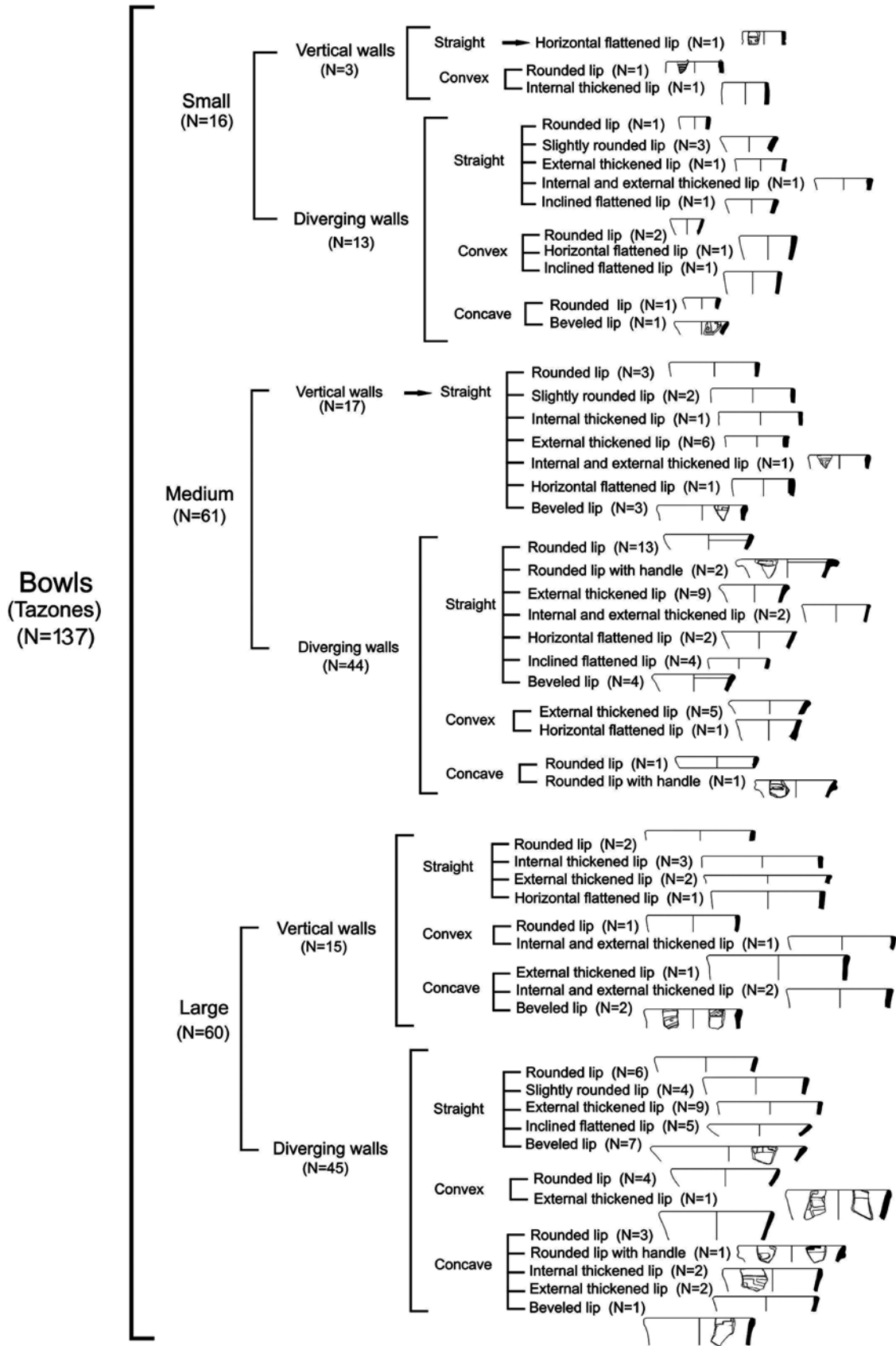


Figure 2.16. Morphological classification of bowls (tazones).

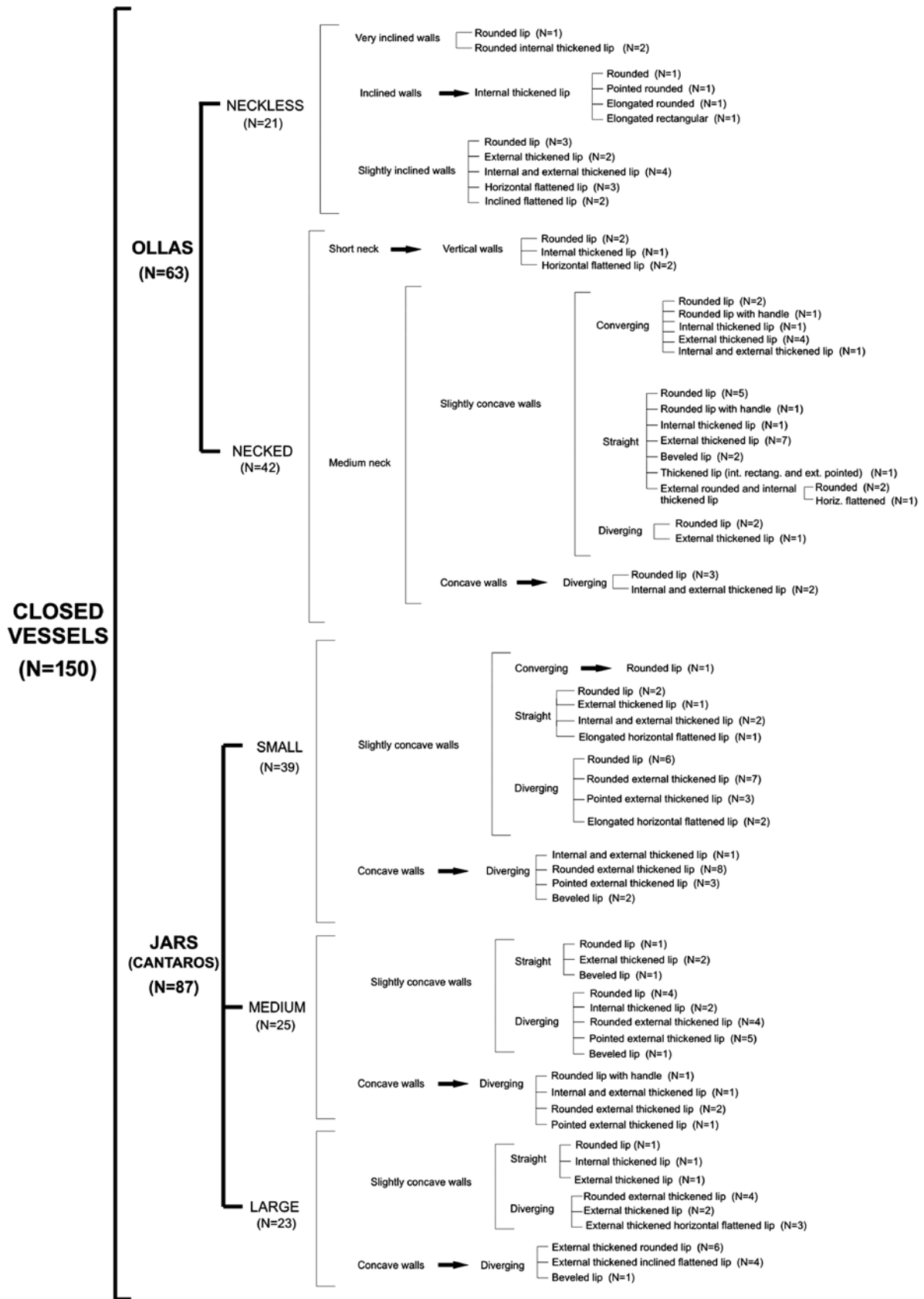


Figure 2.17. Morphological classification of closed vessels.

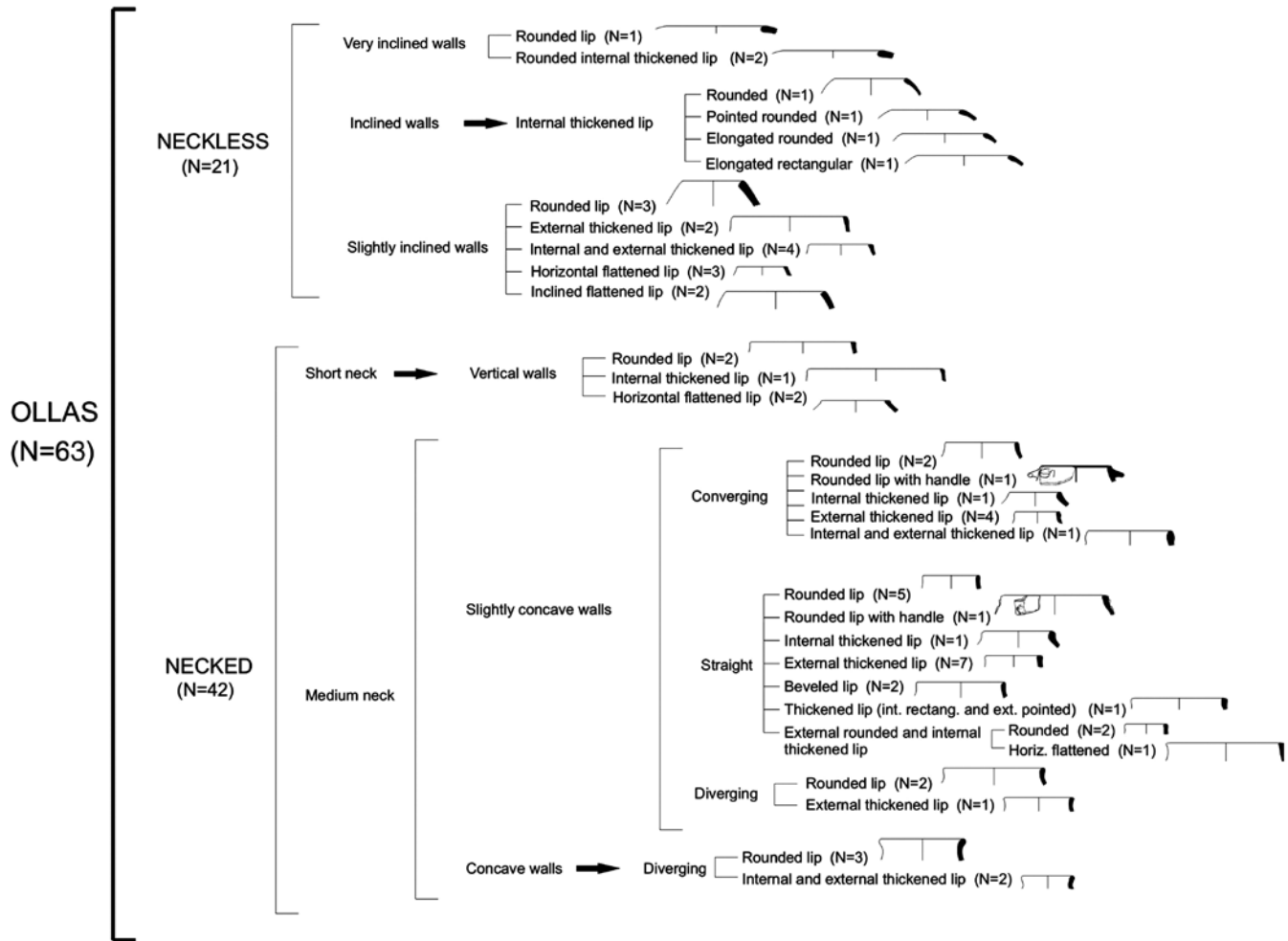


Figure 2.18. Morphological classification of ollas.

