

**Yumbos, Palmitopamba and Complex Society on the
Western Andean Slope of Northern Ecuador**

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Previous Research on the Yumbos [Slide 1]

Prior to the Western Pichincha Archaeological Project begun by Lippi in 1984, the Yumbos were almost entirely unknown archaeologically. The only two studies of the Yumbos prior to this project were a small-scale excavation of mounds near Santo Domingo de los Colorados (Lubensky 1979) and restoration of a masonry pool complex at Tulipe (Jara n.d.). Despite the great importance and uniqueness of the Tulipe site, sporadic research there first under the auspices of the Museo del Banco Central and more recently sponsored by the Distrito Metropolitano de Quito since the late 1970s has failed to determine beyond reasonable doubt whether the site was built by the Yumbos or Incas.

[Slide 2] The Yumbos were even absent from the historic record of Ecuador until Frank Salomon (1980) first presented tangentially some information on them in the context of his study of highland chiefdoms during the Inca period. He subsequently followed up that work by preparing a monograph on the Yumbos and associated groups in the early 1980s. Even though that monograph was not published until a decade and a half later (Salomon 1997), he kindly made the manuscript available to me as I began the archaeological exploration of Yumbo territory in 1984. Subsequently another monograph on Yumbo ethnohistory was produced by Costales Samaniego and Costales Peñaherrera (2002), though those authors apparently did not consult Lippi's published works on Yumbo archaeology.

The Western Pichincha Project has resulted so far in the discovery and registration of some three hundred archaeological sites and the presentation or publication of many reports and articles as well as two monographs by Lippi (1998, 2004) on the archaeology of the region. Transect surveys in the past few years in Western Pichincha that are the result of the construction of a new trans-Ecuadorian pipeline have led to some additional discoveries, though no published reports are yet available on that research.

The result of these efforts is that the Yumbos have emerged somewhat from the shadows into the consciousness of Ecuadorian scholars and, to a lesser degree, the citizenry. Even though the Yumbos mostly ceased to exist as an identifiable society a couple centuries ago, their history, language and culture in general are now an open book only very incompletely written but the subject of expanding interest and attention. An area of considerable interest to the authors of this paper is the origin of the Yumbos, their cultural affiliations, and the emergence of their relatively complex society in a rugged zone of tropical rainforest. This paper addresses a few of the issues related to these interests.

The Barbacoans and Their Origins—Linguistic Evidence [Slide 3]

Elsewhere Lippi (2003, 2006) has presented evidence and reasoning that the Yumbos were one of several Barbacoan nations that occupied southwestern Colombia and northern Ecuador and that these in turn are somehow affiliated with the Chibchan or Macro-Chibchan peoples of Central America and Colombia. We very briefly present the arguments here, but the reader is referred to the bibliography for more detailed presentation.

[Slide 4] The Barbacoans comprise a language family and there is no doubt about Yumbo membership in that family. Besides the Yumbos, extinct Barbacoan nations include the Pastos, Barbacoas, Niguas, Panzaleos, Sigchos, Angamarcas and possibly Campaces, while extant Barbacoan groups include the Guambiano, Awa-Coaiquer, Tsáchila, Chachi, and descendants of the Caras (Caranquis, Otavalos, Cayambis and Cochasquíes in particular), though these contemporary Ecuadorian highland ethnic groups have spoken Quechua the past four or five centuries.

[Slide 5] Barbacoan affiliation with Chibchan languages via the Macro-Chibchan (also known as Chibchan-Paezan [Ruhlen 1991: 238]) stock is more problematic and is one focus of inquiry in our ongoing investigation. Again, the evidence is primarily linguistic. As early as 1901, it was considered that the Barbacoans were affiliated with the Chibchans and various linguists since then have concurred. Nevertheless, Alva Wheeler (1972: 95) found that there was less than 10% lexical correspondence between two surviving Barbacoan languages and various Chibchan languages. Moreover, Adolfo Constenla (1991), who performed a cluster analysis of Chibchan, Paez and presumably affiliated languages, is not certain the Macro-Chibchan stock is a valid linguistic group. His results showed four Ecuadorian Barbacoan languages affiliated with Paez, although these in turn were more distantly linked to Quechua and Aymara and even more distantly to Chibchan. Quechua and Aymara are known to belong to the Andean, not Chibchan, stock. A reasonable conclusion is that Páez and Barbacoan languages are admixtures of Andean and Chibchan roots. Our

hypothesis goes beyond this to argue that Barbacoans are "andeanized" Chibchans, most likely because they are the southernmost of the Chibchans and have intermixed with Andean nations for a millennium or more. This is based solely on linguistic evidence so far until adequate genetic and archaeological evidence is obtained.

Searching for the Archaeological Barbacoans

By taking the distribution of known or presumed Barbacoan nations at the time of the Inca and/or Spanish conquests (the former ca. 1490-1500 and the latter ca. 1534) of northern Ecuador and southern Colombia, we can begin to compile archaeological evidence of Barbacoans. The following step would then be to look specifically at the Yumbos and determine to what extent they do or do not fit into that picture.

[Slide 6] Lippi's (2003) migration model has Barbacoans diverging perhaps two millennia ago or so from Chibchans and/or Paezans and migrating southward from central Colombia, eventually occupying southern Colombia, the northern highlands of Ecuador and the western slope of the Andes all the way down to the Pacific coast. Whether or not that particular model turns out to be correct, the fact is that the Barbacoans are the southernmost nations that are believed to have an affiliation with the Chibchans. They very likely were in contact with Andean¹ peoples such as Puruháes, Cañaris, and Quijos (Linguasphere 1999-

¹ We use the term "Andean" here in the linguistic sense, meaning speakers of languages in the Andean stock (Ruhlen 1991: 239, 371-2).

2000) for centuries, which would have resulted in acculturation, language blending and interbreeding.

Such processes, of course, greatly complicate this study since archaeological similarities or differences between Barbacoans (or Yumbos specifically) and Chibchans or between Barbacoans and Andeans (again, "Andean" in the linguistic sense) could be due to common heritage, cultural borrowing or even convergent cultural evolution. The use of certain cultural indicators to try to demonstrate common origin may be very misleading. For example, the fact that various nomadic nations of the Great Plains of North America constructed *tipis* as their primary shelters should not be taken as evidence that those nations all derive from some ancestral tipi-dwelling tribe. It is pretty clear that such is not the case but that tipis were adopted by nations from various language groups and areas of North America through diffusion and as an adaptation to a shared natural environment.

For an archaeological inventory to have any value in this study, it has to focus on similarities or differences that could reasonably be argued to reflect more basic ideology, though even that could be very problematic. Besides, the Barbacoans are only very poorly known archaeologically. We believe there is much more promise in genetic indicators such as mtDNA or Y-chromosome analyses, but such data are not yet available for the pertinent populations. This leaves us heavily dependent on the linguistic and historical evidence.

What Was Yumbo Sociopolitical Organization? [Slide 7]

We shall adhere to the Elman Service quadripartite scheme for cultural evolutionary classification (band-tribe-chiefdom-state), which is widely used in Colombia thanks to Robert Drennan and various Colombian archaeologists who have studied under Drennan at the University of Pittsburgh and consistently apply the terminology to Chibchan societies. We are concerned about the excessively rigid definition of chiefdom in the Intermediate Area and elsewhere, a matter to which we shall return later, but at least the general scheme is familiar to most scholars working in the area.

Miguel Cabello Balboa, Spanish priest and "Vicar of the Yumbos," was probably the best informed chronicler about the Yumbos in the middle to late 1500s. He passed along the following observation about them:

"Later the following summer they [Inca troops commanded by Guanca Auqui] made trips against the Provinces of the Yumbos; and having conquered and subjugated those naked peoples, and knowing their poverty and lack of valor, they returned to Quito."
(Cabello Balboa 1951 [1586]: 437-438; our translation).

This is significant because it suggests a nominal conquest of the Yumbos by the Incas, but more to our present purposes, it refers to more than one "Province" of Yumbos and to their low worth in the eyes of the Incas. This does not sound much like a highly organized, ranked society with hereditary chiefs of renown maintaining authority over regional settlement hierarchies, though it is possible this denigrating commentary just reflects a sour grapes attitude by the Inca

commander, who was certainly not the first in the situation of trying to conquer tropical forest guerrillas.

In another chronicle Cabello Balboa (1945 [1579?]: 62-63) refers to the "Yumbo nation" as occupying all the western slope from just beyond Quito to the coastal plain. By what criteria he referred to them as a nation is not clear and perhaps not too much should be read into the term "nation" in this case. Since it is known from a variety of records summarized by Salomon (1997) that there were many Yumbo towns throughout a territory of some 4,200 km² (see Lippi 2004: 25 for discussion of Yumbo territory), it would be surprising if all Yumbo peoples were united into a single polity. The Incas as well as the Spanish would have been impressed by such unity and probably would have mentioned it when discussing the Yumbos. Admittedly there may have been political reasons for both conquerors to deny the existence of a strong and united Yumbo nation², but we shall tentatively take the reports at face value; i.e., the Yumbos were not united and did not have powerful chiefdoms.

