LATE PREHISPANIC TERRACING AT CHIJRA IN THE COLCA VALLEY, PERU: PRELIMINARY REPORT I

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Introduction

This report presents the results of the first field season of an interdisciplinary project which is studying the cultural ecology of terracing and terrace abandonment in the Colca valley of Southern Peru. Terraces are widely distributed throughout the Andes and play an important role in the agriculture of many highland valleys, where level ground is at a premium. In this context, it is worth noting that more terraces are abandoned than are presently in use: Denevan (n.d.) estimates that about 60% of all terraces in the Peruvian Andes are now abandoned. This suggests that there have been fairly substantial demographic and/or ecological changes that have influenced terrace use in the past. The identification of the factors responsible for these changes is the principle goal of the Colca Valley Abandoned Terrace Project, a collaborative effort involving American and Peruvian geographers, archaeologists, ethnohistorians, and soil scientists. The principal investigator of the project is Dr. William Denevan of the Geography Department at the University of Wisconsin-Madison.

Background

The Colca valley is located northwest of the city of Arequipa in the district of Caylloma, Department of Arequipa, Peru. The main sector of dense terracing is the 50 km. long middle portion between the villages of Chivay, 3633 m. above sea level, and Cabana Conde, at 3287 m. (Denevan n.d.) (Figure 1). Just above Cabana Conde, the Colca river plunges into a deep canyon and later becomes the Majes and then the Camaná before it empties into the Pacific Ocean.

Upon entering the central portion of the Colca valley, one is immediately struck by the quantity of terraces. Upon further observation, it can be seen that a considerable number of the terraces are now abandoned. The process of abandonment appears to have started at the uppermost terraces and proceeded downward: the highest terraces in any given area are now abandoned, while those further down on the slopes and on the river terrace are still in use. One can also clearly distinguish abandoned irrigation canals that once fed the upper terraces. The common response by local farmers to the question of why the upper terraces are not used today is a lack of water.

Ethnohistory

Prior to the Spanish Conquest, this region was occupied by the Collaguas and the Cavanas, who were ethnically distinct from the other groups living 3 around them (Ulloa Mogollón 1965). The exact nature of the distinction between these two groups is uncertain (Pease 1977:140). The Cavanas, or

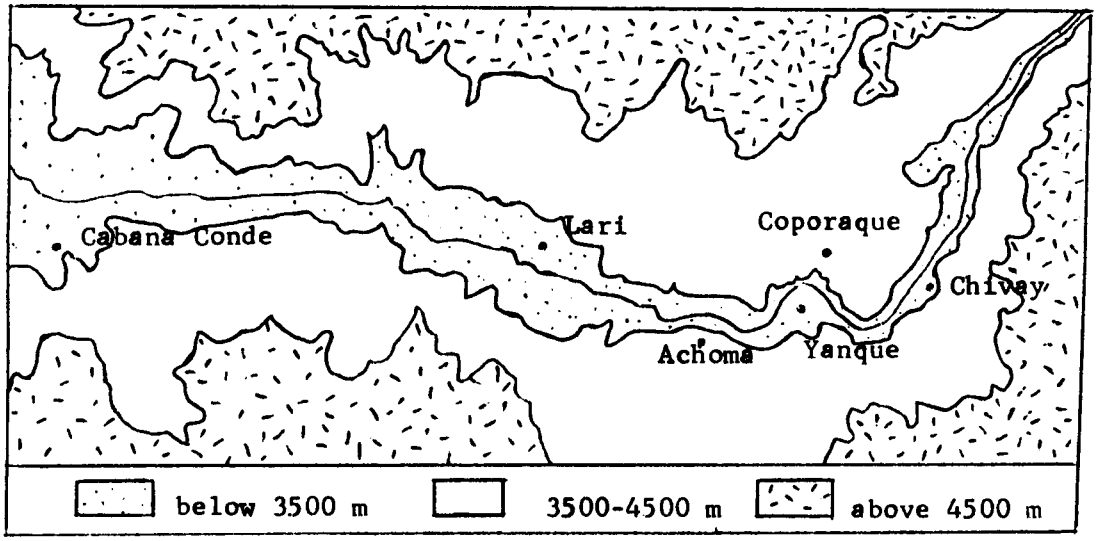


Figure 1. Map of the central Colca valley (from Cook 1982).