Description of the Formal Variations in the Sequence

Because the majority of the ceramics analyzed came from construction fill—often mixing fragments from different places and time periods—and not from contexts associated with architecture, it was very difficult to reconstruct a formal ceramic sequence. Despite these challenges, a number of trends can be noted.

First, the most ubiquitous formal category is the large bowl (tazón grande) with diverging walls. The frequency may signal the importance of consuming foods or liquids during public gatherings during the earliest occupations of the site.

Second, in the majority of the cases, neckless ollas are recovered in the earliest levels, which coincides with trends seen in the earliest sequences in the central Andes.

Third, in the deepest levels very few jars (cántaros) have been identified; they increase in frequency in intermediate levels, which are closer to the Middle or Classic Pukara phase. This may indicate that vessels for storage and/or transportation of liquids and solids were not common during the first occupations of the site.

Fourth, in Sector BB the following trends were observed, from earliest to latest levels: the lowest levels include primarily neckless ollas with slightly inclined walls and large bowls (tazones) with diverging walls; subsequently, medium and large bowls (tazones) became most popular and jars (cántaros) began to be used with more frequency; and in the most recent deposits, the most utilized forms were medium bowls (tazones) with diverging walls and small jars (cántaros).

Fifth, in Sector BG, Platform 3, in the deepest excavation levels the most popular form was the large bowl (tazón) with diverging walls, and the only neckless olla on this platform was found. In later contexts the large bowl remained popular, but many small jars were also used.

Sixth, in the lowest terrace of Sector BG, the same trends continued in the area where Copesco found a niched, stone enclosure with lithic sculptures associated with the earliest pyramid. In the earliest levels the most common forms were large bowls (tazones), and a neckless olla was identified. Subsequently, medium and large bowls (tazones) with diverging walls, medium-necked ollas, and small pitches (cántaros)

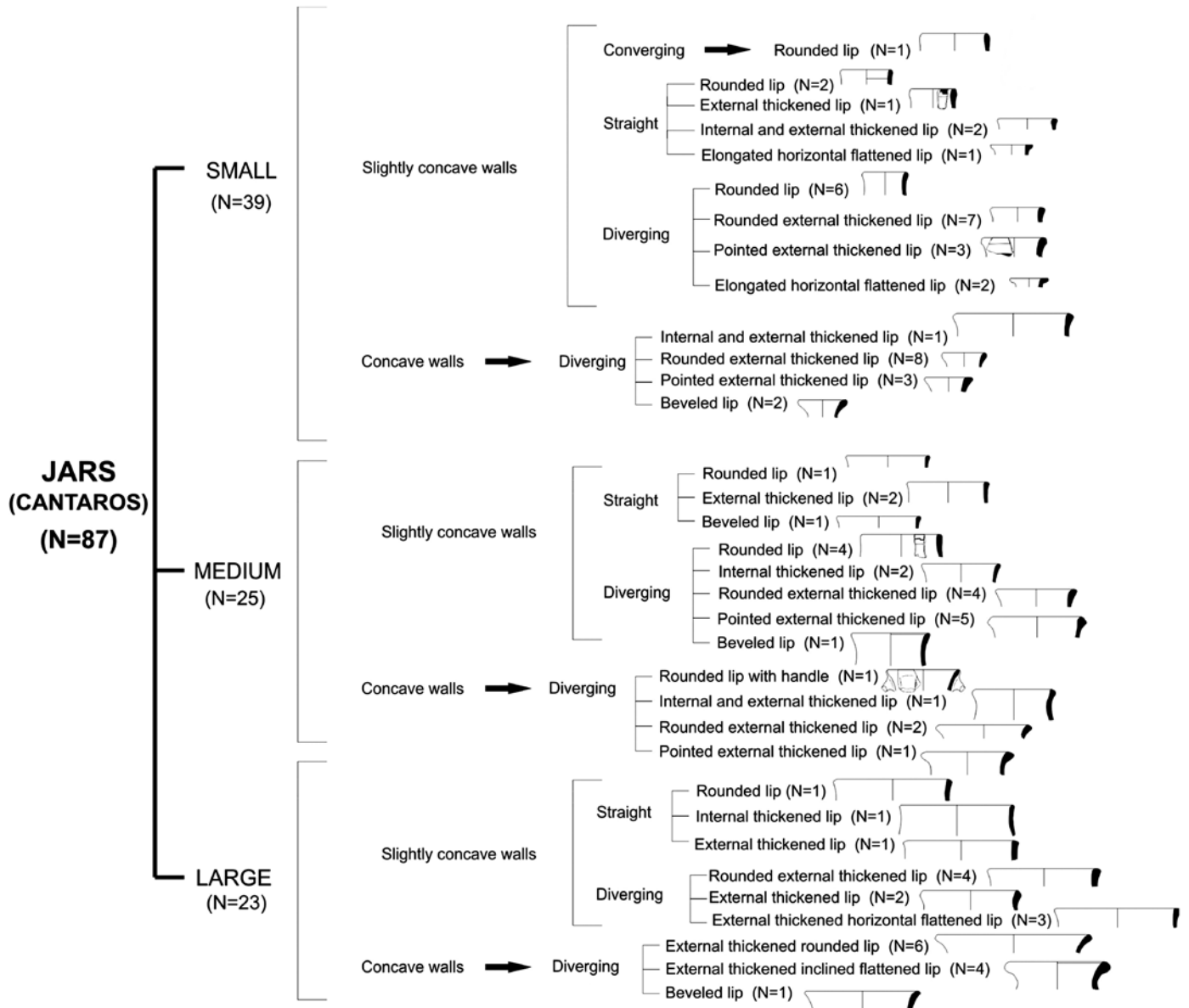


Figure 2.19. Morphological classification of jars (cántaros).

were most popular. In the most recent levels of the Formative sequence, large bowls (tazones) with diverging walls and jars (cántaros) were found.

Seventh, in the lowest levels of Platform 2 of Sector BF, medium bowls (tazones) and medium-necked ollas were found. In the following levels medium-necked ollas continued to be popular, along with jars (cántaros). Then, in the highest levels, this tendency continued, but small jars (cántaros) were predominant in the sample.

Eighth, in the earliest levels of Platform 3 of Sector BF, bowls (tazones) and medium-necked ollas were encountered. Subse-

quently, the most frequent forms were small and medium jars (cántaros), medium-necked ollas, and bowls (tazones).

Decorative Categories

Decorative categories were defined based on the identification of a technique or a combination of techniques into five groups: painted; incised; painted and incised; appliqué and incised; appliqué, painted and incised. They were further organized based on the location of the decoration on the vessel—interior or exterior or both—resulting in the following classification:

Internal Decoration: Painting

Only three cases of paint on a vessel's interior were recorded, with all three pertaining to decoration on the lip of bevel-rimmed bowls (tazones). All three share the same paint colors, slip color, type of stepped design (with variations), and location of the decoration on the vessel (on the bevel). In the first case (Fig. 2.20a), an elongated black “step” with cream on red slip is observed, with a red slip on the vessel's exterior. On the second example (Fig. 2.20b), there is a more elaborate design; it is the only such case recorded in the sample. It is a “stepped” motif that is repeated using black or dark brown and cream, but in a negative technique. To accomplish this, the vessel was first slipped red on the interior and exterior, then painted on the bevel with a dark color; finally, the cream was added in a way to delimit the rectangular spaces, leaving an in-between space without paint in the form of a step, which is observed in the dark paint. The third case (Fig. 2.21a) corresponds to a simpler “step” motif than the others, combining black and white. This design is found painted on a red slip that was also applied to the vessel's exterior.

Internal Decoration: Incisions

Only one example was identified with this type of decoration (Fig. 2.21b). The design corresponds to a straight, thin line made with a sharp instrument before firing. The line is found on the upper part of the vessel, very close to the lip, and appears to surround the entire mouth of the vessel.

Internal Decoration: Painting and Incisions

There are few examples in this category, but all feature a “stepped” motif of different varieties, located on the upper part of the vessel. These designs were made when the vessel was leather-hard, although in some case the incisions were made when it was already dry. The instrument used in the decoration would have been thin, with a sharp point.

In all cases the design was made through incisions that form the “stepped” combination with paint filling these spaces. The paint is always black, white or cream, and red or orange and it is always found painted on a red slip, which is applied to the exterior of the piece (Figs. 2.22–2.24). Sometimes a space without paint was intentionally left in order to utilize the color of the slip in the formation of the decorative panels (Fig. 2.25a). In almost all cases, the incised lines that form the design are straight and show single, elongated “steps” (Fig. 2.25a, b); single, thickened “steps” (Fig. 2.22b); or double “steps” (Fig. 2.22a). However, there is a single example of a “step” motif that uses the method of combining incisions with painted spaces of distinct colors, but the line is curvilinear instead of straight (Fig. 2.23b).

External Decoration: Painting

Despite having the greatest variety of designs, painted designs on the exterior are exclusively geometric. To clarify, there are no “natural” decorations with anthropomorphic, plant, zoomorphic characteristics; they are limited to straight and curved lines,

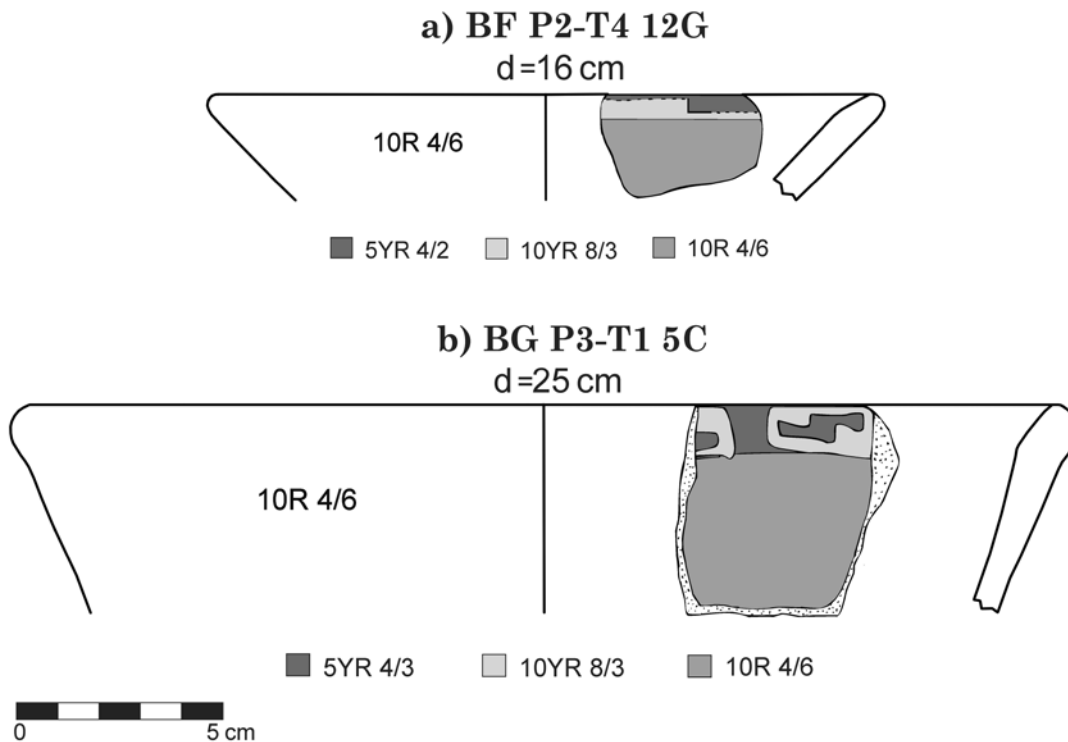


Figure 2.20. Bowls (tazones) with painted decoration on interior.