What we have on the other hand are documents from the middle and late 1500s of *encomiendas* that invariably combined highland towns and Yumbo towns (Salomon 1997: 29-31). Yumbos are identified by town and/or by the name of their *cacique* (chief). It is also mentioned in some cases there were caciques,

² As mentioned previously, Guanca Auqui, the Inca general, may have been unsuccessful against Yumbo guerrillas and downplayed their importance after being repulsed by them. The Spanish may have been less impressed with the Yumbos after seeing or hearing of great Tenochtitlán, Cuzco, and other monumental cities and great empires. They also may have dismissed Yumbo sociopolitical complexity, as was often done in North America, in order to justify the taking of their lands or mistreatment of the native peoples.

principales (important persons) and commoners, suggesting a ranking within society.

[Slide 8] While we might infer from the ethnohistoric record that the Yumbos were a somewhat hierarchically organized society but possibly lacking social and political integration across the entire territory, the archaeological record of earthen mounds (known as *tolas* in Ecuador) might shed more light on this question of sociocultural complexity. Osborn and Athens (1974: 9-13) calculated the amount of human labor involved in the actual construction of a single large platform mound by Caras in the northern Ecuadorian highlands, basing their estimate on the earth-carrying experiments conducted by Erasmus (1965). Taking into consideration only the physical labor of digging, carrying (100 m) and dumping soil, they estimated it would have taken 200 laborers approximately 600 5-hour days to construct one large tola. This estimate does not include the construction of cells or buttresses within the tola, packing of earth or overall planning and supervision. Their conclusion was the following: "...an estimation of the labor costs involved in the construction of Paila-tola suggests that tola construction could not have been accomplished by egalitarian societies" (Osborn and Athens 1974: 21).

[Slide 9] While we do not disagree with their conclusion, we would argue that the number of tolas across the region is more significant than the time needed to construct one tola. For Cara territory in the highlands, no systematic inventory of all tolas has ever been completed, but clearly there are dozens of large platform mounds and perhaps hundreds of small and large conical mounds. The same is

true for Yumbo territory in the western *montaña*, where the tolas are similar in size and shape and apparently similar as well in quantity (Lippi 1998: 144-162). While certainly a relatively small, egalitarian community could construct a tola, the construction of large systems of tolas across a region of thousands of square kilometers most likely means a more concerted and organized effort of large labor gangs and permanent supervisors and chiefs.

However, even this matter is somewhat speculative. One must ask what the purpose of the platform tolas was in order to understand better under what circumstances they were constructed. Did these imposing artificial platforms serve as administrative centers for the zone? Did they have symbolic importance related to political power or to mythology? Were religious rituals performed on or around them? Did these mark locations of food redistribution centers? Did they serve as territorial landmarks or even have a defensive function? Unfortunately, we do not know the answers to these vital questions, so we will grope forward somewhat in the dark but trying to develop some working hypotheses for future research.

When speaking of large-scale public monuments of earth, one must consider the Hopewell sites of southern Ohio. Those earthworks were also widespread and quite impressive, but it is generally agreed that the peoples participating in this Hopewell phenomenon were only incipient farmers more dependent on foraging than food production and probably having relatively low population densities. Whether they were true chiefdoms or a series of egalitarian tribes without centralized political or social control remains a matter of considerable

controversy, despite decades of research. At any rate, Ohio Hopewellians stand as a reminder that impressive earthworks over a territory do not imply the presence of complex societies. It is also important to remember another variable—time. It matters whether dozens of tolas were built in one generation or many.

Lippi (2003) has argued elsewhere that the Yumbos derived from the Caras and Panzaleos of the neighboring Ecuadorian highlands as part of the Barbacoan expansion. The Caras, as has been previously stated, are well known to have formed powerful chiefdoms in the late prehispanic period and to have built tolas very similar to those of the Yumbos. Less is known of Panzaleo sociopolitical structure, but they were not tola builders, as first pointed out by González Suárez (1910) nearly a century ago. Early Spanish documents make a distinction between Northern and Southern Yumbos, and it is the Northern Yumbos who most likely derived from the Caras and built the tolas (Lippi 2003).

Besides this distinction between two major groupings of Yumbos, it is quite possible, given the distribution of tolas and the situation among the Caras in the highlands, that each major cluster of tolas represents a distinct polity. It has been asserted by several scholars working in the sierra, most recently by Echeverría Almeida (2004), that prehispanic sociopolitical units in the highlands are probably identifiable on the basis of platform mound clusters. He cites an as-yet-unpublished study by Stephen Athens in which Athens purportedly infers that at least eighteen such units existed in the highlands between the Guayllabamba and Chota-Mira Rivers, or Cara territory. Was each platform mound cluster an

individual chiefdom? Probably not since some chiefdoms were larger and more powerful than others, probably consisting of “sub-chiefdoms” within their territory. While this interpretation for the Cara highlands seems reasonable, to what degree might it also apply to the montaña-dwelling Yumbos?

If it were to apply, then the map of known Yumbo platform mound complexes (refer again to Slide 9) offers some idea of the number and distribution of the major centers. It should be pointed out with regard to this map that a somewhat systematic search for tolas was only possible within the trapezoidal area around Tulipe (done in part by John Isaacson [1982] and by Lippi and Gudiño in 2005), where a few dozen tolas were found in some twenty-five clusters. Presumably there are many more undiscovered or destroyed tolas in Western Pichincha, especially in the heavily forested areas or where there are modern settlements.

Drennan (I’m looking for reference, cited in Pitt website) has previously asserted that the emergence of chiefdoms in general is strongly associated with an abundance of natural food resources or the potential for high agricultural productivity. In the case of the Yumbos, the situation is somewhat different since neither the agricultural productivity is high³ (it never is in the neotropics without widespread intensification at great effort through habitat modification) nor the abundance of food resources unusual. The advantage for the Yumbos was their proximity to the highland population centers and the variety of tropical forest

³ Modern-day assessments of the western montaña of Pichincha stress the moderately low agricultural potential of the various ecological zones due to various factors ranging from frost at high elevations to excessive rain at low altitudes, poorly developed soils, steep terrain, and poor drainage in some areas (e.g., Cañadas Cruz 1983).

products they could offer to the highland peoples. We know from Spanish records these products included lowland maize, chillis, various fruits and tubers, cotton, salt, gold, incense, *coca* and other goods. We know from Lippi's surveying of Western Pichincha that obsidian was at least one important trade item going the opposite direction. Extensive trade with the highland ethnic groups over a long period likely enriched the Yumbo economy but perhaps not to the extent associated with intensive agriculture as found in the volcano-rich soils of the sierra. At any rate, the Yumbos had an abundance of food that was desired by highland chiefdoms. The facts that they were relatively rich in certain resources, traded regularly with powerful chiefdoms of the highlands, and quite likely shared an ancestry with those highland peoples argue in favor of the emergence of some level of sociopolitical complexity. Whether or not one calls them "chiefdoms" is a matter of definition and interpretation.

Whether the platform tola clusters in the montaña were the centroids of true chiefdoms or not is hard to determine. What seems to be the case based on the ethnohistoric and archaeological evidence is that the Yumbos had at least an incipient social hierarchy with powerful or highly charismatic leaders at the top who could mobilize a large labor force. The highland chiefdoms we refer to for the sake of convenience as Caras really consisted of various chiefdoms as already mentioned. The most powerful of these were the Caranquis, the Cayambis, the Otavalos, and the Cochasquíes, as well as some less powerful chiefdoms. It is known that these various polities formed a strong military alliance in the face of Inca aggression. There is no evidence the Yumbos did the same, nor would it be expected given their tropical forest horticulture, the greater

difficulty of integration in their very rugged territory, and their much lower population density.

The matter of population density is an important factor worthy of some consideration in trying to establish the level of sociopolitical integration of the Yumbos. If it is indeed true, as linguistic and archaeological evidence suggest, that the Yumbos, or at least the Northern Yumbos, split off from the Cara chiefdoms of the sierra and began colonizing the lush and rugged tropical rainforest of the western Andean slope several centuries before the coming first of the Incas and later of the Spanish, then some comparison between these two affiliated groups is merited. Even though the Caras seem to have had a few powerful and large chiefdoms at the time of the Inca conquest around 1500, we know much less about their status a few centuries earlier when the purported fissioning of the Yumbos took place. The best we can do for now is use data from the early 1500s.

