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The Kallanka at Samaipata, Bolivia: An Example of Inka Monumental Architecture

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THE SAMAIPATA SITE IS LOCATED IN WHAT HAS BEEN CONSIDERED THE border area between the Inka Empire and the territory of the people of the lowlands with whom they were often at war. Because of these military conflicts, a series of fortresses was built along this border in Kollasuyo. Examples of such fortresses are Incarracay, Inkallajta, Oroncota, Inkapirka, Manchachi, Inkahuasi, and Condorhuasi.

In 1994, during the second field season of the Samaipata project, clearing of dense forest vegetation in the small quebrada to the south of the carved “ceremonial” rock revealed a previously unknown complex of monumental architecture. The complex consists of a central, almost quadrangular plaza that measures 100 m on a side flanked by a long hall (*kallanka*) 68 m x 16 m, and, on a higher platform to the east, seven rectangular buildings, each measuring more than 30 m in length. The rock, the seven niched structures that border it, the terraces, and the other architectural elements together form a monumental complex that is the remains of an important Inka administrative and ceremonial center in the eastern Bolivian Andes.

The constructions in the area south of the ceremonial rock are an example of the so-called “architecture of Inka power” defined by Graziano Gasparini and Luise Margolies (1980: 71) and they display many of the distinctive elements set forth in the model proposed by these scholars: the presence of a main and secondary plaza, at least one *kallanka* on the plaza, a house of the “chosen women” (*aqllawasi*), a temple of the sun, and storehouses (*qollqas*). These features are found in almost all of the administrative Inka centers with some differences according to the region. Architectural evidence from Samaipata will

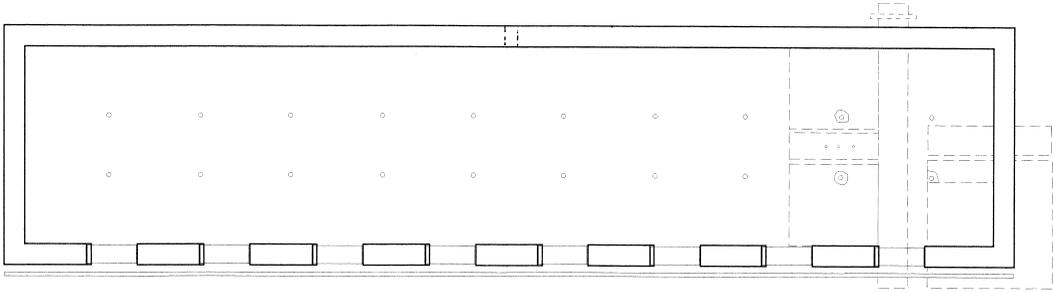


FIG. 1 Plan of the kallanka at Samaipata, Bolivia



be presented here and discussed together with details of the excavation of the western part of the kallanka, a structure comparable to the kallanka at Inkallajta in the neighboring Cochabamba region.

The kallankas are typical Inka buildings of great dimension, which are found in almost all of the Inka provincial capitals and they are, because of their size, a symbol of power. The kallanka is a large, long, rectangular, often two-story structure supported by a series of pillars along a longitudinal axis (Gasparini and Margolies 1980: 196). It has no inner divisions, only a space under a roof made of wooden frames and covered with straw. Generally, only one long wall has doors, the opposing or “rear” wall presenting a continuous series of niches or windows. The shorter sides of the building have gable walls of stone and, sometimes, adobe. Little is known of the function or functions of kallankas, although there have been many interpretations—it is speculated that the kallankas may have served as living quarters, covered markets or temples, palaces or lodgings for important individuals or lords (cf. Gasparini and Margolies 1980: 67–68, 196–219; Morris and Thompson 1985: 112).