Cabanas, who occupied the more temperate zone around Cabana Conde, spoke Quechua, although very crudely. By tradition, they came from Hualca Hualca, a local volcano, and bound their heads to produce a low, wide skull (Ulloa Mogollón 1965:327). The Collagua, who occupied the central and upper section of the Colca basin, spoke Aymara, came from Collaguata, a different volcano, and deformed their heads in a different way (Ibid). Each had distinctive headdresses as well. Both groups are said to have descended from their respective places of origin and conquered and displaced the local inhabitants of the area.

In addition to the Cabanas and Collaguas, there may have been other ethnic groups in the area. Ulloa Mogollón mentions that the towns located at the boundary between the Cabanas and Collaguas spoke different and separate languages, "very barbarous" and mutually unintelligible, although related. He also mentions towns in the region of Cabana Conde whose inhabitants spoke different languages (Ibid:329). Whether these other languages represented cultural remnants of the original occupants of the valley, were the languages of Incaic **mitmaq** from other regions, or were local dialects of Aymara and Quechua is an interesting question, but one that is beyond the scope of this paper.

The Collagua were further subdivided into two groups, the Yanqui-Collagua, who resided on the south side of the river in the region around Yanqui (now Yanque), and the Lare-Collagua, who resided on the north side, around the town of Lari (now Lare). Oral tradition has it that both towns were founded by the original migrants from Collaguata, Lari being founded by the uncles and nephews of the founders of Yanque (Ulloa Mogollón 1965).

Not only were Yanque, Lare, and Cabana Conde important towns of the Collaguas Province, they also controlled access to resources in other areas, both to the west and the east (Málaga 1977:111). Collagua **mitmaqs** are mentioned as having existed in the Majes, Camaná, Vitor, and Sihuas valleys, as well as in Arequipa (Ibid:112). Collaguas groups had access to **lomas** and coastal resources, rights which survived even into the present: the herding town of Sibayo, in the upper Colca valley, still has access to a coastal region around Punta Coloca (Cuadros 1977:48). Yanque also had jurisdiction over pasture lands in the Collao of the Altiplano and maintained trading relations with other **puna** communities (Ibid:119).

As Pease notes, groups in the Colca valley had access not only to different ecological zones within the valley, in accordance with Murra's (1972) verticality model, but also resource zones in other areas (Pease 1977:144). For our purposes, it is worth noting Pease's comment that all the evidence points to strong links between the Collaguas region and the Altiplano of Titicaca (Ibid:1-57).

It is not clear from ethnohistoric or archaeological sources when the Incas conquered the Colca valley, or what changes they wrought in the existing social structure. Some ethnohistorical sources state that Mayta Inca married the daughter of a Coporaque **curaca** and constructed a house of copper in which to reside when visiting (Málaga 1977:100). However, Pease (1977:141) notes that these sources are dubious, and suggests that the Mayta Inca mentioned was probably the chief of the Mayta Inca **panaka** (an Inca social unit) in the Colca region, and hence was mistaken through time as *the* Mayta Inca. It is more likely that the Colca region was incorporated into the Inca empire during the conquest of Contisuyu by Topa Inca Yupanqui after 1476.

Evidence for a strong Inca presence in the central Colca valley is lacking, insofar as no administrative center has been positively identified, and even the ceramics characteristic of the Cuzqueño Inca are relatively rare. On ecological grounds, Pease (1977:159) suggests that the Incas may have concentrated their efforts in the vicinity of Cabana Conde, since it was more conducive to growing maize. However, the Inca presence may have taken a different form in this region than is typical for other areas, thus accounting for its apparent absence.