[Slide 10] Greg Knapp (1984) did an extensive study of prehispanic agriculture in the Cara area and used both ecological and historical figures to estimate a highland population around 155,000 people. Using Knapp's Map 8 (Ibid.: 313), Lippi (2001) estimated the Cara area at 2,800 km², which gives a sierra population density of about 55 persons/km². Lippi (Ibid.) used various methods to manipulate historical and ecological data for the pre-Spanish contact/pre-epidemic Yumbos (Northern and Southern), with results invariably between 22,000 and 30,000 persons. If 25,000 is selected as a good ballpark figure and the Yumbo region comprised 4,200 km², then Yumbo density in the tropical forest

was approximately 6 persons/km², or only about one tenth that of the Caras. This difference in density should not be surprising given the markedly different habitats and agricultural potential.

One could go a step further and compare Yumbo density with that of other historical tropical forest societies in South America. *Terra firme* density calculated by Denevan for Amazonia (1976: 218-225) was 0.2 persons/km² while *várzea* density came out to 14.6 persons/km². We have also included the highest prehispanic density in the Americas, that of Aztec Central Mexico, for comparative purposes⁴. It is very reasonable to expect Yumbo densities to fall roughly in the middle between *terra firme* and *várzea* ecosystems since their habitat was of intermediate agricultural potential. Just what is the threshold, if there is a demographic one, for chiefdom-level integration? Perhaps a more extensive database comparing many more indigenous societies of South America would be instructive here, but there are other factors besides population density. Furthermore, complex societies seem to emerge incrementally as population density increases; there need not be a clearly identifiable threshold. What we probably have for the Yumbos, all evidence taken together, is nascent hierarchical political integration and social ranking but not true chiefdoms.

Complex Society at Palmitopamba?

Palmitopamba is one of very few Yumbo sites ever excavated. Earl Lubensky (1979) did a few test excavations at a pair of Yumbo mound sites on the southern

⁴ We use Sanders' (1970) somewhat conservative estimate of 160 persons per square kilometer, not Borah and Cook's (1963) estimate of 310 persons per square kilometer.

edge of the region. Isaacson excavated a platform mound near Tulipe (1980) and the Nueva Era site nearby (1987), while Jara (n.d.) has conducted two extensive periods of reconstruction with some excavation at the Tulipe *piscina* site, though to this day it is not known whether the subterranean masonry structures were built by the Incas or Yumbos and no adequate archaeological report has ever been prepared. Lippi (1998) conducted test excavations at Nambillo, a multi-component site near Mindo, and currently is working with Gudiño at Palmitopamba. The extent of salvage excavations in the region around the year 2000 as part of the oil pipeline project is not known due to a lack of published reports. Of all these studies mentioned, the only ones with usable data pertinent to the social complexity of Yumbos come from Isaacson's platform mound excavation (Tola Alfonso Poso) and from Palmitopamba.

With regards to Tola Alfonso Poso, Isaacson's brief report (1980) indicates that excavations successfully revealed the stratigraphy of the mound and show that no special architectural features were incorporated in order to stabilize the structure. He also failed to find any evidence of a building on top of the mound, though he admits that subsequent forest growth probably would have obliterated any features in the soil. Two radiocarbon dates from the site are problematic since they are in reverse stratigraphic order—the date near the surface of the tola is 750 ± 100 rcybp while the date from 120 cm below the surface is 320 ± 75 rcybp. This post-conquest date is reasonable, says Isaacson (*Ibid.*), since private collections in the Tulipe area, including from a looted tola nearby, include blue glass beads. While this information is important, it does not provide specific evidence regarding social complexity among the Yumbos.

[Slide 11] Palmitopamba (NI-20) is a hill top site immediately south of the village of the same name in Nanegal parish. The site was discovered by Lippi in 1984 during a survey of the large Western Pichincha research region. The site first caught Lippi's eye because a series of terraces was visible in the upper part of the hill, which had been deforested and made into pasture. Lippi ascended the hill in 1984 and several times after with the landowner and found vestiges of stone walls and both Inca and Yumbo pottery. He catalogued the site as an Inca *pucara* (fortress) based on the presence of the terraces and the commanding view from the site summit.

[Slide 12] Three seasons of excavations at Palmitopamba (2002-2004) have only begun to reveal the intricacies of this large site, which encompasses at least five acres. Most of the work has occurred in the upper pasture, which is now owned by the Maquipucuna Foundation, which is protecting the site for further research and possible ecotourism development. Excavations were directed in 2002 and 2003 by Lippi and Tamara Bray, with Gudíño joining the project in 2003 and serving as co-director in 2004 and beyond. Discoveries at the site so far that are of direct relevance to this paper topic include the following:

- Yumbos occupied the site (almost continuously?) from about A.D. 950 to the time of the Spanish conquest of the northern Andes in 1534 or later and were responsible for most of the earthmoving at the site.

- **[Slide 13]** Earthmoving includes the construction of the terraces, which are known from a volcanic ash layer to have occurred before about A.D. 1050.
- **[Slide 14]** Earthmoving also includes the construction of a platform mound at the hill summit, visible in test units that penetrated approximately 3 m of fill.
- The Yumbo occupation is seen through low- to medium-density concentrations of Yumbo pottery and lithic material throughout the site from near the surface to depths of about 2 m, based on excavations of nearly 100 m² of surface area over the site. **[Slide 15]** The pottery is almost entirely domestic cookware, occasionally with charred food residues, which have been used for AMS dating.
- The Inca presence at the site begins no earlier than about 1490, when the Inca conquest of the Cara chiefdoms was occurring in the highlands. Incas and Yumbos co-existed at the site for a short period, perhaps a few decades before and possibly after the Spanish conquest.
 - **[Slide 16]** Inca pottery is interspersed with Yumbo pottery in the upper 50 cm of deposition at the site, though Inca pottery so far has not been found at the site summit, perhaps because the Incas respected the special nature of the tola at the summit.
 - Neutron activation analyses of the pottery show the very distinctive Inca and Yumbo wares were made of the same paste, implying that local Yumbo potters made pottery to Inca specifications.

- **[Slide 17]** Stone features at the site are most likely Incan, judging by the stratigraphy, associated pottery, and nature of the simple masonry. It appears that the Incas undertook relatively modest modification of the site after their arrival. Stone features include a straight walkway, a retaining wall, circles of partially cut stone, and sling stone caches. The occupation of the hill during the Inca period also appears sparse; presumably a larger Yumbo village was located on the plateau below the hill.
- Historical records indicate that Rumiñahui, the captain of Atahualpa's personal guard, fled to Yumbo country following the Spanish conquest in order to escape the invaders and to try to mount a rebellion from a fort he built (Estupiñán Viteri 2003). By 1535 Rumiñahui returned to the highlands to battle Benalcázar's troops and was killed south of Quito. Lippi (1998) has discovered four likely Inca forts in Yumbo country and Palmitopamba is the largest and probably the most important, possibly making it the prime candidate for Rumiñahui's holdout.

[Slide 18] The amount of earthmoving at Palmitopamba was significant. Estimates have not yet been made for the entire site, but just the construction of the platform at the summit would have been a substantial project. Since the second platform, which is 17 m below the top one, was created primarily by removal of earth rather than by accumulation, it is presumed that the earth removed from the second platform was carried to the summit for construction of the uppermost platform. The average depth of the upper platform is roughly 3 m, judging by the test units at the summit, and the area of that platform, though it is

somewhat eroded and partially collapsed today, was about 50 m x 14 m (not including a slightly lower platform immediately to the east), this means about 2,100 m³ of earth were dug, transported and deposited. Using a median value for Erasmus' (1965) parameters⁵, we calculate 840 person-days. This could have been 400 workers in about 2 days or 2 workers in about 420 days, but presumably the correct estimate is somewhere in between, maybe something like 40 workers laboring for some 20 days. This value should then be doubled to account for the diggers and increased again for the tampers and others working on the uppermost platform. Because of the great deal of uncertainty for several reasons in such calculations, we once again argue that the actual amount of work involved in building one tola is less important than the authority and motive behind such a project.

While we have not yet determined the date of the construction of the tola at the summit through excavation, if we proceed under the likely assumption that the earth came from the second platform 17 m below, we have ascertained through excavation that the second platform was constructed prior to the eruption of Quilatoa ca. A.D. 1050. The other major platforms at the site were also built at that early date in the site history. If the sociopolitical organization to undertake such massive earthworks existed a millennium ago at Palmitopamba, then what might that organization have been like some five centuries later around the time of the Inca and Spanish conquests? It is tempting to assert that successful

⁵ He had workers carry loads either 50 m or 100 m over level ground. At Palmitopamba, the carrying would have involved an average of 15 m up a very steep slope and then horizontal carrying less than 50 m. Since these are very rough estimates susceptible to several variables, we are satisfied using an intermediate value between Erasmus' two estimates for our purposes.

agriculture and trade resulted in significant population growth, which in turn resulted in stronger central authority, but it would be an assertion without supporting evidence.