The large architectural complex south of the sculpted ceremonial rock at Samaipata is built on three platforms at different levels, and it probably served as an administrative-religious center. The kallanka at Samaipata (fig. 1) is located on the lowest of the platforms, and thus makes up part of this ceremonial administrative Inka center. It is 68 m long and 16 m wide and, after Inkallajta, is the largest kallanka in Bolivia (Ibarra and Querejazu 1986: 322). Samaipata’s kallanka is erected on the southern part of the main terrace and, together with other smaller buildings to the west, borders the great central plaza. Its northern wall faces this central plaza and has eight entryways. Two seasons of excavations in 1994 and 1995 focused on the western section of this kallanka, and the results of these investigations allow us, for the first time, to have an archaeological basis for the reconstruction of one important kallanka, that of Samaipata. In

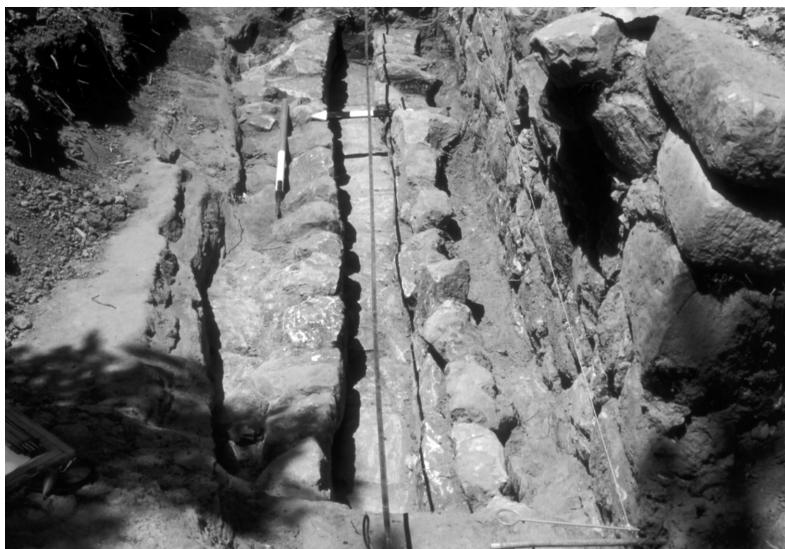


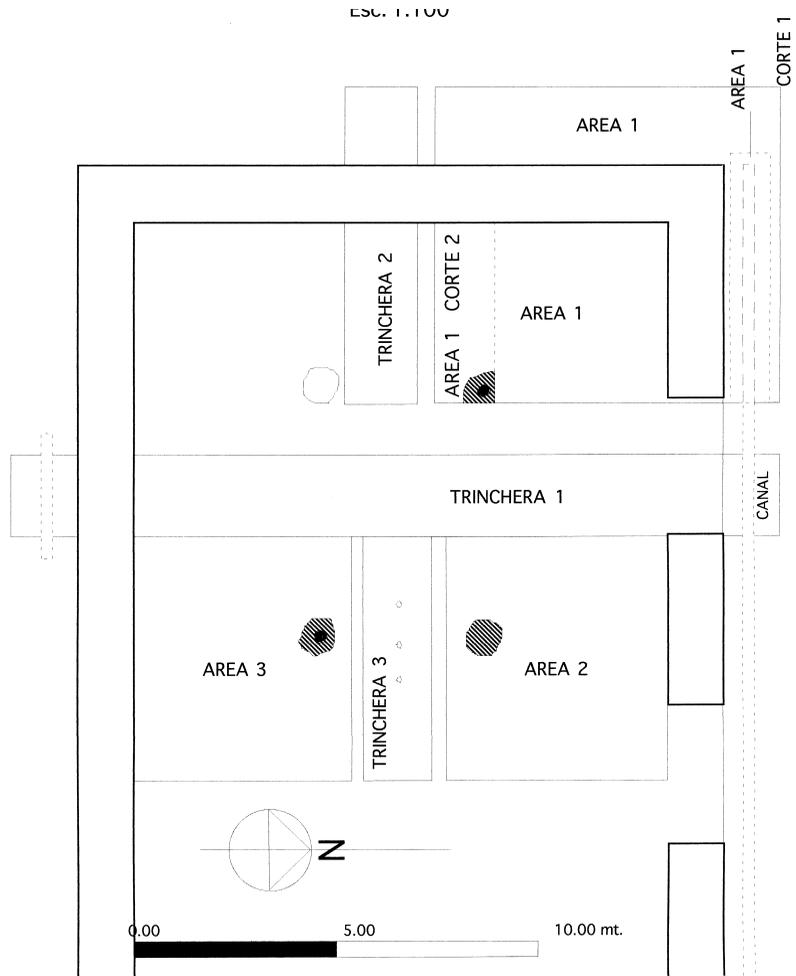
FIG. 2 Channel at the foot of the kallanka at Samaipata

addition, the excavations in the kallanka at Samaipata allow us to compare it with similar structures at other major Inka centers.