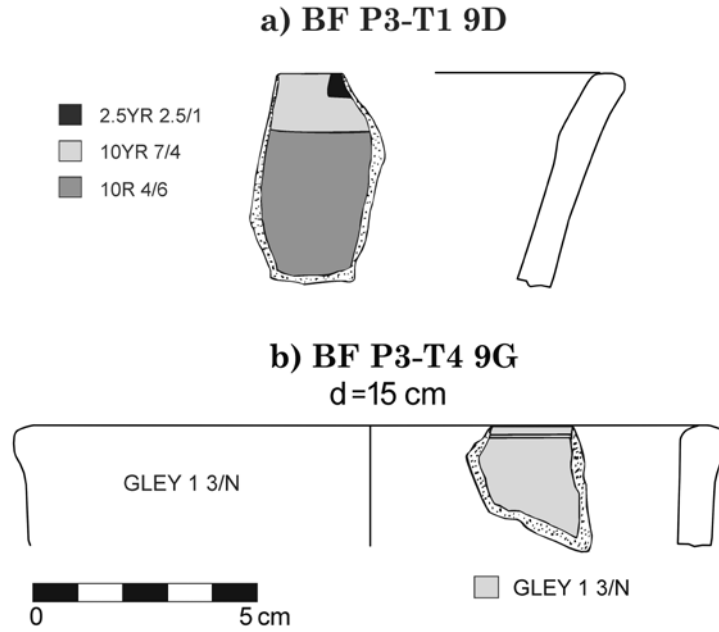


Figure 2.21. Bowls (tazones) with painted (a) and incised (b) decoration on the interior.

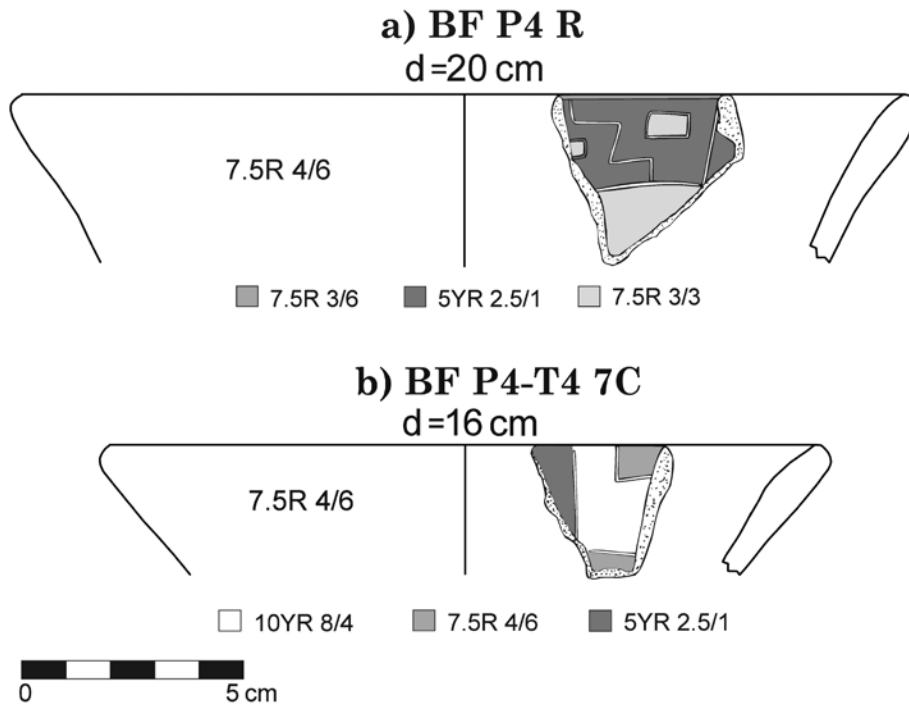


Figure 2.22. Bowls (tazones) with painted (a) and incised (b) decoration on the interior.

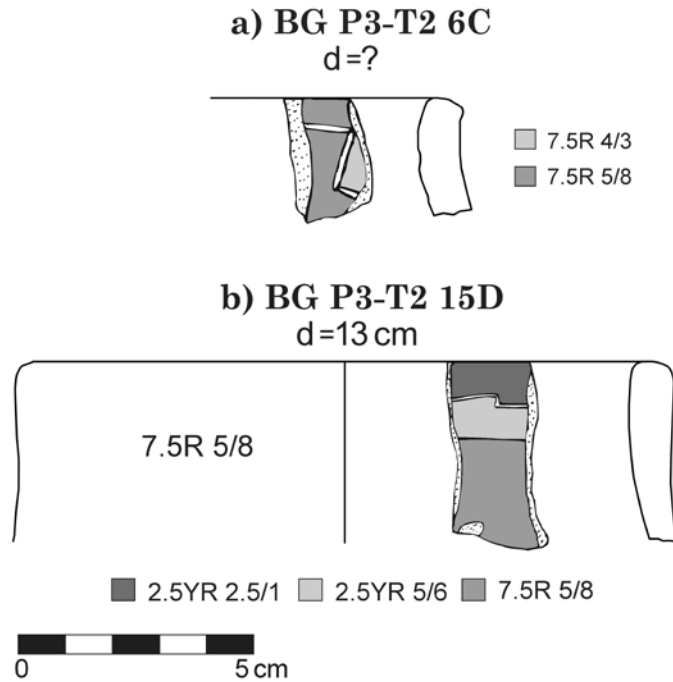


Figure 2.23. Vessels with painted and incised decoration on the interior. *a*, body fragment; *b*, jar (cántaro).

rhomboids, hatched and zone painted. In all cases, the paint was applied to the vessel before being fired and combined a maximum of three colors. The only design identified completely—and coincidentally the most commonly occurring—features concentric rhomboids in cream paint on a dark brown or black background, overlying a red slip (Figs. 2.25c, 2.26a, 2.27c). In other cases, despite not being able to fully recognize the designs, it is possible to identify the same technique and combination of colors that were used for the vessels with the concentric rhomboids (Figs. 2.26b, 2.27a, b, 2.28a, c).

Apart from these examples that conform to a decorative style, other variants were identified, including thick cream lines painted on red slip (Fig. 2.25h), thick black lines painted on a red slip (Figs. 2.25a, 2.28b), thick cream lines painted over black (Fig. 2.25i), and a single case of a latticed design with two tones of black paint over a cream slip (Fig. 2.26c).

External Decoration: Incisions

Four stylistic groups have been identified in this category. The first corresponds to vessels with very thick, deep, straight horizontal and parallel incisions made with a blunt point while the vessel was leather-hard (Figs. 2.29a, 2.31b). The second group includes vessels with thick, curved lines or thick, deep lines that form concentric, elliptical designs in the form of a spiral, which

were executed in the same manner as outlined above with a blunt tool (Figs. 2.29b, c, 2.31a, 2.32a). One unique example has a combination of the two types of incision; the technique above is paired with another using very fine lines that were made with a sharp tool when the vessel was dry before firing (Fig. 2.35a).

The third group corresponds to fragments with deep, wide incisions made with a sharp tool when the vessel was leather-hard. The incisions include lines, dots, circles and ellipses that form geometric figures that are not identifiable due to the size of the sherds (Figs. 2.32c, 2.33a, c, 2.34a–d). However, in two exceptional cases it was possible to deduce that the lines, ellipses and circles formed part of a plant image, which could be identified as the stem, branches, and upper part of the flower (Fig. 2.33b, d).

The fourth group does not share a coherent style, but is made up of fragments with the following characteristics that could not be classified within the other groups: shallow, thick lines forming a geometric design made with a blunt instrument when the vessel was leather-hard (Fig. 2.30c); shallow, thin lines made with a sharp instrument when the vessel was leather-hard (Fig. 2.30a, d); a design formed by a horizontal line and a wide, deep incision forming an elongated circle, which was made with a blunt tool when the vessel was leather-hard (Fig. 2.35b); and, lastly, thin, incised lines made with a sharp tool when the vessel was dry just before firing (Figs. 2.30b, 2.32b).

External Decoration: Painting and Incisions

Two groups of fragments share this form of decoration. The first, which is encountered in the majority of the cases, has thin, shallow incised lines that form geometric figures. These incisions are typically made when the vessel is leather-hard although in some cases they are made when the surface is already dry. The figures delimited by the incisions are then painted with the most frequently used color combinations of red and black or red, black and cream.

In terms of the designs, the majority of the fragments are too small to identify the entire decoration. Nevertheless, the following elements have been identified: “step” motifs (Fig. 2.36b); “simple squares” (Fig. 2.39d); “concentric squares” (Fig. 2.39a); and “small Xs” (Fig. 2.39b), among others. In the other group are fragments whose decoration consists of very thin, shallow, horizontal lines made with a sharp tool when the vessel was leather-hard. This incision is associated with a thick, wide horizontally painted band. In these cases, the black color of the band is combined with the red slip of the vessel below (Figs. 2.37c, 2.38c). There is a fragment with a slight variation to this technique included in the group; it also has a thin incised line made with a sharp instrument on leather-hard clay, but in this case the area covered by the painted horizontal band includes the rim and lip and is a slightly lighter color (Fig. 2.37b).

External Decoration: Appliqué and Incisions

In these cases, the incisions are generally thick and made on leather-hard clay before firing. The designs, which are typically

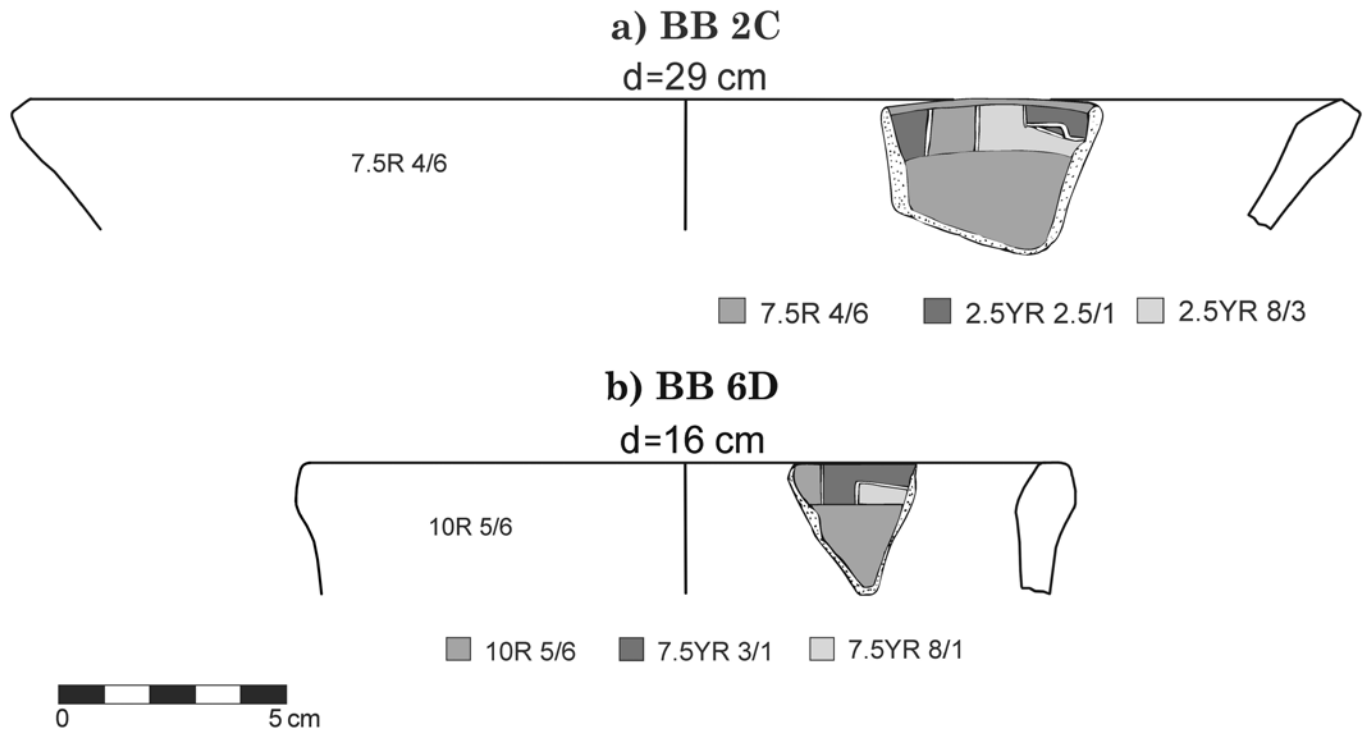


Figure 2.24. Bowls (tazones) with painted and incised decoration on the interior.

horizontal incisions, were likely made with a wide, blunt instrument. In the cases of diagonal or vertical incisions, they are thin or moderately thick and the tool used was probably a thin piece of wood with a sharp point. The incisions are always made into the appliqué element, which may be either a rounded nub or a strip of clay. An incised design with short lines has been identified in three variations: (a) vertical orientation (Figs. 2.40a, 2.41a); (b) diagonal orientation (Figs. 2.40c, e, 2.41b, c, 2.42a, b); and (c) horizontal orientation (Fig. 2.40b, d, f).