[Slide 19] We have argued elsewhere (Lippi and Gudiño 2004) that Palmitopamba's location helped determine its importance in Yumbo territory. From the site summit, which the Yumbos had painstakingly converted into a towering artificial platform, one could see literally dozens of other Yumbo tola sites in the region, including those circling the Tulipe valley, where the unique *piscina* site is located. To the northeast from Palmitopamba, one could easily see across the canyon of the Guayllabamba River into Cara territory, making Palmitopamba something of a territorial marker, and an imposing one at that. In fact, one could see Cotacachi, one of the two key mountain peaks (Imbabura being the other) which served as "fathers" to the various Cara chiefdoms. To the southeast, one could easily see Pichincha volcano, at the foot of which lay the many large and important towns of the highland Quito basin. The modified landscape of the site itself plus the crucial location of the site in northeastern Yumbo country undoubtedly reflect the importance of this site. Perhaps more than anything else at this stage of the project, this landscape analysis argues for the great importance of this Yumbo center.

Incas and Yumbos

[Slide 20] Brief mention has already been made of the Incas in Yumbo territory and their presence in the final years or decades of occupation at Palmitopamba. The one question regarding the Incas that may have direct bearing on the

sociopolitical complexity of the Yumbos is this: What was so important about Palmitopamba that Inca troops established their *pucara* there? Was it merely the location of the site or, more likely its monumentality and the relative importance of the Yumbos who ruled there? If it turns out, as may well be the case, that this is also the *pucara* built by Rumiñahui for the purpose of hiding out with Atahualpa's heirs and of trying to build an armed rebellion, then one could argue even more confidently that the Incas considered Palmitopamba to have been a very important site among the Yumbos.⁶

Conclusions [Slide 21]

Perhaps the only salient and definitive conclusion of this essay is that we do not yet know very much about Yumbo origins, sociopolitical complexity, or degree of "Chibcha-ness." Clearly the topics addressed here are works in progress and much more needs to be done to accomplish what we have in mind. At the very least, we now know a few things about the Yumbos that were previously unknown and we have a few ideas about specific kinds of information to pursue in the near future. Maybe that makes this exercise worthwhile in some small way. Here is an accounting of what is known, what may be, and what needs to be done:

⁶ If Palmitopamba was in fact an important Yumbo site, then what was its Yumbo name? We have lists of names of key Yumbo towns from various Spanish sources and there is no obvious answer to that question. It would seem the only likely candidate in geographical terms among the known towns is Nanical (Nanegal), which is just a few kilometers from Palmitopamba and is known to have changed its location over the centuries. On the other hand, if Palmitopamba's Yumbo name was something else not on the usual lists, then one could reasonably question just how important it was at first Spanish contact.

- We are no closer to tracing Yumbo origins to Chibchan peoples or anyone else than we were three years ago when Lippi (2003) first presented his very tentative migration model. By far the most promising avenue of inquiry here seems to be that of mtDNA and Y-chromosome analyses, and we intend to recruit a geneticist to the research in the coming months. Determining the origin and affiliations of a prehistoric population is fundamental culture historical research, though it might also provide a perspective on the process of the adaptation of highland peoples to the *montaña* tropical forest environment.
- “Barbacoan archaeology” has progressed no further than what little is known about the Yumbos from a handful of sites excavated by Lubensky, Jara, Isaacson, Lippi (Nambillo) and Lippi and Gudiño (Palmitopamba) or from a smattering of work in southern Colombia, which may or may not pertain specifically to Barbacoan populations. Even the small subset of “Yumbo archaeology” is very preliminary. It may be decades before there is an elementary archaeological understanding of the Barbacoans in southern Colombia and northern Ecuador. Only then might we begin to have some understanding of the degree of “andeanization” of the Barbacoans, unless genetic studies come to the rescue of archaeologists on this question, too. Genetics again is probably the way to go since comparison of cultural inventories among Barbacoans and even with Chibchans might tell us little or nothing about the origins of these nations.

- Sociopolitical complexity of the Yumbos remains an archaeological, ethnohistoric and ethnological research topic to be worked out more confidently. The preliminary conclusion here is that the Yumbos had some modest level of ranking within their society and the people responded to some type of political or spiritual leadership that put them to work building earthen monuments. Beyond that, there is no evidence they formed well organized, strong chiefdoms that allied themselves in the face of invasion. Yumbo complexity to the degree it existed may be partly a heritage of a highland chiefdom ancestry and partly a result of centuries of successful trade with highland populations. They may not have been able to organize themselves to a higher degree given their natural environment and its limitations on population density. Excavations in the area immediately around the Palmitopamba hill site may be helpful here, especially if a denser settlement can be found on flatter land and if we decide to investigate some of the nearby burial tumuli for evidence of Yumbo inequality.
- The site of Palmitopamba has revealed an impressive amount of earthmoving and it is difficult to avoid the conclusion that some leader organized and motivated the people to invest a great deal of time and effort into non-subsistence activities.⁷ Not knowing the functions of the various platforms, including the major one at the summit, and not knowing the basis of Yumbo inequality, we can only speculate on the exact nature of the site. However, we strongly suspect this site was a key one in

⁷ If there is any thought the terraces at the site may have been agricultural, that is very unlikely given the amount of household debris accumulated on the terraces and the near absence of agricultural terraces in northern Ecuador.

northern Yumbo territory with its vantage point to the Cara and Quito highlands as well as to many other monumental Yumbo sites. On the basis of ethnohistoric documents, we believe the relative complexity of Palmitopamba and of certain other Yumbo towns was based on their importance in interregional trade, primarily of agricultural goods, with the highlands.

- Since Inca presence in Western Pichincha was anything but widespread and conspicuous, we need to consider that their settlement at Palmitopamba and their co-habitation with the Yumbos reflect the importance of that site in the region. Pinning down as tightly as possible the years of the Inca presence will help to resolve questions regarding the trade network during Inca times as well as a possible Inca fortress from which a rebellion against the Spanish in highland Ecuador was to have been launched. We will continue to refine the absolute chronology and to seek evidence of a post-1534 Inca presence.

[Slide 22] We have danced around the issue of defining and characterizing chiefdoms since it is a topic onto itself that far transcends this paper. Interesting work is being done by Drennan, the “dean of South American chiefdom archaeology,” and many of his students. In one very recent article, it appears as if Drennan and Peterson (2006) may be moving away from a fairly rigid definition of chiefdoms and the narrow prerequisites for their formation. Their recent comparison of chiefdoms on different continents identified factors such as landscape, climate and whether the social hierarchy is economically or religiously

based to determine the level and speed of development of complex societies. A recent study by Hornborg (2004), while not specifically focused on chiefdoms, emphasizes the importance of regional or interregional exchange rather than migration in explaining the distribution of linguistic or ethnic identities, especially in Amazonia. He emphasizes that interregional exchange may be much more important than migration to account for ethnogenesis. If so, then maybe Lippi's migration model for Barbacoans is unnecessary, though we disagree with that notion for now given the depopulation in the highlands caused by extensive volcanic activity; in this particular case, migrations seem a necessary part of the formula.

Similar studies on chiefdoms, public works, and interregional trade in Mesoamerica, the Eastern Woodlands of North America and elsewhere are creating new perspectives and better understanding of the emergence of complex societies, whether we choose to label them as chiefdoms or not. We propose to try to keep up with this explosion of new data and new ideas and see if we can't, sooner or later, contribute in some small way to the dialogue by adding our growing understanding of Yumbo complexity to the topic.