In order to avoid confusion, the term *kallanka* will be defined here in terms of its large dimensions (40 m minimum) and its location within the larger architectural complex (windows or doors facing the plaza). Tumipampa, Chinchero, Huánuco Viejo, Tambo-Inga, Uchuy Cusco, Tunsucancha, and others share these characteristics. Inkallajta is the largest example of a kallanka, measuring 78 m in length and 26 m in width, and having twelve doors that lead to the main plaza. The kallanka at Inkallajta is the center around which the rest of the structures have been built. Similar constructions, though of lesser dimensions, are found throughout the Inca territory. Though not kallankas, per se, they were located in the plaza and had a more permanent nature. Samaipata's kallanka's (68 m x 16 m) northern walls face the central plaza and the sculpted rock, and each of its eight doors is 3.4 m wide. At the foot of the kallanka is a well-constructed slate channel that runs the entire length of the structure (fig. 2). It begins from a furrow in the bedrock. A similar channel also exists at the Chinchero kallanka (Alcina Franch 1976: 32).

Inka architecture in Bolivia is provincial. Walls are of unworked stone joined together with mud mortar and filled with clay and gravel. Their upper walls are usually built of adobe and there are internal and external niches. As a rule, the back walls have no openings. Inkallajta, which is a representative example of this style, has .85 m thick walls that were plastered and painted red, a common practice in the southern part of the empire. At Samaipata, the walls were built directly on the bedrock and they are 1.4 m thick. The lower section of the walls is made out of finely carved stone and the upper part is made out of more coarsely worked

FIG. 3 Schematic view of the excavations in Sector 11 of the kallanka at Samaipata, Bolivia



sandstone. The walls were plastered or burnished with a resinous material, and the adobe sections on top of the walls appear to be painted. The southern wall of the kallanka shows evidence of a doorway or a window. Based on the archaeological evidence, we have been able to determine that this enormous construction had a total height of 12 m.

The stratigraphy in the Samaipata's kallanka is uniform everywhere except in the section of the cave-in along the western wall. In general, the stratigraphic sequence consists of a thick layer of humus followed by a yellowish-red stratum that was underlain by a thin layer of gravel that apparently served as a make-shift floor. There are no remains of carefully prepared floors. A compact layer of sandstone fills in and levels the irregularities of the bedrock that supports the Samaipata's kallanka. Beneath the cave-in in the western section of the kallanka, a layer of tar or resin sealed off dozens of holes that may have been made to support ladders or scaffolds while the western wall was being built.