External Decoration: Painting, Incisions and Appliqué

Only one case was recorded in which all three techniques were used together on the exterior wall of a vessel. Black, red and yellow paint were added within two concentric circles, which were formed using thin incisions. Also, these painted, incised circles were on top of a raised area, giving volume to the design on the vessel wall (Fig. 2.45b).

Internal and External Decoration: Painting

In this category there are only four examples and three of them pertain to the same decorative style. Also, in two examples the internal decoration is limited to a band of color applied over the slip on the upper zone of the vessels. In one of these cases, the

exterior decoration is made of thick lines forming a black figure over a red slip, which is unfortunately unidentifiable (Fig. 2.43b). On the other, the design is a square painted in thick cream-colored lines on a black background applied over a red slip (Fig. 2.44a).

In the other two cases, the decoration is located on the interior bevel of the rim and the design consists of thick, cream-colored lines painted on a black background applied over a red slip. The slip continues onto the vessel's exterior surface. In one of these the lines are wavy (Fig. 2.43a) while in the other the design is more elaborate, including a wide "raindrop" figure with thick, short lines on the interior (Fig. 2.44b).

Internal and External Decoration: Paint, Incision and Appliqué

There is only one example in the category, which is a combination of black and red paint and thin incisions forming a step pattern. The design is found applied onto a red slip on the interior of the vessel while on the exterior is a small handle (Fig. 2.45a).

Correlation between Formal Categories and Decoration

In spite of the limited numbers of decorated fragments and the difficulty of assigning many of them to formal vessel categories, a few trends have been identified. First, when there is decoration on the interior (painted or painted and incised), in the majority of

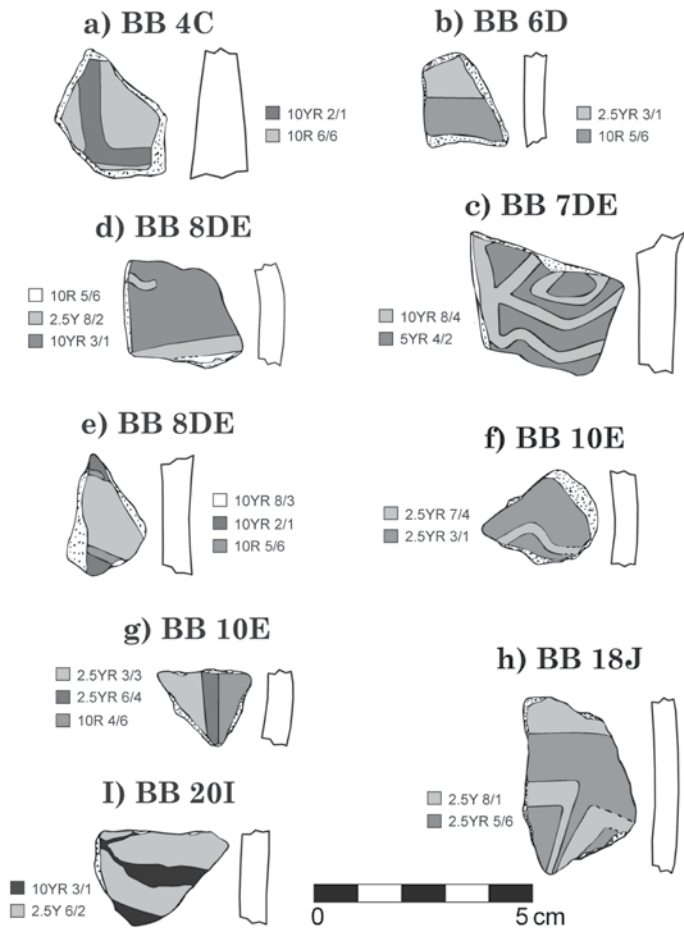


Figure 2.25. Body fragments with painted decoration on the exterior.

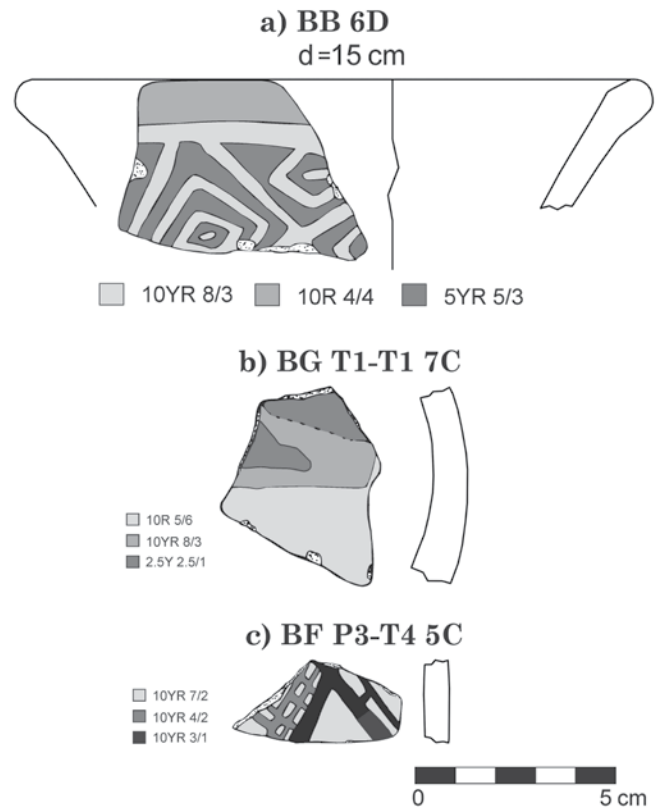


Figure 2.26. Vessels with painted decoration on the exterior. *a*, bowl (tazón); *b*, *c*, body fragments.

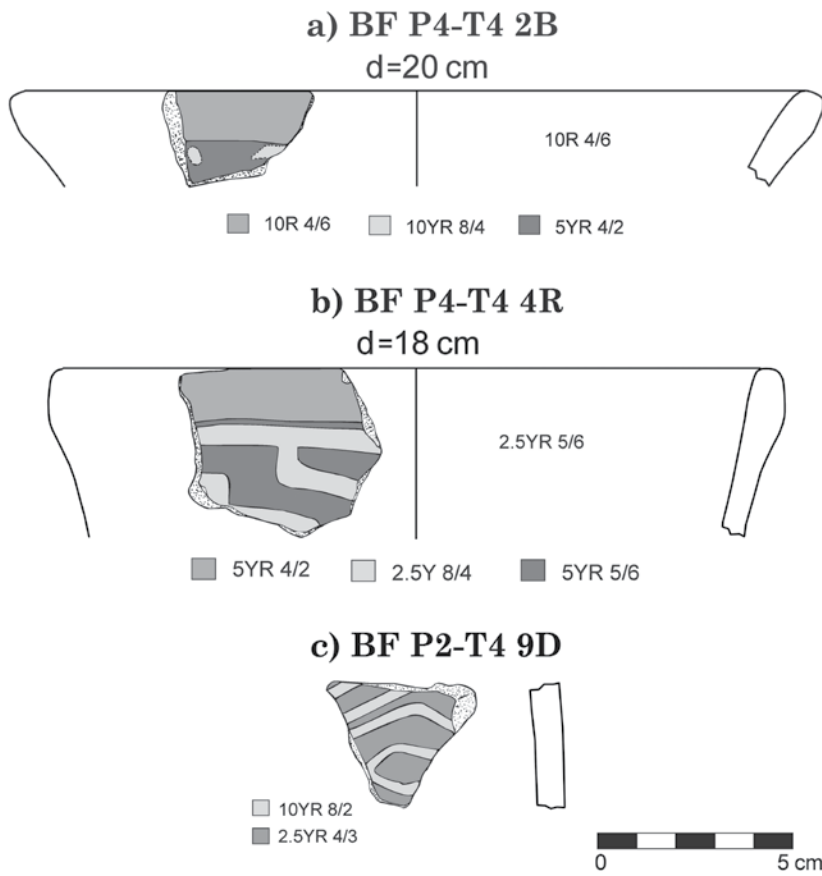


Figure 2.27. Vessels with painted decoration on the exterior. *a, b*, bowls (tazones); *c*, body fragment.

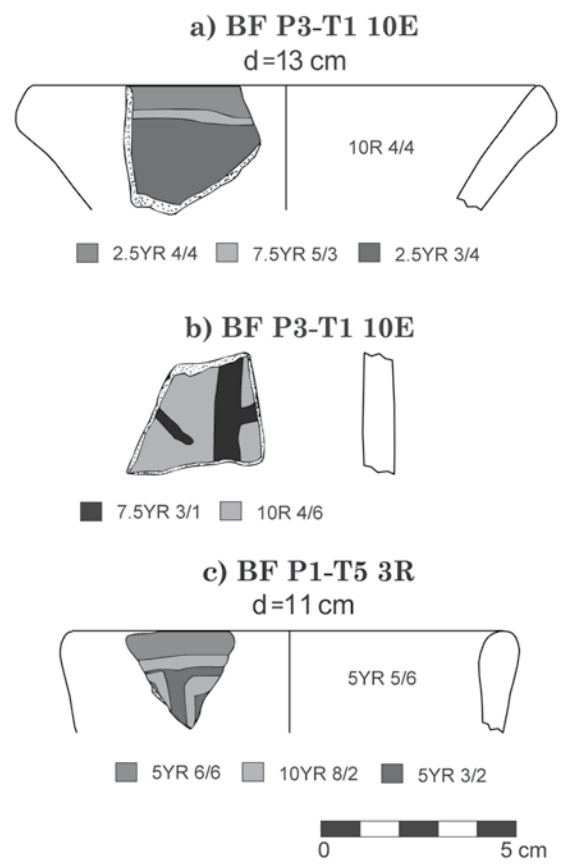


Figure 2.28. Vessels with painted decoration on the exterior. *a, c*, bowls (tazones); *b*, body fragment.