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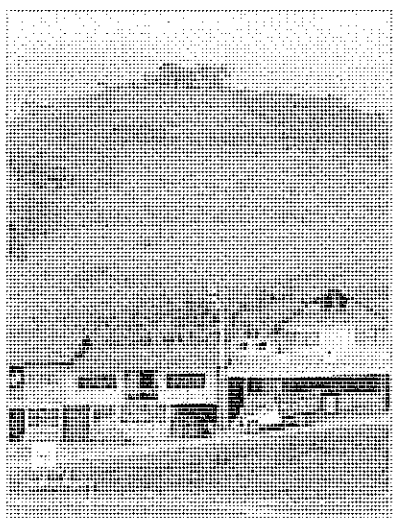
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#1

Yumbos, Palmitopamba and Complex Society on the Western Andean Slope of Northern Ecuador



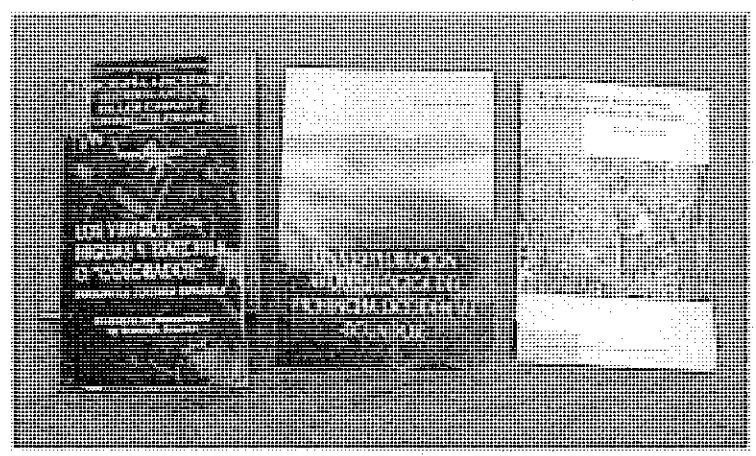
Ronald D. Lippi and
Alejandra M. Gudiño

Symposium: The Chibcha Expansion and the
Rise of Complex Societies in the
Intermediate Area

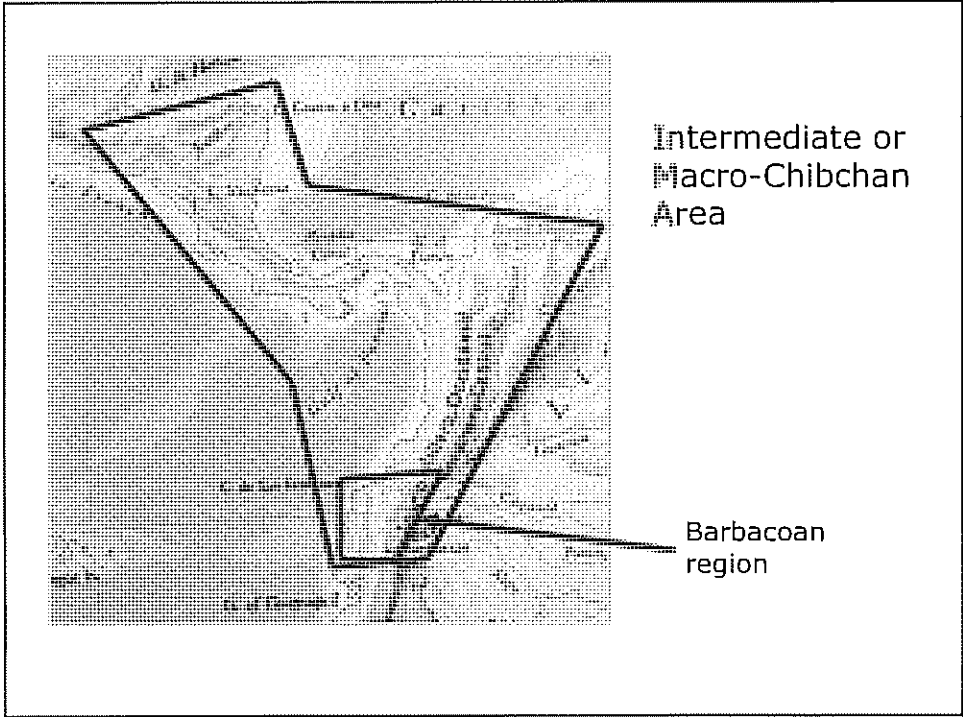
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April, 2006
San Juan, Puerto Rico

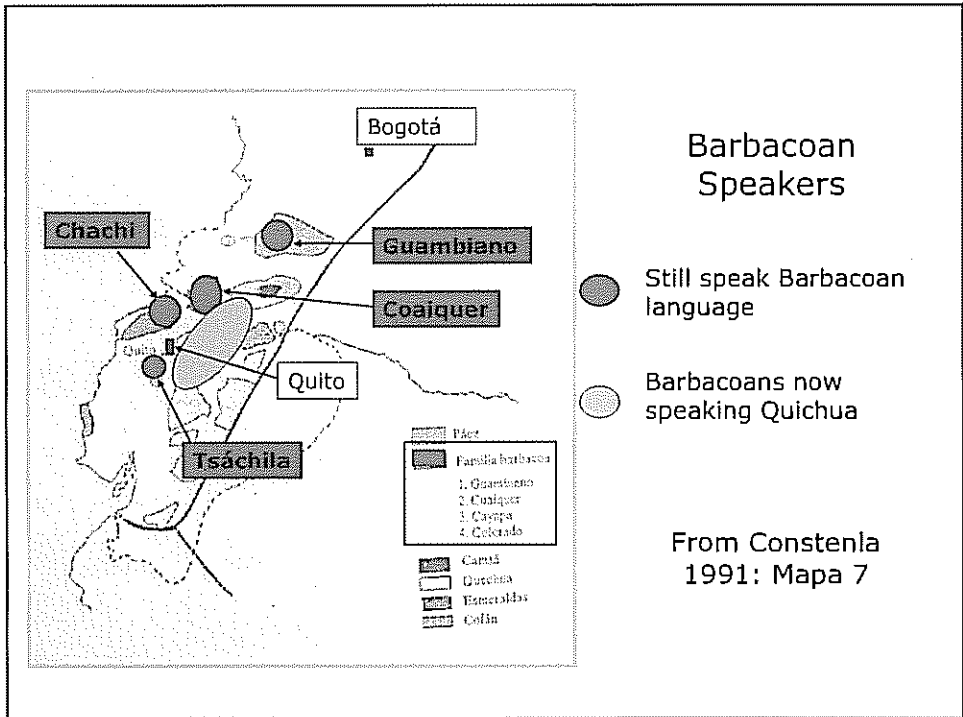
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3



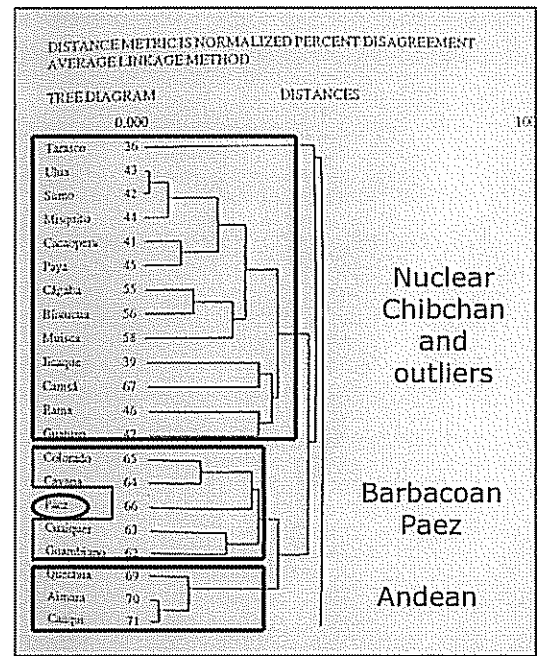
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#5

"Macro-Chibchan" Cluster Analysis

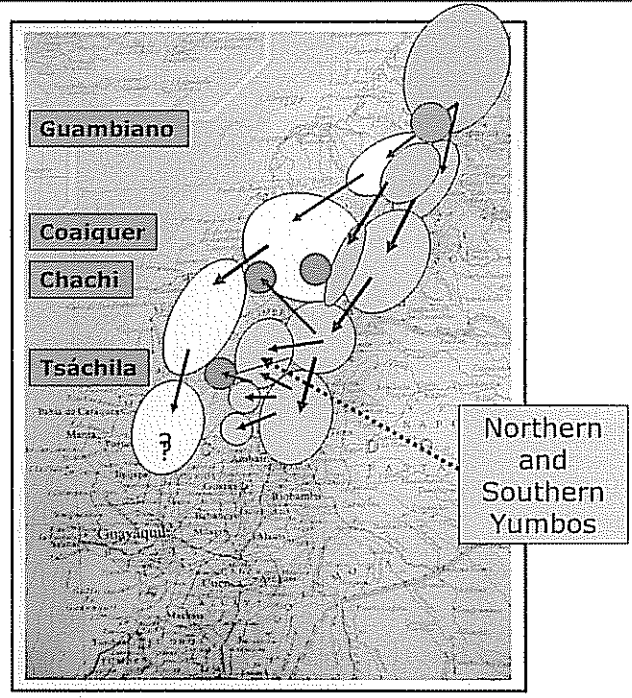
Excerpted from Constenla 1991: cuadro 4; nearest-neighbor cluster analysis without phonology