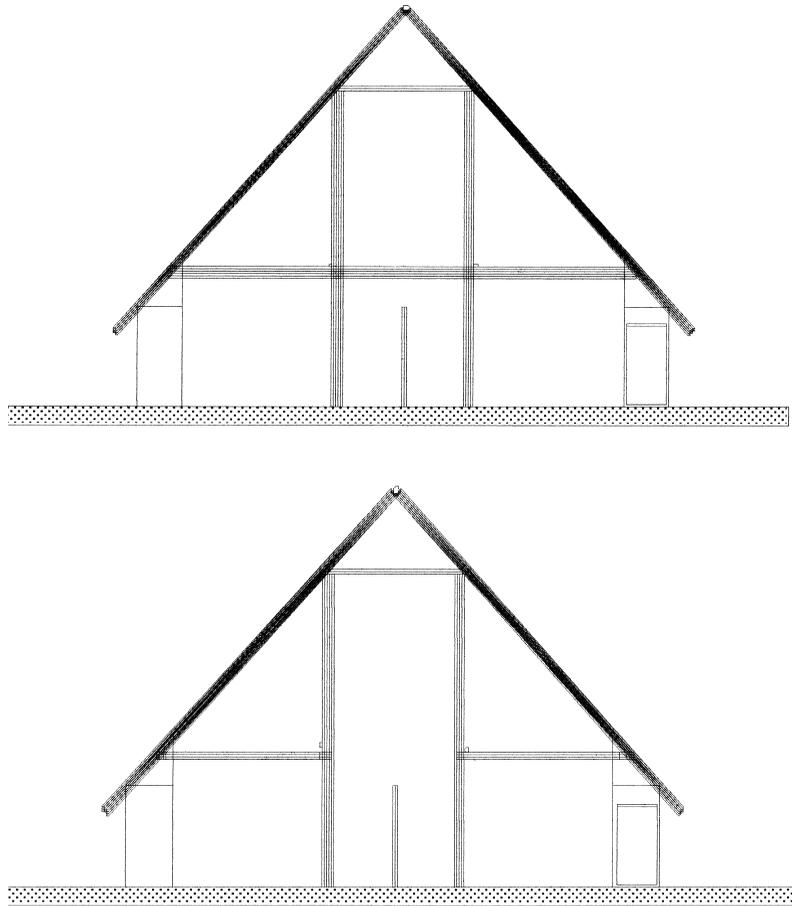


FIG. 4 Excavation of Areas 1, 2, and 3 in Sector 11 of the kallanka at Samaipata, Bolivia

The roofing system of large kallankas is a subject of special interest because of the inherent difficulty of spanning these large structures. In Inkallajta, the sidewalls show evidence of a two-story roof for the kallanka. In Samaipata, the most outstanding features that were found were three large postholes, each one m in diameter (figs. 3, 4). These had been carved 1.8 m into the bedrock itself. The excavated features allowed us to predict the location of the fourth posthole as well as the likely location of the rest of the posts in the eastern portion of the structure. The technique utilized at Samaipata was the following: a hole was made in the bedrock and its base and walls were lined with yellow clay and gravel. Wooden posts 30 cm in diameter were set into the clay, and then surrounded with gravel and sand; finally, the hole was filled up with plaster. The plaster thinned out until it reached the walls. Because the wooden posts were not wedged in with rocks, we think that the mortar and plaster was effective in holding them upright. There would have been a total of eighteen trunks in the Samaipata kallanka aligned in two lateral rows and separated from each other by 6 m. The result was a three-nave building. Small aligned holes were also found in the floor, as well as others that were close to the large post holes. Assuming that a similar technique was used at Inkallajta, which is 10 m wider than Samaipata, there could have been a four-nave construction with two aisles at the sides and one in the center.

On the system of the kallanka's roof, there are only hypotheses. In general, the roofs consisted of a framework of wooden posts covered with mats of hay and totora reeds. In the Samaipata case, it was made of palm leaves tied with ropes. If it seemed necessary, wooden props were created to bear the burden of the top covering at intermediate points. Sometimes, middle walls and even cylindrical columns were used, as at San Pedro de Cacha. At Samaipata, calculations made on a base of 12 m x 16 m long

FIG. 5 Hypothetical reconstruction of the roof system of the kallanka in Sector 11, Samaipata: Hypothesis 1 and 2 (drawing by Fernando Terrazas)



suggest that the roof had a 48-degree inclination. On the basis of these measurements, architect Fernando Terrazas has proposed two alternative hypotheses to explain the building's roofing system (fig. 5). The first one posits stabilizing trunks throughout the width (figs. 6, 7), while in the second hypothesis, as a possible result of influence from the eastern lowlands, the center of the building is freed of the stabilizer elements (figs. 8, 9). I believe that the second hypothesis is more plausible and that the three holes located between the larger ones could have been used to support wooden columns that served to stabilize the roofing in much the same way as in lowland malocas today; such a case was documented by Erland Nordenskiöld (1922) in 1911 among the Chacobo (fig. 10). In spite of the strong influence of Cusco Inka architecture, as seen at Tambo-Inga, the influence of the lowland or *yunga* cultures must also have played an important role in the spatial conception and the building techniques that were used in the Bolivian centers of Tawantinsuyu. Obviously, this included the roofing system.