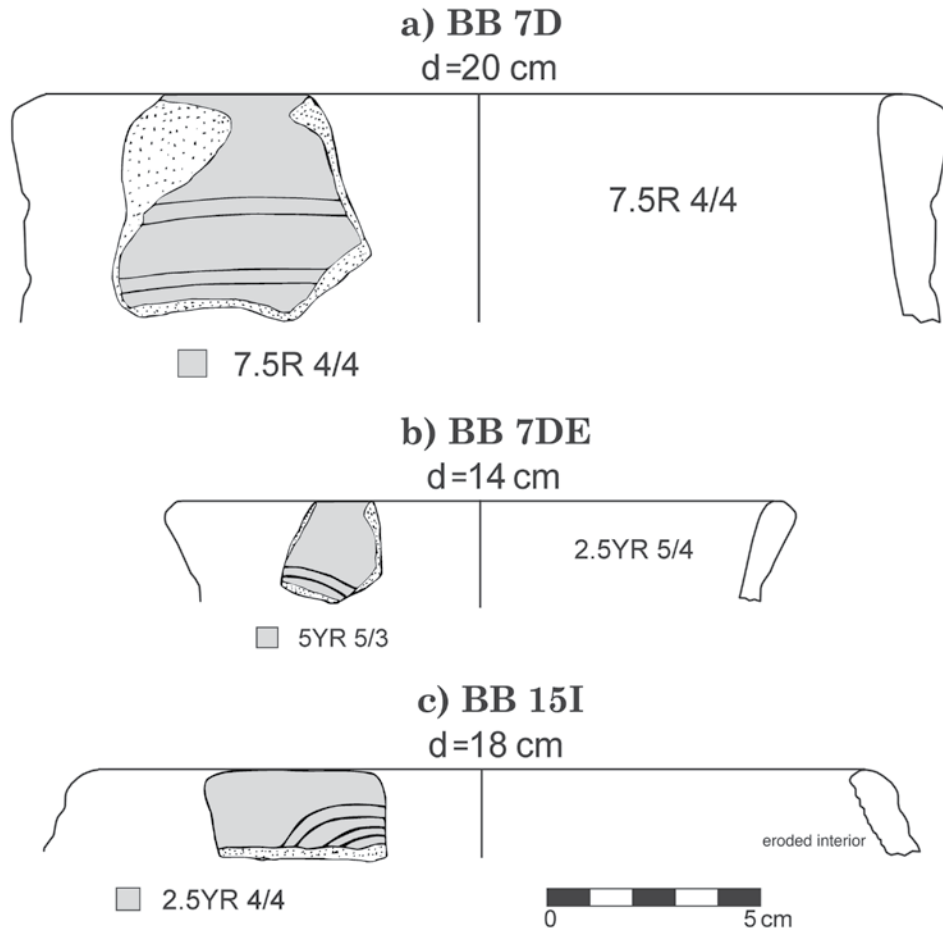


Figure 2.29. Vessels with incised decoration on the exterior. *a, b*, bowls; *c*, olla.

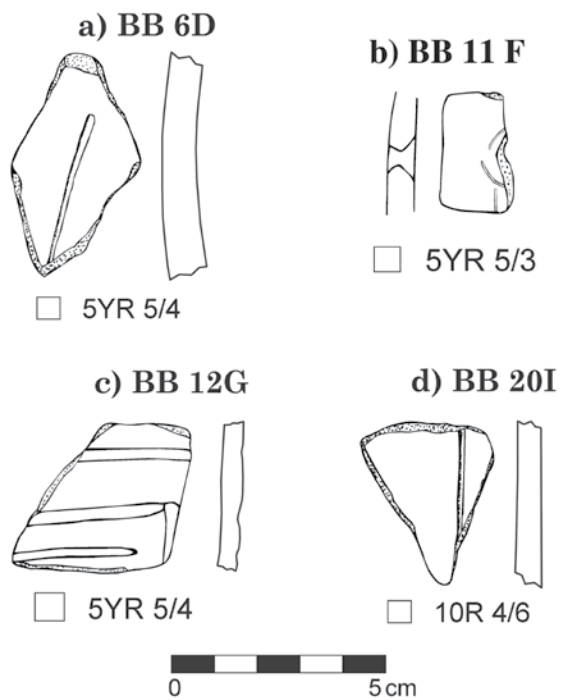


Figure 2.30. Body fragments with incised decoration on the exterior.

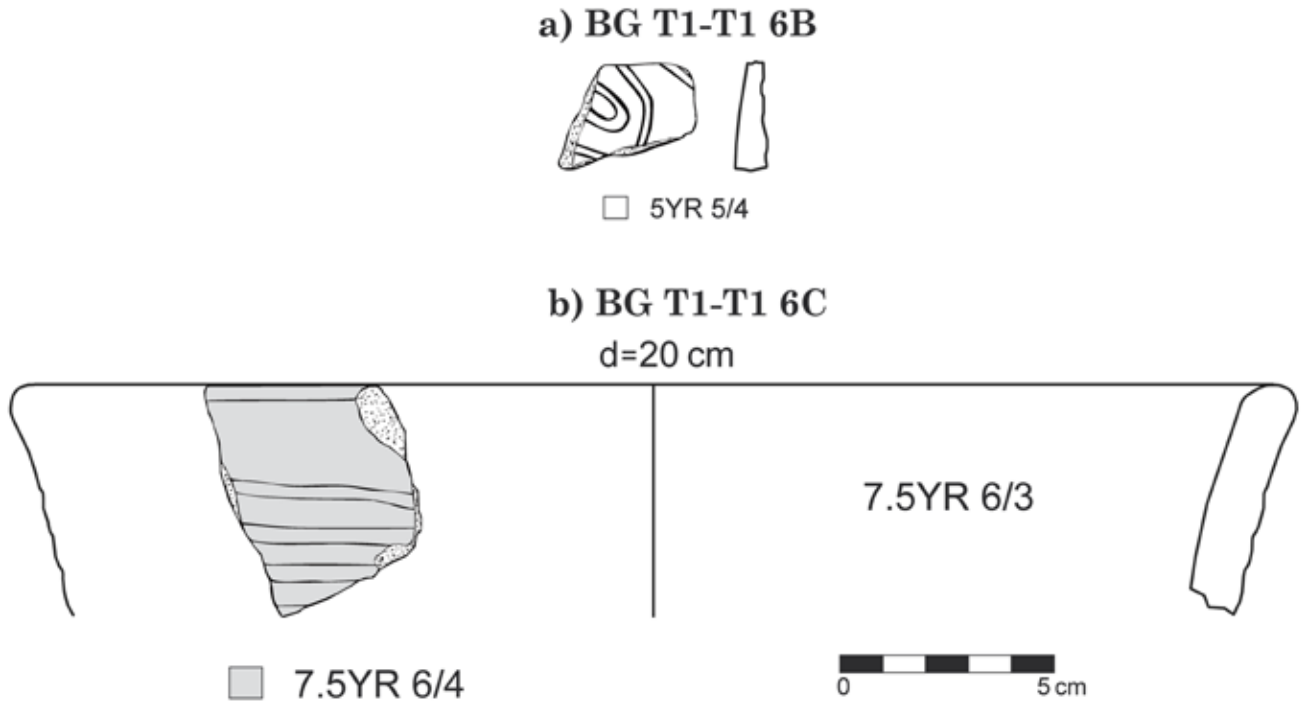


Figure 2.31. Vessels with incised decoration on the exterior. *a*, body fragment; *b*, bowl (tazón).

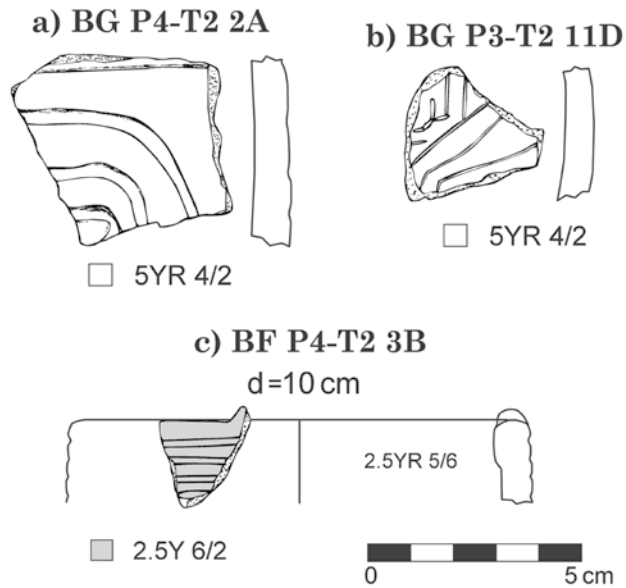


Figure 2.32. Vessels with incised decoration on the exterior. *a*, *b*, body fragments; *c*, bowl (tazón).

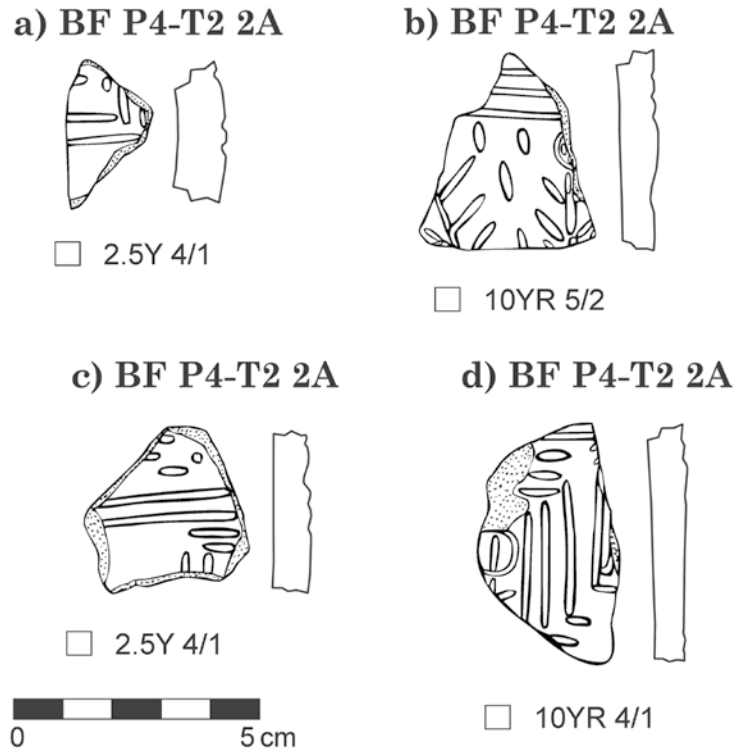


Figure 2.33. Body fragments with incised decoration on the exterior.

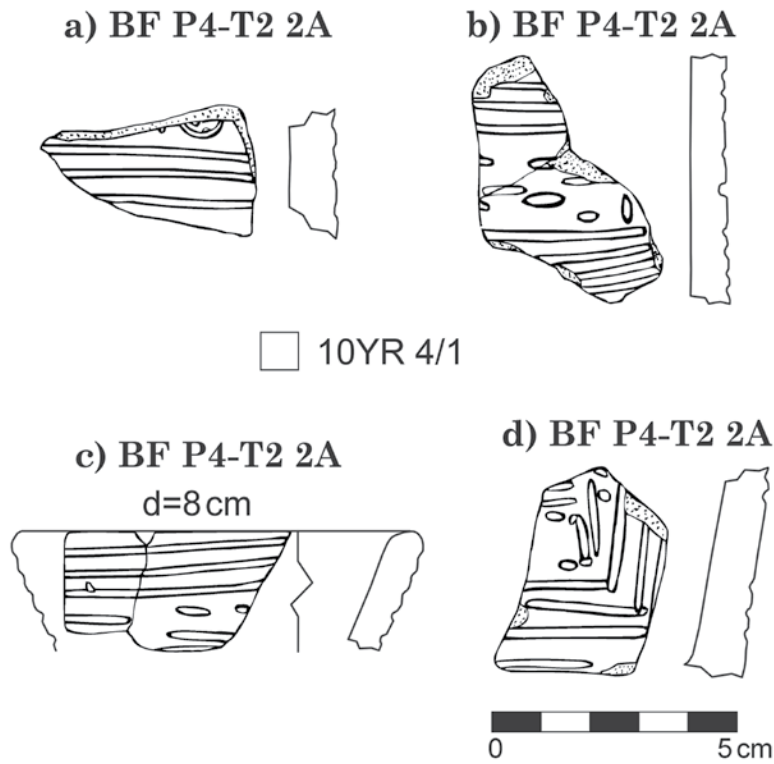


Figure 2.34. Body fragments with incised decoration on the exterior.