After the Spanish Conquest, the Collaguas region was given as **encomiendas** to several **conquistadores** (Málaga 1977:96). It is interesting to note that Gonzalo Pizarro was given the region around Yanque, due to its known agricultural and livestock riches. Between 1571 and 1574, Viceroy Toledo enacted his **reduccion** policy of concentrating the indigenous population in a few central towns. This policy was strongly resisted by the inhabitants of the Colca valley, who previously had lived in dispersed settlements (Ulloa Mogollón 1965:328).

The central sector of the Colca valley remained the most important part of Collaguas Province until 1626, when rich mineral deposits were discovered in Caylloma (Málaga 1977:110). The valley witnessed a rather substantial population decline during the early Spanish period which, together with the Spanish **reducción** policy, destroyed much of the indigenous social structure (Cook 1982). The Colca region then slipped into anonymity before being "rediscovered" in the early decades of this century (Shippee 1932, 1934).

In summary, the Collaguas region was the richest and most densely populated **corregimiento** under Arequipa's jurisdiction in the sixteenth century (Málaga 1977:98). The Collagua not only controlled the rich agricultural core of the Colca valley, but also had economic ties to both coastal and Altiplano groups. In addition, the valley was (and still is) on a major llama caravan route between Cuzco and Yauli in the highlands and the southern Peruvian coastal valleys. The fact that the Collagua spoke Aymara suggests that they came from the Altiplano, a suggestion supported by the strong ties to that region that are still in effect today. The Collagua apparently were strong enough to maintain their ethnic identity even after the Inca conquest of the valley.

Archaeology

Almost no archaeological work has been done in the Colca valley, and the two studies undertaken were both preliminary surveys (Linares 1981; Neira 1961). Neira identified most of the large village sites in the Colca valley and provided a tentative description of the major ceramic types present. The Chuquibamba series, originally described by Kroeber (1944), was the most common, and Neira associated it with the Collagua occupation of the valley. These ceramics typically consist of black painted designs on a red slip. Less frequently, white paint is also used. Characteristic designs are wavy lines, cross-hatched rhomboids, and stylized animals. Bowls with round bottoms and straight to convex sides are the most common forms (Lumbreras 1974:213; Neira 1961).

Chuquibamba pottery appears to be closely related to Churajón wares of the Arequipa region, as well as to Collao and Allita Amaya ceramics from the Altiplano. They certainly would fit within the range of types characteristic of

the Southern Tricolor Horizon (Lumbreras and Amat 1968). On this basis, the Chuquibamba series is considered to pertain to the Late Intermediate Period.

Few ceramic period occupations dating prior to the Late Intermediate Period have been identified in the Colca valley as yet, although some preceramic sites are known. This is almost certainly due to the lack of archaeological work in this region, rather than an actual hiatus in its occupational history: Vera Cruz (1985) has identified a Wari site and possibly an earlier site as well in the vicinity of Cabana Conde.