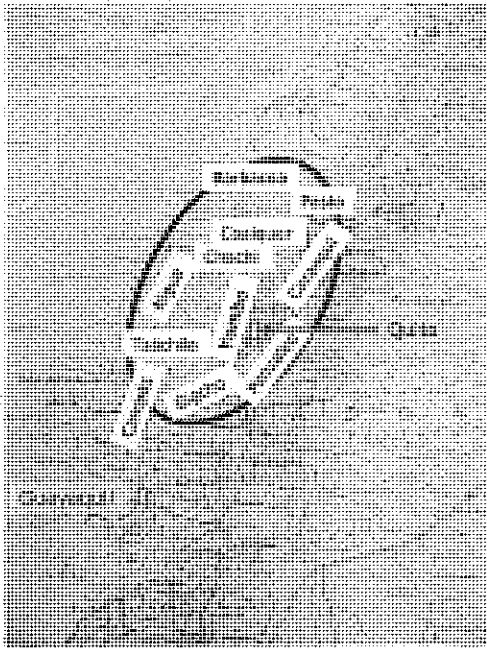
#6

Barbacoan Migrations

- Proto-Barbacoans (undifferentiated)
- Northern Barbacoans
- Southern Barbacoans
- Extant Barbacoan languages

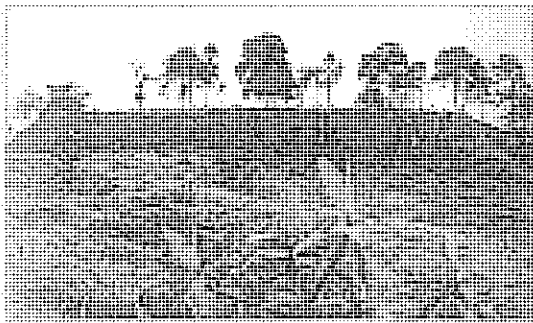


7



Barbacoan Nations of
NW Ecuador c. 1534

8



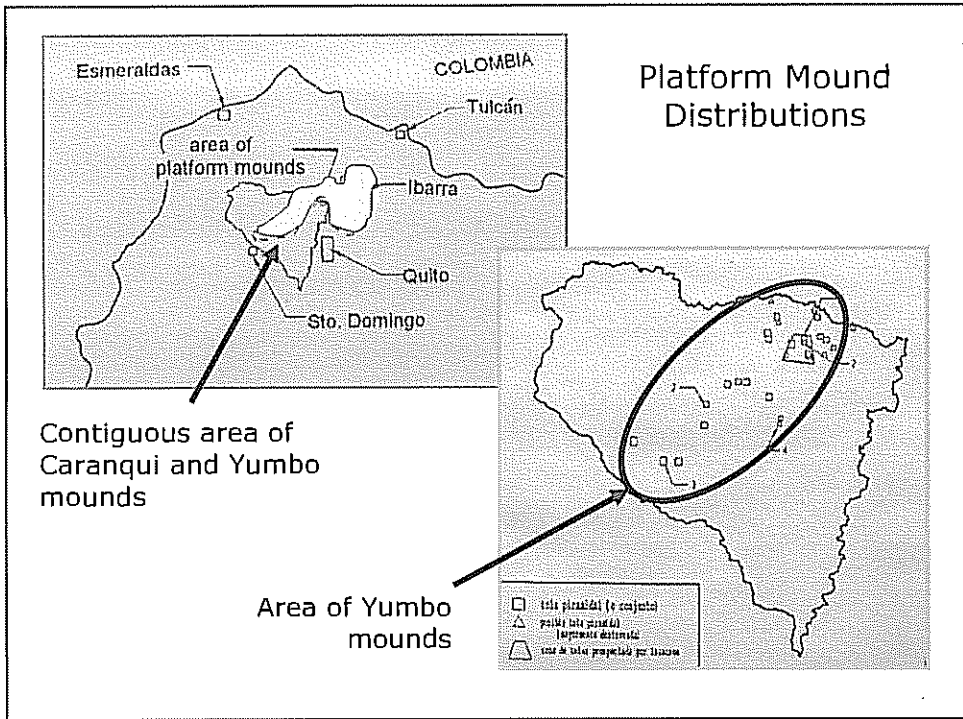
Rectangular
platform mound

Tolas

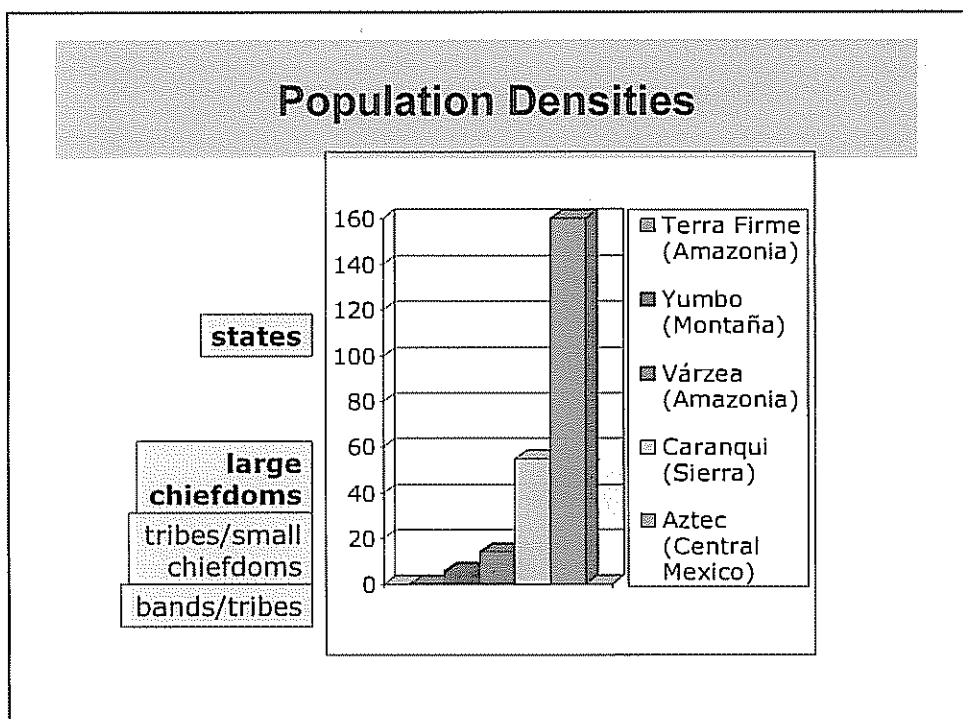
Round burial mound

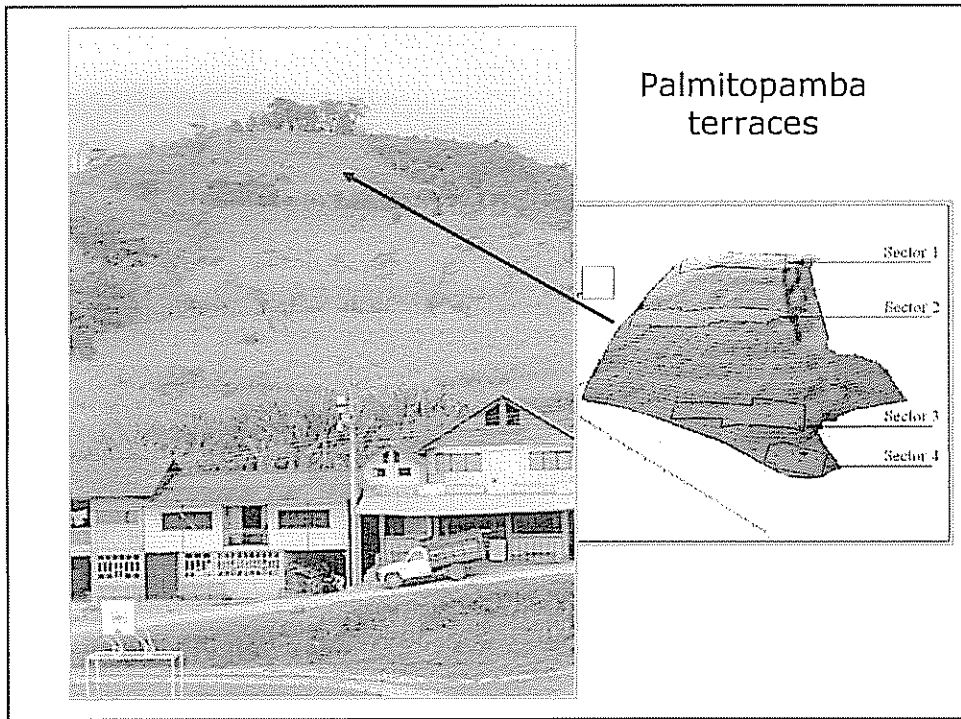


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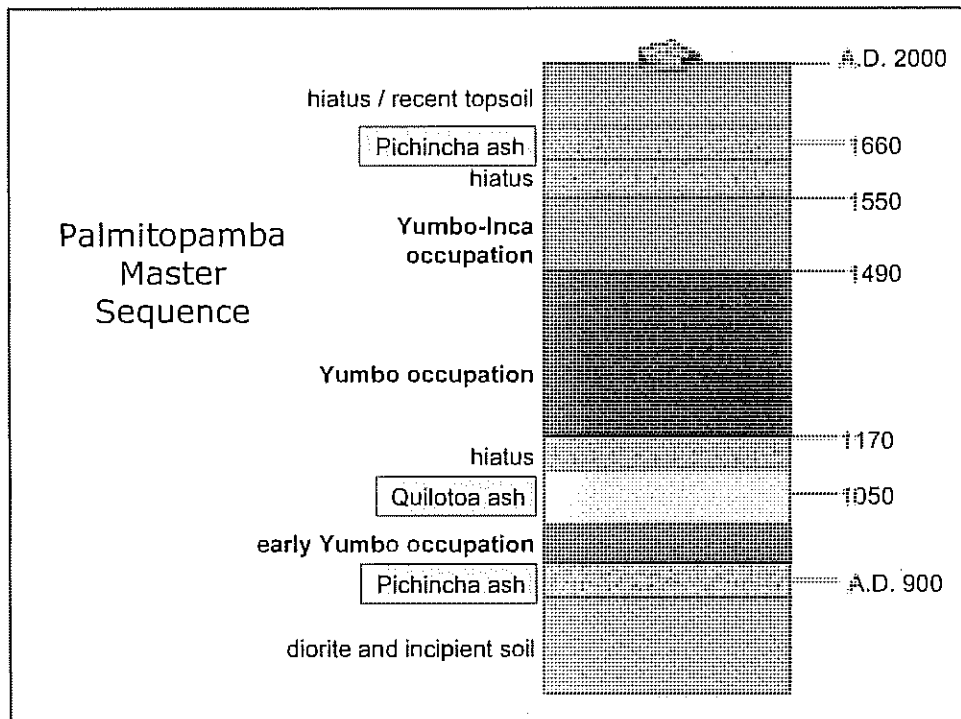