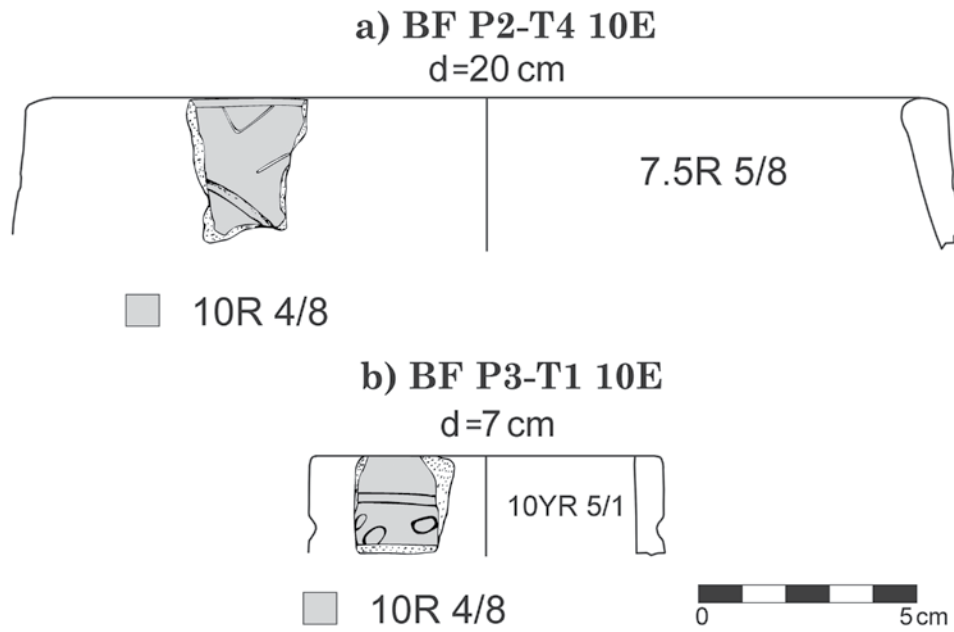


Figure 2.35. Vessels with incised decoration on the exterior. *a*, olla; *b*, bowl (tazón).

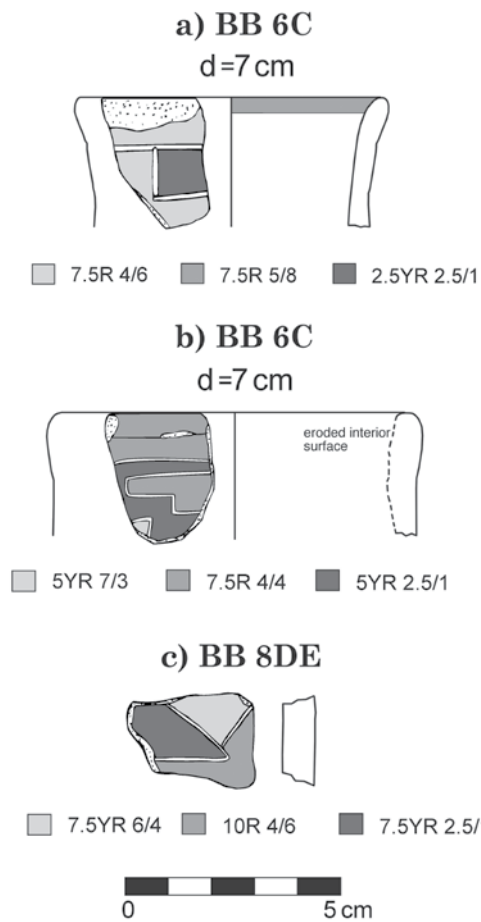


Figure 2.36. Vessels with painted and incised decoration on the exterior. *a*, *b*, bowls; *c*, body fragment.

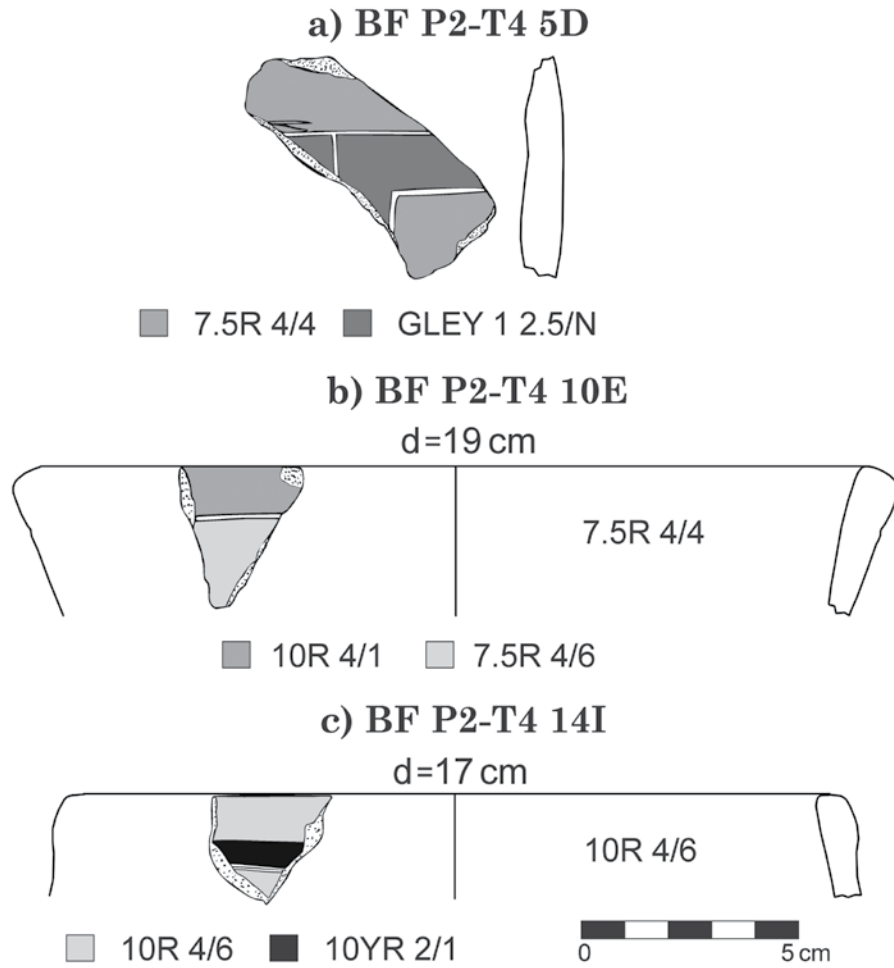


Figure 2.37. Vessels with painted and incised decoration on the exterior. *a*, body fragment; *b*, bowl (tazón); *c*, olla.

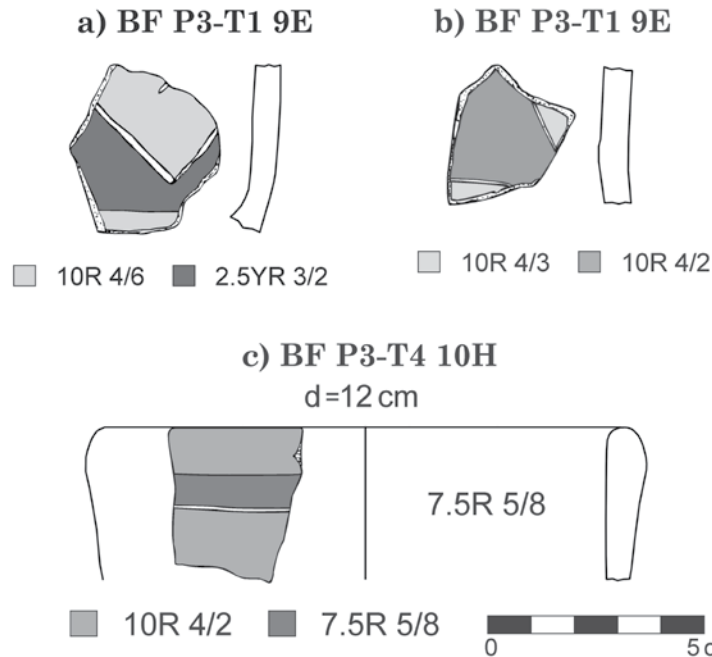


Figure 2.38. Vessels with painted and incised decoration on the exterior. *a*, *b*, body fragments; *c*, bowl (tazón).

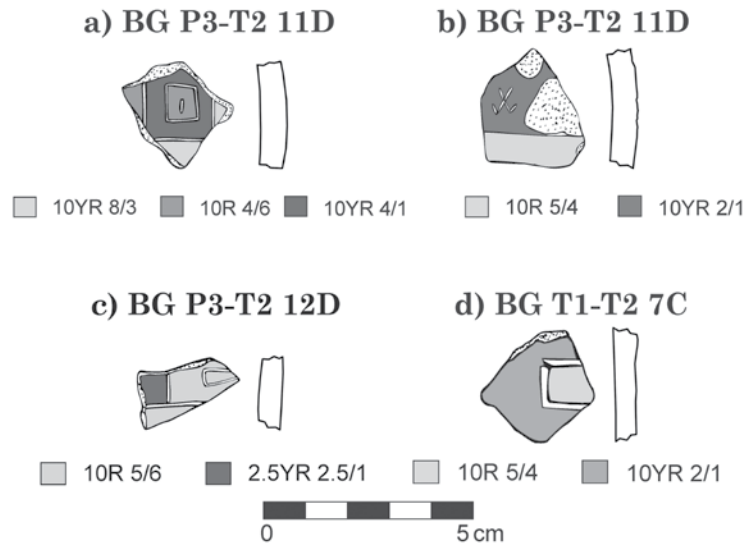


Figure 2.39. Body fragments with painted and incised decoration.