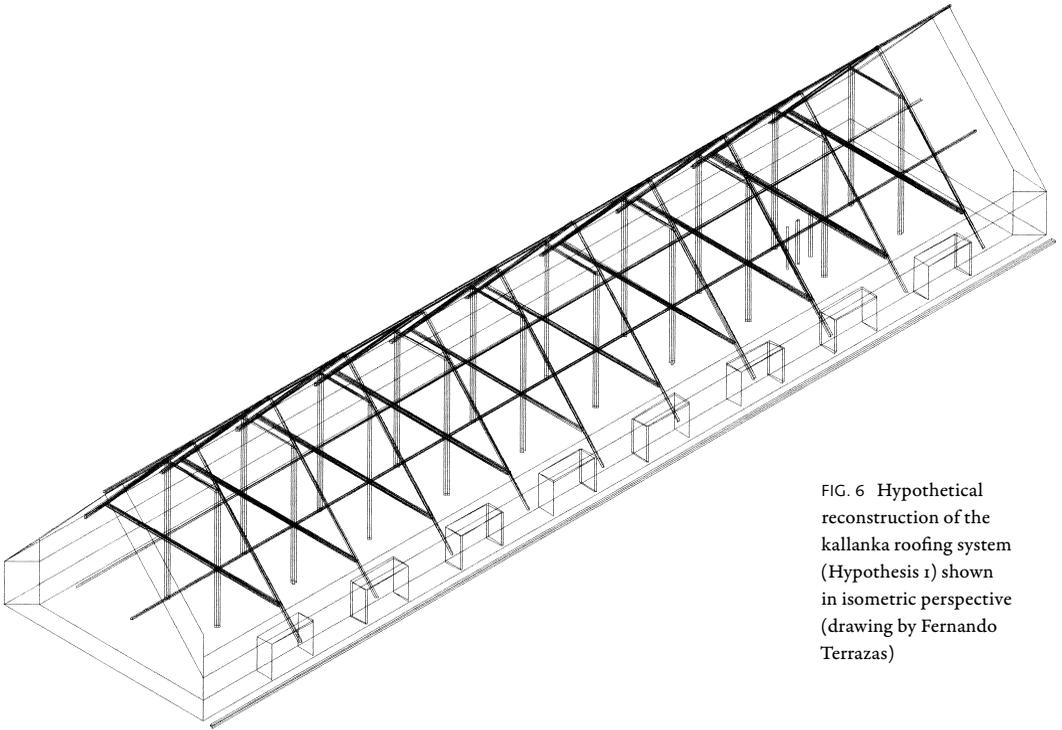


FIG. 6 Hypothetical reconstruction of the kallanka roofing system (Hypothesis 1) shown in isometric perspective (drawing by Fernando Terrazas)

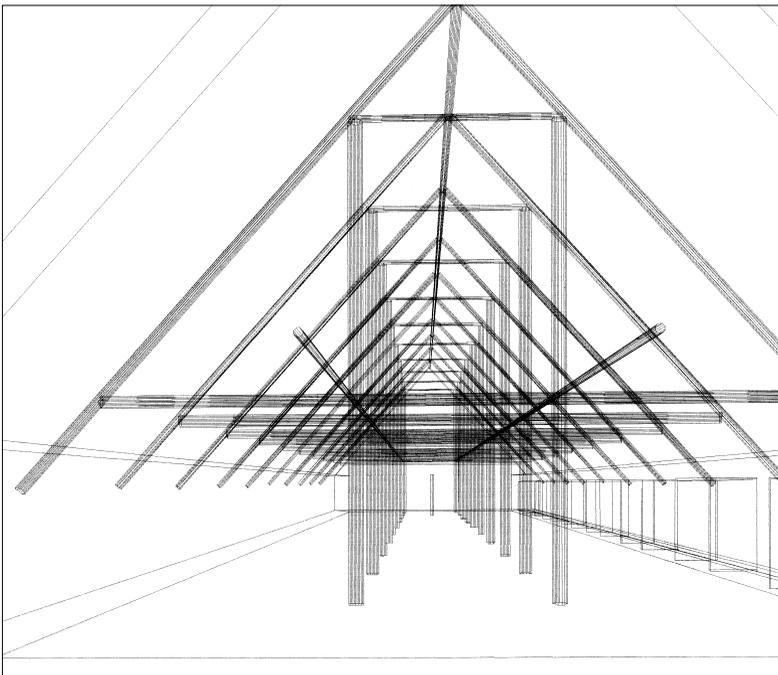


FIG. 7 Hypothetical reconstruction of the kallanka roofing system (Hypothesis 1) shown in an alternative isometric perspective (drawing by Fernando Terrazas)