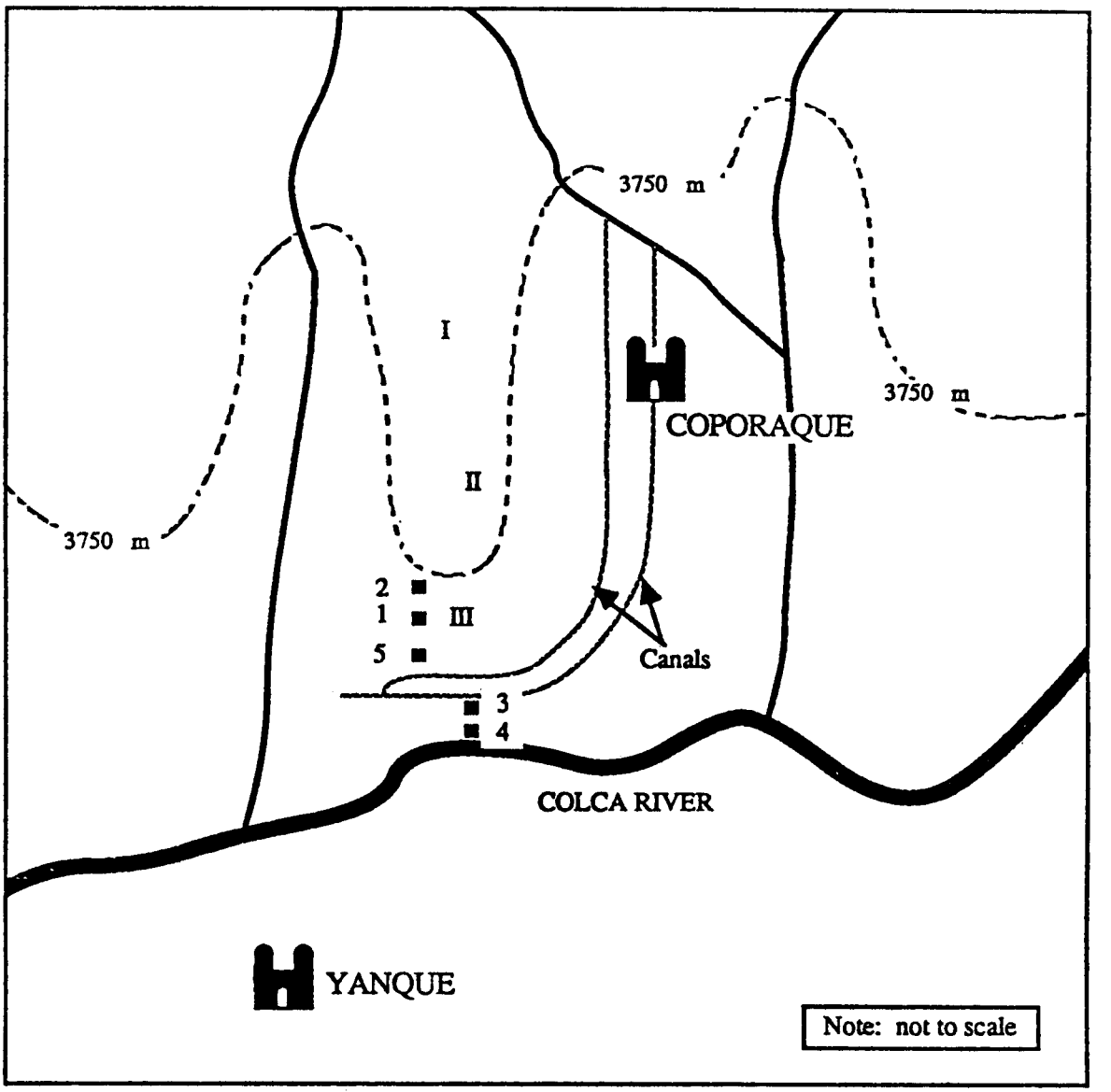
As mentioned earlier, the exact nature of the Inca presence in the Colca valley is poorly understood. Part of this stems from the relative scarcity of Cuzqueño pottery types in the valley. However, it is possible that some of the Chuquibamba types pertain to the Inca period: Lumbreras and Amat (1968:93) mention that the Chuquito Black-on-Red pottery of the Puno zone is clearly Inca-related, although it developed from earlier, indigenous forms. Thus, the lack of Inca ceramics is probably due to our present inability to distinguish indigenous wares from Inca-influenced ones.

It may also be possible to distinguish Collagua and Inca occupations by variations in architectural styles. Neira (1961) describes a typical Collagua house as being roughly rectangular with a gabled roof and constructed of field stones. The identifying characteristics of the houses are their tall, very narrow doors, measuring 2.5 m. high but only .5 m. wide, and their carefully worked cornerstones, most of which have been removed to construct houses in the modern villages (Ibid:97-98). In contrast, the few Inca structures identified have the characteristic trapezoidal doors and niches and carefully fitted stonework over the entire building. Circular **colcas** (Inca storehouses) are also known from Achoma (Shea n.d.) and a site near Coporaque.