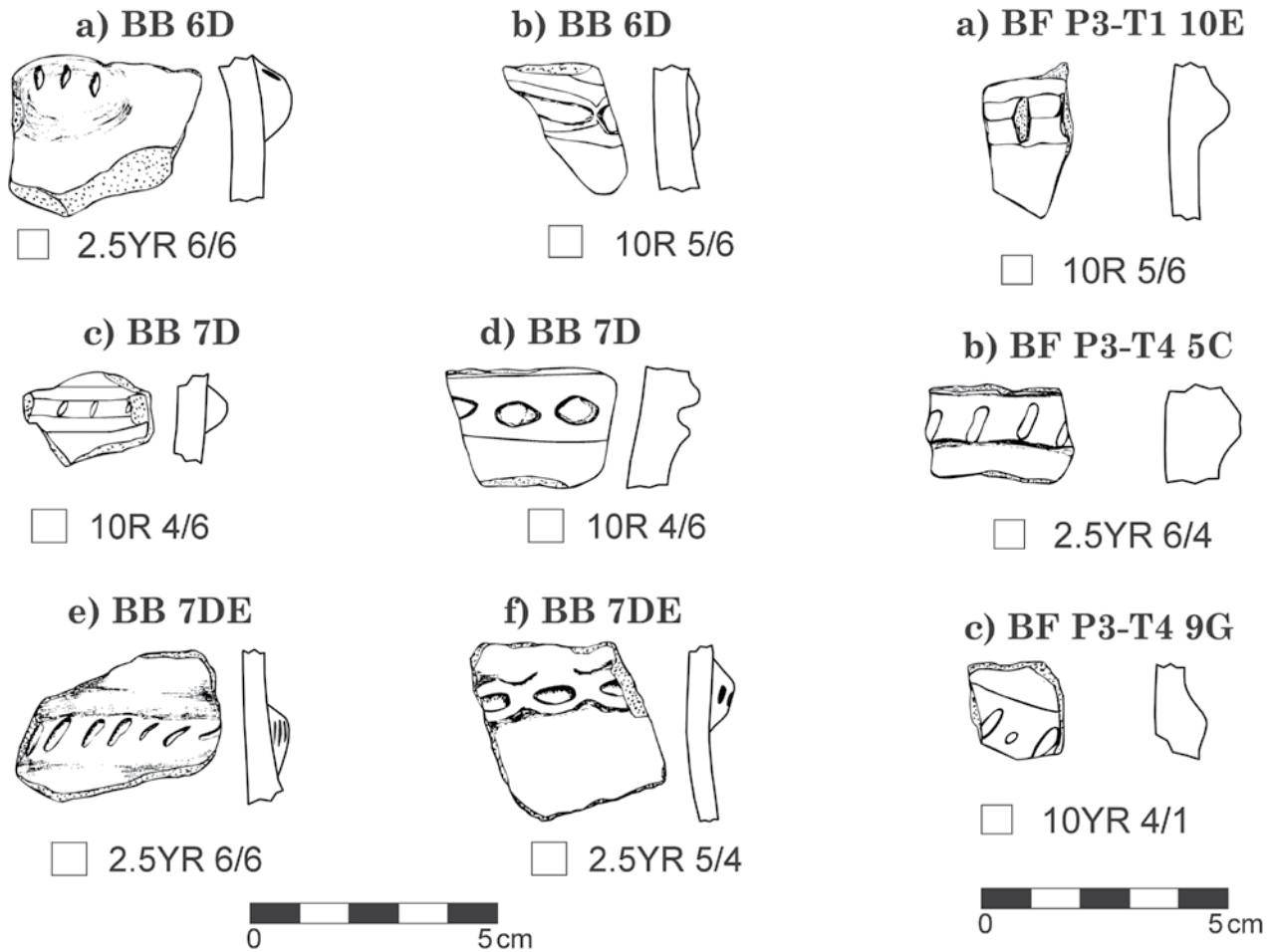


Figure 2.40. Body fragments with appliqué and incised decoration.

Figure 2.41. Body fragments with appliqué and incised decoration.

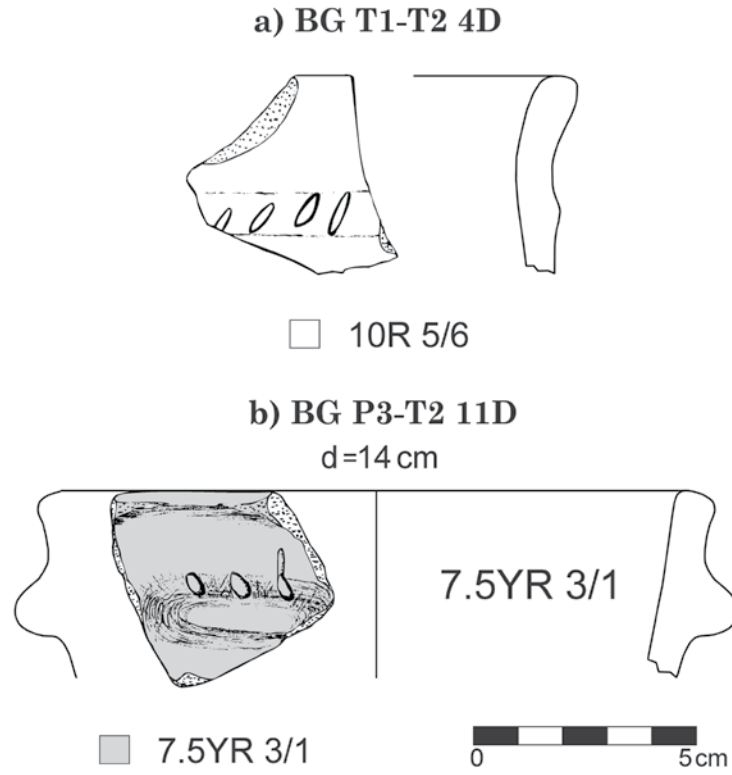


Figure 2.42. Vessels with appliqué and incised decoration. *a*, unidentified form; *b*, bowl (tazón).

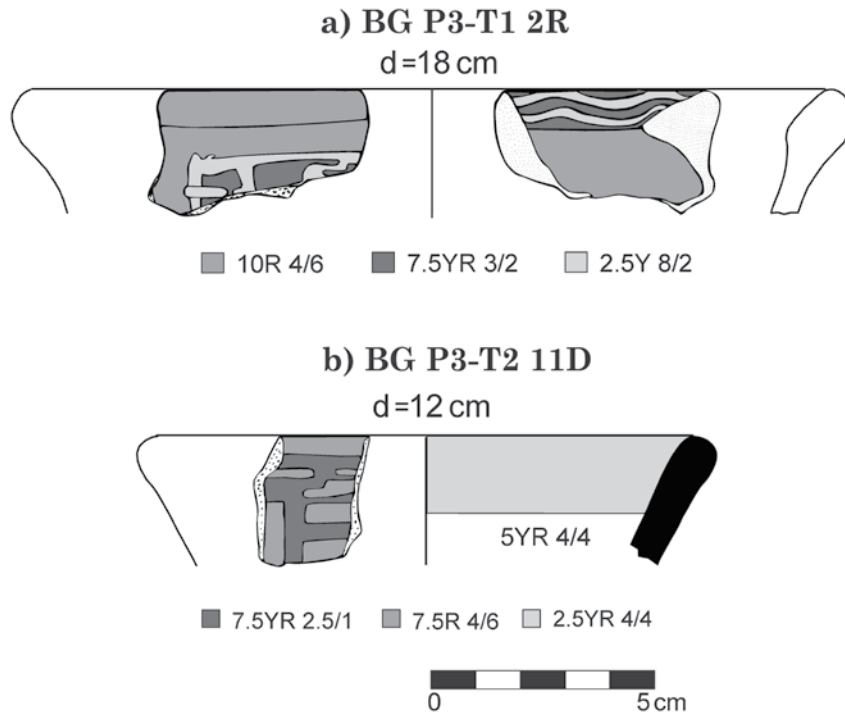


Figure 2.43. Bowls (tazones) with painted decoration on the interior and exterior.

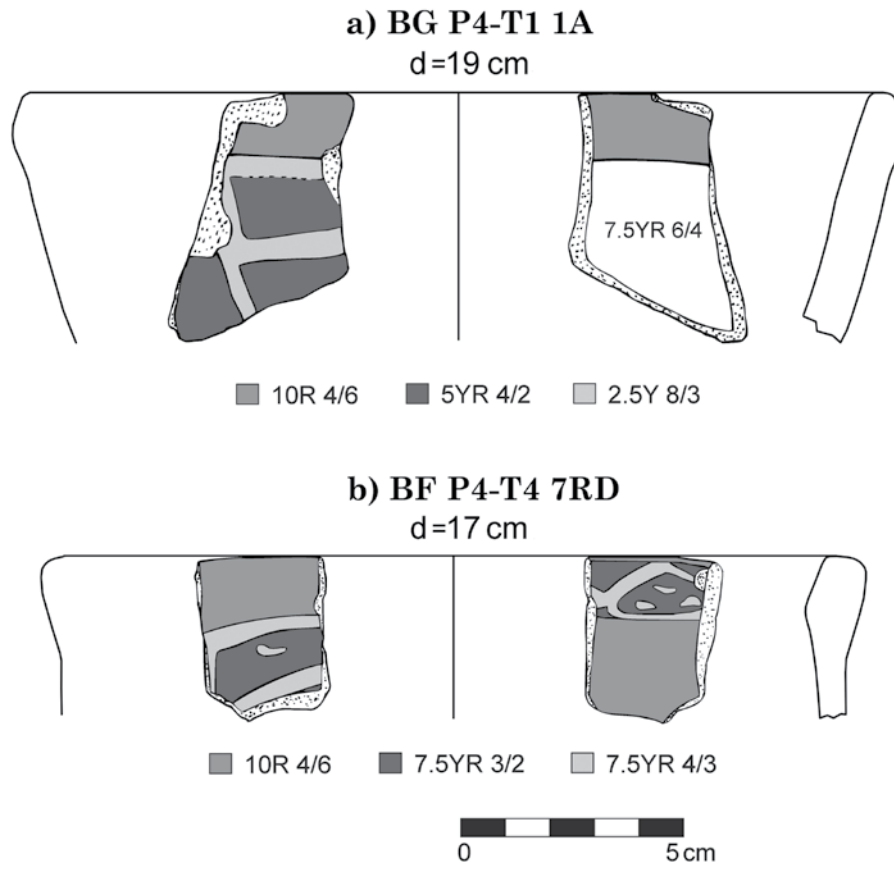


Figure 2.44. Bowls (tazones) with painted decoration on the interior and exterior.

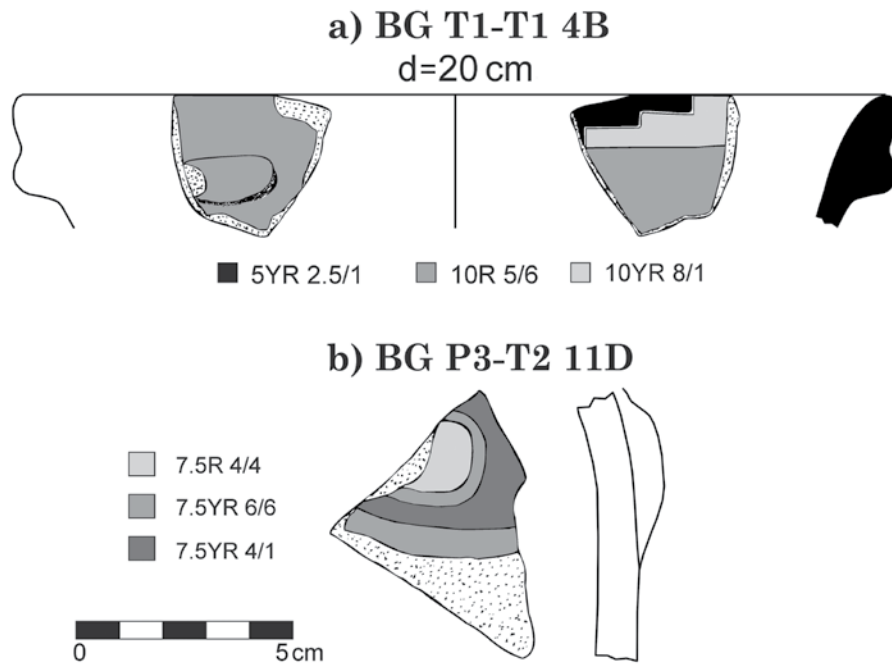


Figure 2.45. *a*, bowl (tazón) with painted and incised decoration on the interior and appliqué decoration on the exterior; *b*, body fragment with appliqué, painted and incised decoration.

these cases it is located on the interior beveled lip of a medium or large bowl (*tazón*) with diverging walls. The only case of an incised decoration on the interior was on a medium bowl (*tazón*) with vertical walls.

Second, when decoration is located on the vessel exterior, the majority of painted designs are found on medium and large bowls (*tazones*) with diverging walls. In the case of painted and incised decoration on the exterior, vessel types include: a medium bowl (*tazón*) with vertical walls; a large bowl (*tazón*) with diverging walls; a medium-necked olla with converging walls; and a small jar (*cántaro*) with a slightly concave, vertical neck. Incised decoration on the exterior is found on the following vessel types: two small bowls (*tazones*) with vertical walls; one small bowl (*tazón*) with diverging walls; a medium bowl (*tazón*) with diverging walls; a large bowl (*tazón*) with diverging walls and another with vertical walls; and a neckless olla with slightly inclined walls.

Lastly, in the case of vessels with both internal and external decoration, almost all are large bowls (*tazones*) with diverging sides. There is only one exception to this case, which is a small jar (*cántaro*) on which the internal decoration is limited to a small painted band near the rim.