FIG. 8 Hypothetical reconstruction of the kallanka roofing system (Hypothesis 2) shown in isometric perspective (drawing by Fernando Terrazas)

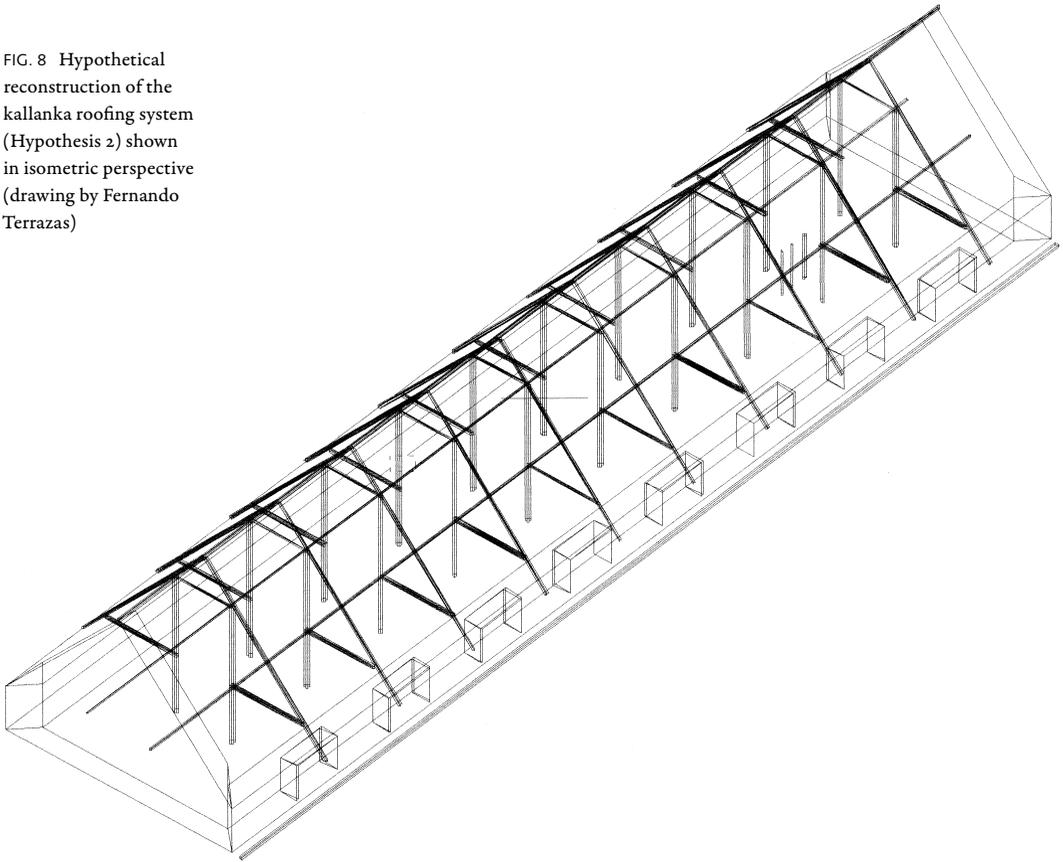
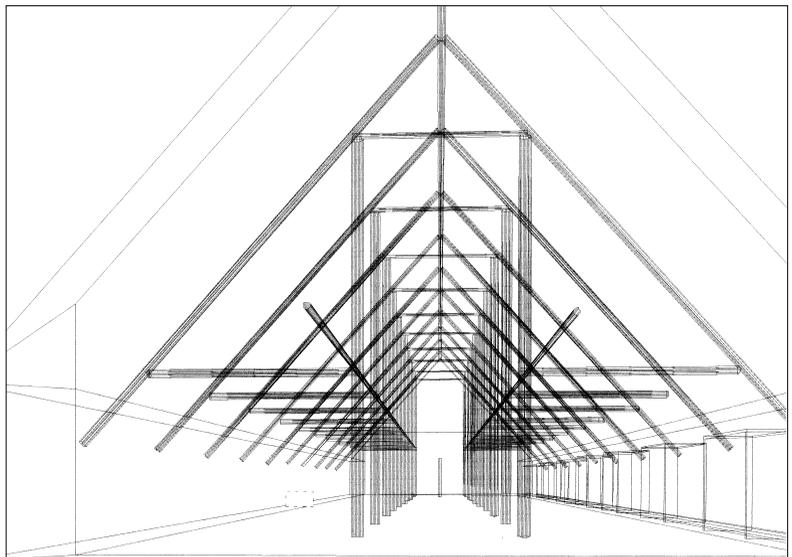