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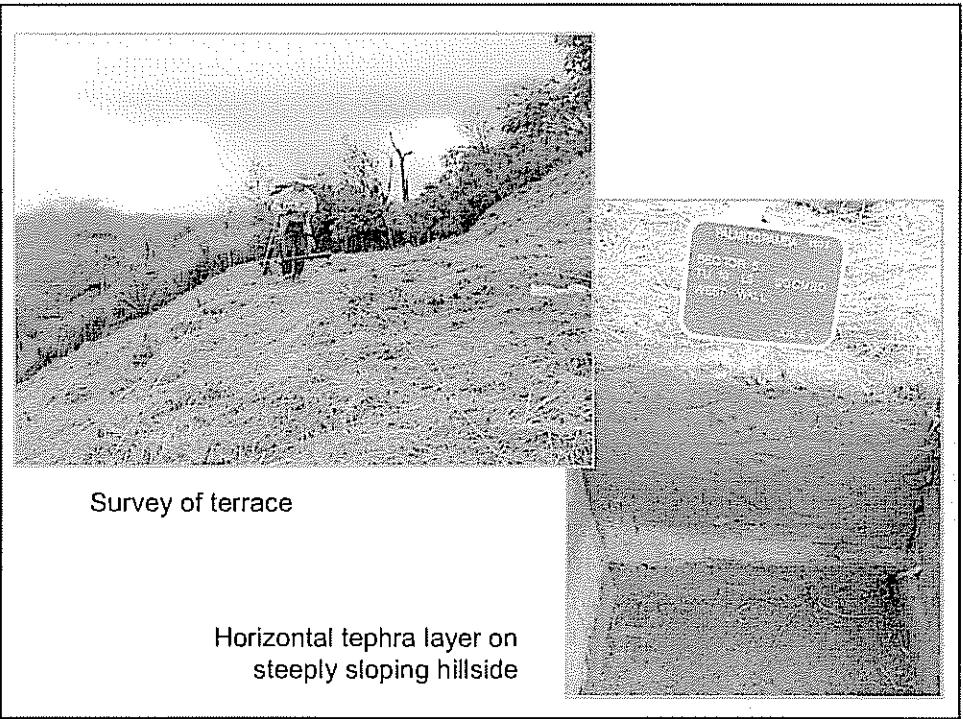


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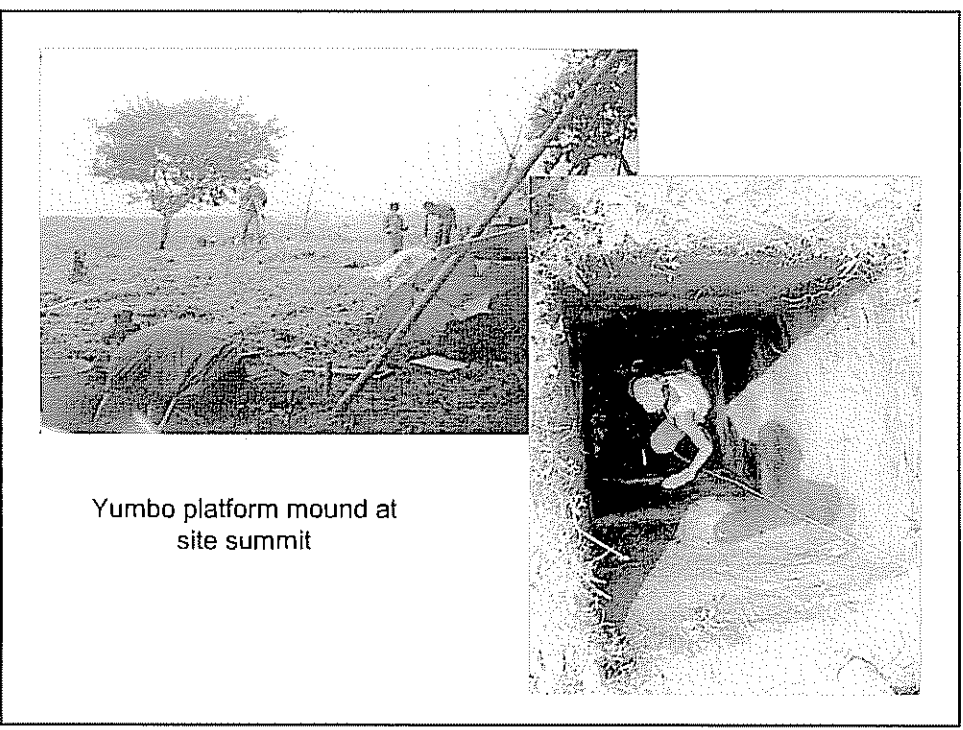
#13



Survey of terrace

Horizontal tephra layer on steeply sloping hillside

#4



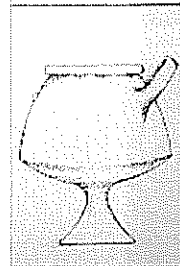
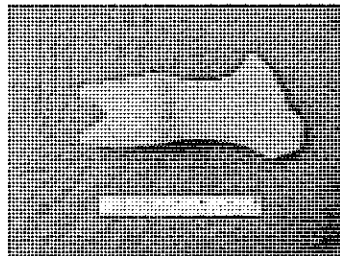
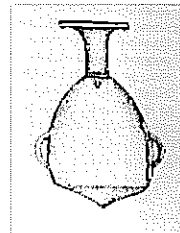
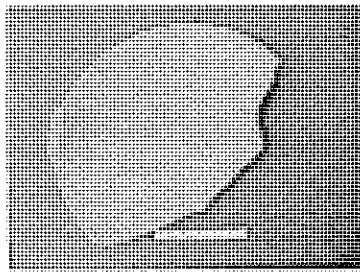
Yumbo platform mound at site summit