Stylistic Considerations

This study has identified examples of four ceramic styles that have been preliminarily defined in the existing literature as Qaluyu, Cusipata, Initial Pukara or Incised Cusipata and Ramis. Additionally, there are examples that cannot be classified within these groups. Given that there is limited evidence, it is not possible to assert whether these unidentified sherds are new local styles, non-local styles, or variants within the styles already mentioned.

Qaluyu

First, in this sample there are examples of designs made with thick linear or curvilinear incisions on brown or grayish slipped bowls (*tazones*) (Figs. 2.29, 2.31), which are similar to designs assigned to the Qaluyu style in earlier publications (see Lumbreras and Amat 1968:103, Fig. 1*g, h*; Steadman 1995:588, Fig. 49*a–d*). Karen Mohr Chávez (1977:1025) noted that these designs had been found in the type site of Qaluyu and share similarities with ceramics recovered in her excavations at Marcavalle (Cuzco) within the early ceramic phases. Lee Steadman (1995:538) adds that in the site of Camata in the western Titicaca Basin, these decorations were also encountered in the “Late Qaluyu 1” phase, inserting them into the later part of the earliest sequence at that site.

The other case that is related stylistically to Qaluyu is a fragment with the painting technique labeled by Luis Lumbreras and Hernán Amat (1968:78) as Qaluyu “dark on light” (*oscuro sobre claro*) and by Steadman (1995:425) as “brown or black on cream.” I have classified this example as “latticed,” but given the small

size of the sherd, it is not possible to identify the entire design (Fig. 2.26*c*). It is quite possible that this design is like the diamonds with interior latticing that Steadman (1995:577, Figs. 37*f*, 38*f*) identified as the most common design found in the earliest periods at Camata. Mohr Chávez (1977:1024–25) also encountered this design on vessels from Pikicallepa and Marcavalle.

Cusipata

Previous research by Elías Mujica (1987:26, Fig. 6*a–f*) includes the majority of cases that were analyzed in the present study. The fragments of this style that have yet to be published share with the others the combination of cream paint on a dark brown or black background, which is all painted over a red slip. The designs are the same, using either straight or undulating lines (Figs. 2.25*d, f*, 2.28*a*) or horizontal, concentric diamonds (Figs. 2.25*c*, 2.27*c*). Examples of ceramics of this style were also encountered in excavations of the central pampa at Pukara by Elizabeth Klarich (2005a:342, Fig. 10), but besides this example they have not been identified in excavations. Mohr Chávez (1977:1027) found various similarities between the Cusipata ceramic style and Marcavalle cream/brown, which merits further investigation to determine the nature of this relationship.

Pucara Pampa, and So On

The third ceramic style was originally defined as Pucara Pampa (Franquemont 1986:9), then as Initial Pukara (Wheeler and Mujica 1981:34), and finally as Incised Cusipata (Mujica 1987:24). Vessels of this style have incised decoration used to delimit the design area, which is then painted in black, white or red. The figures are generally geometric, including squares, rectangles, and step motifs (Figs. 2.22*a, b*, 2.23*b*, 2.24*a, b*, 2.36*a–c*, 2.45*a*). One example of this style has been published by Klarich (2005a:342, Fig. 2); it was recovered from excavations on the central pampa at Pukara.

Ramis

The final style, Ramis, has been previously defined and described by Jane Wheeler and Elías Mujica (1981:40). It is defined as poorly manufactured and fired black pottery with incised geometric designs and post-fire paint. This style would be contemporaneous with Painted Cusipata and Incised Cusipata and may come from the eastern valleys. In the present study, various fragments of this style were analyzed and likely correspond to serving vessels for food or liquids. This is based on the examples published by Wheeler and Mujica (1981:41, Fig. 25, 1 and 2) and our identification of two small bowls (Figs. 2.32*c*, 2.24*c*) and a possible bowl (*tazón*) with a pedestal base (Fig. 2.34*d*).

There are two important examples worth mentioning within the decorated wares. These are the only fragments from the earliest sequence from Pukara with naturalistic decorations, specifically a plant with a stem, branches, and flower on the upper part (Fig.

2.33*b, d*). Stylistically, these sherds are also Ramis. In all others analyzed, early fragments exclusively feature geometric designs.

It is important to note that because of erosion it was not possible to document the presence of post-fire painting in the present sample. However, Klarich (2005a:227) documents the presence of two post-fire painted sherds excavated from the central pampa at Pukara, as does Steadman (1995:446) from the “Initial Pucara” phases at Camata.

Other Styles

A distinct and little understood style is composed of vessels with appliqué decoration that have also been incised. Klarich (2005a:227) proposes that this ceramic style is non-local, like the Ramis style. There is a strong similarity between those published by Klarich (2005a:340, Figs. 2, 3) and those identified in this study (Fig. 2.40*c, e*).

Technology: Paste Analysis

Paste analysis³ was done macroscopically and first considered color, then the characteristics of the inclusions (color, form, size, quantity, distribution), hardness, porosity and texture, and firing. Based on these preliminary analyses, 52 pastes, 15 paste groups and 8 wares were defined (Tables 2.1–2.4).⁴ However, these groupings will need to be corroborated with future petrographic analyses.

The Earliest Ceramic Sequence at Pukara

Due to the fact that the analyzed ceramics were from a limited number of contexts and generally recovered from construction fill, the process of reconstructing the ceramic sequence was quite difficult. Typically, fill episodes are composed of trash from a variety of time periods, resulting in levels in which the recovered sherds were not necessarily used contemporaneously. Nevertheless, it was possible in some contexts to define a coherent sequence based on the study of ware categories.

In this analysis, it is first important to note that throughout the sequence almost all formal categories of vessels were produced with all wares, meaning that there was no exclusive production of particular ware categories. This is important because it could be an indicator of little centralization and/or hierarchical structuring of ceramic production at Pukara. This also may mean that ceramic producers were not specialists during this time period and that each productive unit was able to produce the whole range of vessel types. However, it is important to note in this analysis that bowls (tazones), especially medium and large bowls, are the vessel form found most commonly in all ware categories. Only in the case of Ware F are there more jars (cántaros) than bowls (tazones), which is interesting considering it is one of the earliest ware categories in the sequence.

As mentioned previously, ceramics in this analysis were recovered from three sectors at Pukara—BB, BF and BG—and due to a lack of secure contexts the reconstruction of the sequence has been challenging. However, there are a number of important

chronological elements documented within this sample that were first noted from Sector BB and subsequently confirmed with the materials from Sectors BF and BG.

Sector BB. To begin, there are ceramic wares that appear throughout the entire Formative sequence, most notably Wares A and B. There are also wares that appear gradually over time and remain until the end of the Middle Formative. In Table 2.1 it is documented that Wares F and G are encountered primarily in the latest strata with Middle Formative materials, which corresponds to the transition to the Late Formative (Middle or Classic phase) at Pukara. However, it is notable that these wares also appear in the lowest level, corresponding to the earliest pottery at the site. This is important because Wares F and G generally fit the descriptions for Qaluyu ceramics, corresponding to the general chronology for the Titicaca Basin. Additionally, based on the results of the present study, it is possible to argue that this ceramic tradition was not restricted to the earliest levels of the site, but continued until the Middle or Classic Pukara transition. Finally, we also note that Ware C is encountered consistently throughout the sequence, which corresponds to Huaña I (Chávez Justo, n.d.). This would be a ceramic tradition that was not documented for this region, but has been tentatively defined as originating in the Middle Formative and continuing through the Altiplano period. It has been documented in areas such as Taraco and the zone of Huancané; with the present findings its range has been expanded west to Pukara.

Sector BF. In this sector the ware sequence is much clearer (Tables 2.2, 2.3). It is again clear that Wares A and B are present in almost the entire sequence while others, such as Ware H, are not encountered in the early levels but continue through the end. This suggests that some traditions were present from the earliest periods of occupation while others were incorporated or invented locally and continued to be used at least until the beginning of the Late Formative, if not for many years longer. In this sector, the wares or pastes that correspond to those described for Qaluyu appear in the middle of the sequence. It is noteworthy that their appearance is grouped and also that they were not present in the upper levels. This suggests that their use in this part of the site was not long term, which makes sense when considering that the analyzed ceramics were recovered from construction fill and not from occupation levels. Also, in spite of the possibility that the ceramics are mixed, it is important to note that sherds from the Huaña I tradition are present, appearing in the intermediate levels and continuing through the end of the sequence.

Sector BG. Analysis of pottery from this sector produces the same trends as Sectors BB and BF. For example, Ware A and Ware B to a lesser degree are present throughout the entire sequence while other traditions are limited to some levels (Table 2.4). This is the sector with the most potential for mixed levels and a smaller number of sherds. These contexts, like those of Sector BF, come exclusively from construction fills.

Table 2.1. Distribution of wares by strata, Sector BB.

Level	Ware							
	A	B	C	D	E	F	G	H
C	X	X	X	X	X	X	X	X
D	X	X	X	X	X	X	X	X
DE	X		X	X	X			X
E	X	X			X			
F							X	X
G	X		X			X		
H	X							
I	X	X	X	X	X	X	X	X

Table 2.2. Distribution of wares by strata, Sector BF, Platform 2.

Level	Ware							
	A	B	C	D	E	F	G	H
B	X	X	X					X
C	X	X						X
D		X	X					X
E	X	X	X			X	X	X
F	X		X					
G	X	X	X					X
H			X					
I	X	X		X	X			

Table 2.3. Distribution of wares by strata, Sector BF, Platform 3.

Level	Ware							
	A	B	C	D	E	F	G	H
D	X		X		X			X
E	X	X	X	X	X	X	X	X
F	X	X	X					X
G			X		X			
H	X							

Table 2.4. Distribution of wares by strata, Sector BG, Platform 3.

Level	Ware							
	A	B	C	D	E	F	G	H
B		X	X					X
C	X	X	X	X	X			
D	X	X	X		X	X		X

Conclusions

During the Middle Formative, the first complex societies emerged in the Lake Titicaca Basin, with corporate architecture. These sites were led by elites who competed for control of both local and non-local goods. When effective, elites could weave together disparate social groups and mobilize populations beyond the household level. Depending on the ability of the elites, they could attract large or small groups to their respective sites, resulting in differences in site size and complexity. Based on the offerings of the local elite, large sites would therefore have had populations with diverse origins, reflecting the greater number of people who migrated to these centers. The growth of such centers would also have included a number of coexisting traditions in many aspects of daily life, including, of course, ceramic production.

In the sample analyzed in this study, the interactions of contemporaneous, distinct traditions are reflected by the variety of paste types, paste groups and ware categories present in the contexts excavated at Pukara. This diversity indicates that, for example, there were various “Qaluyu styles” or various traditions within these categories that have been grouped together by archaeologists. With respect to this diversity, it is important to note the existence of the Huaña I style at Pukara during almost the entire sequence, confirming initial suspicions that this recently defined tradition was contemporaneous with Qaluyu and continued into later periods. Future studies at Pukara and surrounding sites will serve to refine the spatial and chronological distribution of these various ceramic types during the dynamic and still poorly understood Formative period in the Titicaca Basin.

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Notes

1. All information related to the Plan Copesco Project (maps, drawings and plans) was generously provided by Elías Mujica.

2. It is possible that necked ollas and jars (cántaros) were mixed during analysis due to the small size of the neck sherds.

3. The methods of ceramic analysis used were the same as those developed by Cecilia Chávez Justo in “Análisis de la Cerámica del Sector Medio y Bajo de de la Sub-cuenca del Río Huancané (Puno-Perú), 2008” (Chávez Justo 2008).

4. A detailed description of the ceramic pastes, paste groups, and ware categories are available in the author’s Licenciatura thesis (Oshige 2010).

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