FIG. 9 Hypothetical reconstruction of the kallanka roofing system (Hypothesis 2) shown in alternative isometric perspective (drawing by Fernando Terrazas)



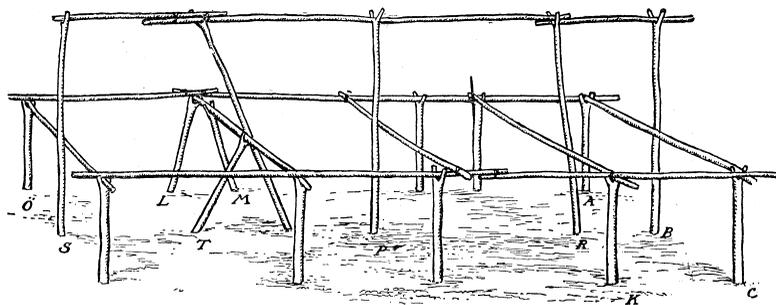
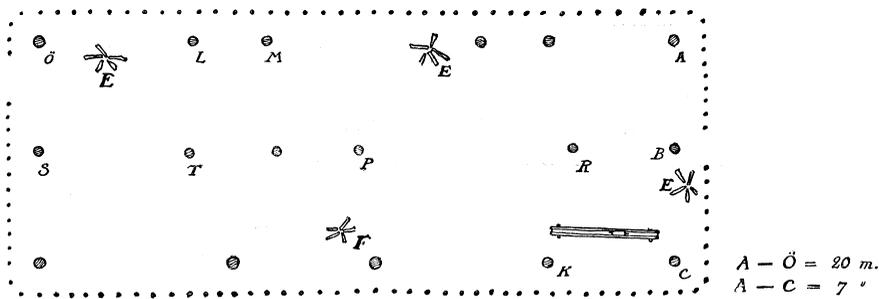


FIG. 10 Floorplan and roofing support system of a perishable Chacobo maloca in lowland Bolivia (after Nordenskiöld 1922)



Ceramics in the Santamaria, Chicha, Imperial Inka, and Paya-Inka styles were found in close association with the Bolivian kallankas. In Huánuco, at Tusuncancha and Huánuco Viejo, the layer with cultural material was very thin and held very little pottery (Morris and Thompson 1985). In contrast, Samaipata yielded large and thick pieces with better workmanship, as well as smaller pieces that were thinner and of poorer quality. Both provincial Inka and lowland ceramics were found together with pieces of pottery with textile impressions that are credited to intrusions by the Chiriguano. Polishers and bola stones are also abundant at the Samaipata kallanka.

Samaipata shows two clear phases of occupation: the first one being associated with the system of post holes and wooden posts just described. The wooden posts were broken and burned, evidence suggestive of a scene of destruction. In the second and later phase, the post holes were completely covered with gravel. There are also niches filled with ceramics that may be the result of a sporadic occupation after the Inkas were vanquished. According to historical sources, the Inkas eventually returned to the site, rebuilding it.

As to the function of the kallankas, it has been suggested that they were reunion chambers, temples, or civic buildings (Lara 1988: 40; Nordenskiöld 1957: 8); sometimes storehouses and, more frequently, military barracks. Furthermore, in the case of Samaipata, the presence of the ceremonial rock rules out the idea that the structure was a temple. Nevertheless, the fact that Inkallajta is the largest site discovered to date

along the Chiriguano border makes us more inclined to the idea that the kallankas served as military barracks. In order to better understand the function or functions of these distinctive features, it will be necessary to more fully excavate kallankas in several sites.

If the kallankas are a basic element in the Inka architecture of power, then Samaipata can no longer be considered as a marginal zone or a last stand in the east but rather as an Inka provincial capital.

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