#15

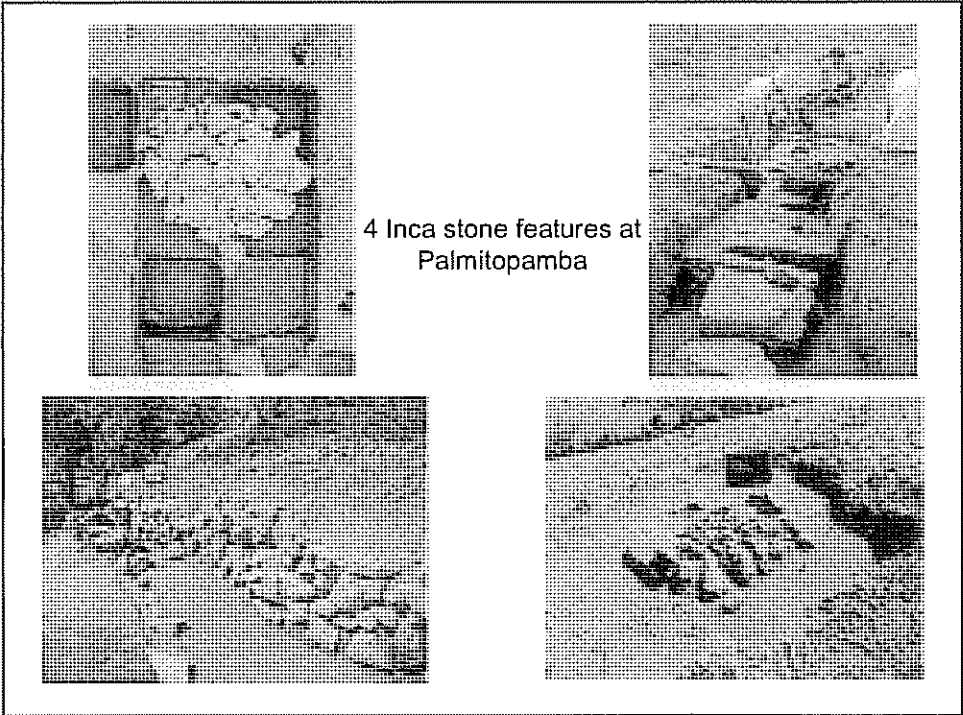


Typical Yumbo domestic ware at Palmitopamba

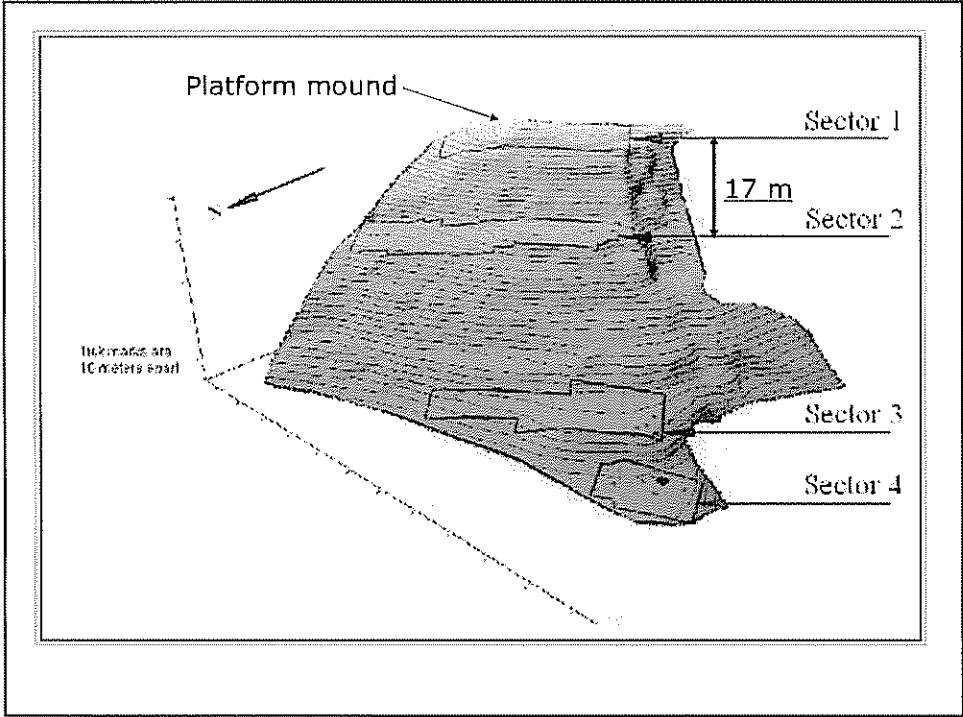
#16



Inca pottery at Palmitopamba

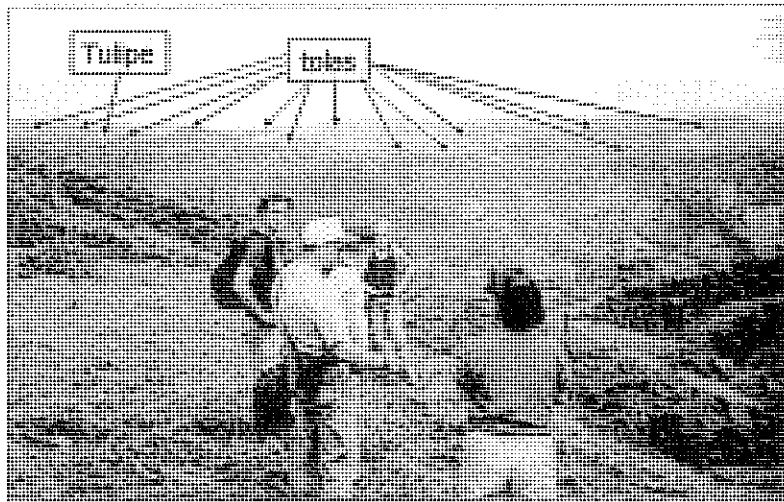


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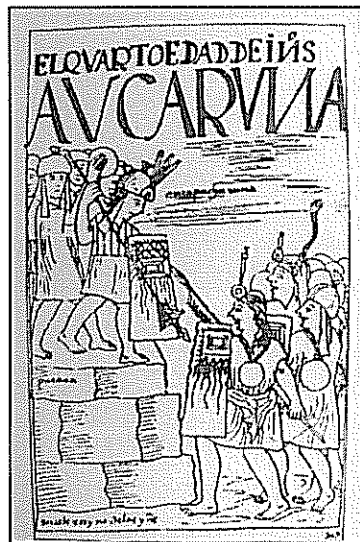
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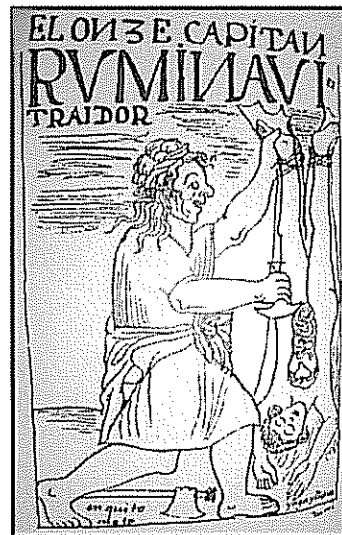


Tolas as seen from 2nd Palmitopamba terrace looking west

#20

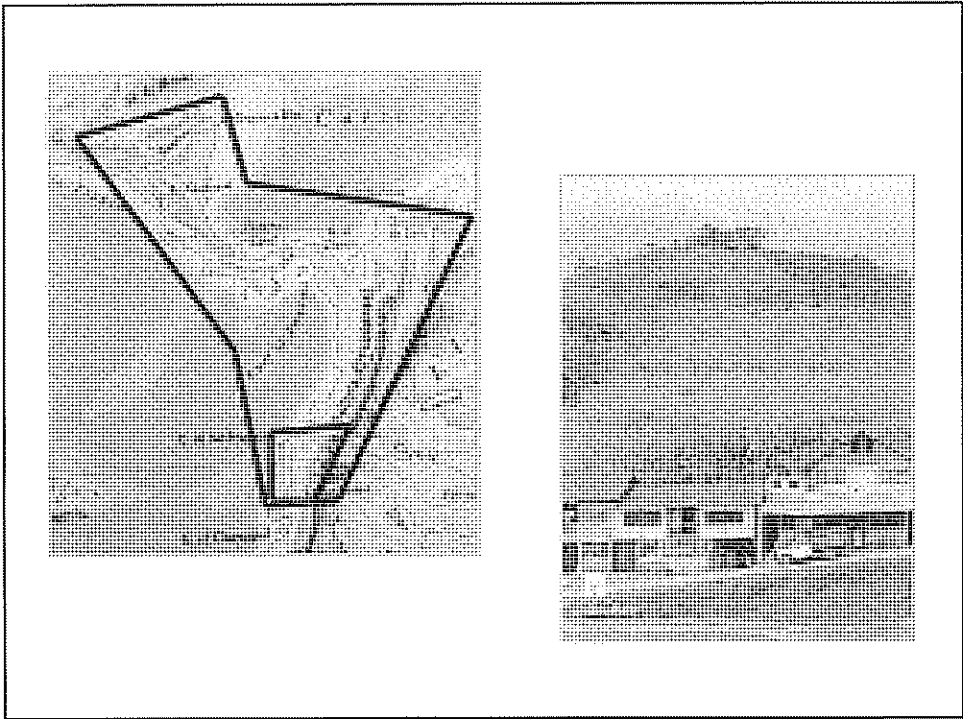


Inca battle at pucara



Ruminahui

#21



#22