Fieldwork

The specific archaeological objectives of the project were to determine, if possible, the date of construction and abandonment of a sample of the Colca valley terraces. Toward this end, test excavations were made in agricultural terraces (by Malpass and Vera Cruz) and in an associated occupation site (by Neira). The area selected was the ridge located on the north side of the river and east of the town of Coporaque. This ridge descends from **Yurac Ccacca**, a prominent peak due west of Coporaque, and terminates where it has been cut through by the Colca river (Figure 2). It has steep flanks but a relatively flat summit. Two main irrigation canals provide water from the quebrada east of the ridge to the eastern flank and front slope. All of the terraces currently in use are watered by these two canals. In addition, there are a substantial number of abandoned terraces above these canals, which were formerly irrigated by a canal which flowed down the summit of the ridge. The terraces above the two main canals, which are all abandoned and in a good-to-poor state of preservation, will be referred to in the remainder of this paper as the "upper terraces". The terraces below the main canals, which are mostly still in use, will be referred to as the "lower terraces".

Investigations were concentrated in a geographically distinct area of abandoned terracing and houses called **Chijra**. This area included nine house located among about thirty abandoned terraces. Neira excavated one of the



I. Yurac Ccacca ridge
II. Chilacota
III. Chijra

■ Terrace Trenches

Modern Towns

Figure 2. Coporaque study area.

houses located near the principal feeder canal which brought water from the main irrigation canal near the summit of the ridge.

Five terraces were selected for trenching (Figure 2). These were located at irregular intervals from the level of the river (3270 m.) up the south-facing slope of the ridge to an elevation of about 3650 meters. The bottom two were located in the lower terraces, while the top three were in **Chijra**, one very close to the house where Neira was excavating. Additional test excavations were made at **Chilacota**, a possible occupation site and associated terraces just below **Yurac Ccacca**, at an elevation of about 3750 meters.

Because of the brevity of the field season, only limited testing was possible. Neira excavated a two meter square pit in the northwest corner of the interior of an abandoned house and cleared the outer foundation on the north, east, and south sides. All materials were sifted through a .5 inch mesh screen. The five terraces were trenched from the base of the rear wall to the front retaining wall, using a one meter wide trench. Excavations were continued until either bedrock or a sterile soil horizon was encountered. All soil was sifted through a .5 inch mesh screen.

Excavation techniques varied from terrace to terrace. Terrace 1, located in **Chijra** adjacent to Neira's excavations at 3605 m., was excavated in arbitrary, 15 cm. levels until a buried wall foundation from an earlier terrace was encountered. Subsequent excavations continued utilizing levels defined in terms of the wall. While natural strata were identified after the trench had been excavated, they were not apparent during the excavation and therefore were not utilized.

Trenches 2 and 5 were also located in **Chijra**, the former above Trench 1, the latter below it. These trenches were excavated using arbitrary, 10 cm. levels. Trenches 3 and 4, located in the lower terraces, had a .5 m. wide test trench opened first, using 15 cm. arbitrary levels, to expose the soil profile. A second .5 m. wide trench was then excavated, using the existing profile as a guide to the natural stratigraphy.

The test excavations in **Chilacota** were conducted by Debbie Martin, a graduate assistant to Malpass. She excavated seven test pits of sizes 1x1 or 1x2 meters, in both the terraces and the suspected habitation areas (Martin n.d.). She used arbitrary levels of either 10 or 15 centimeters. All materials were sifted through a .25 inch mesh screen.

Soils from the profiles were collected by Jon Sandor and are being analyzed at Iowa State University. Radiocarbon dates are being analyzed at the University of Wisconsin-Madison.

Results and Interpretations

The discovery of a buried wall foundation in Trench 1 provided important information concerning the occupational history of the area. The profile of this trench is shown in Figure 3. Three features merit some description and explanation. The first is the large block of brown soil located to the rear of the trench and designated Feature 1. This block was both a different color and texture from the surrounding matrix, although its presence was only noted after

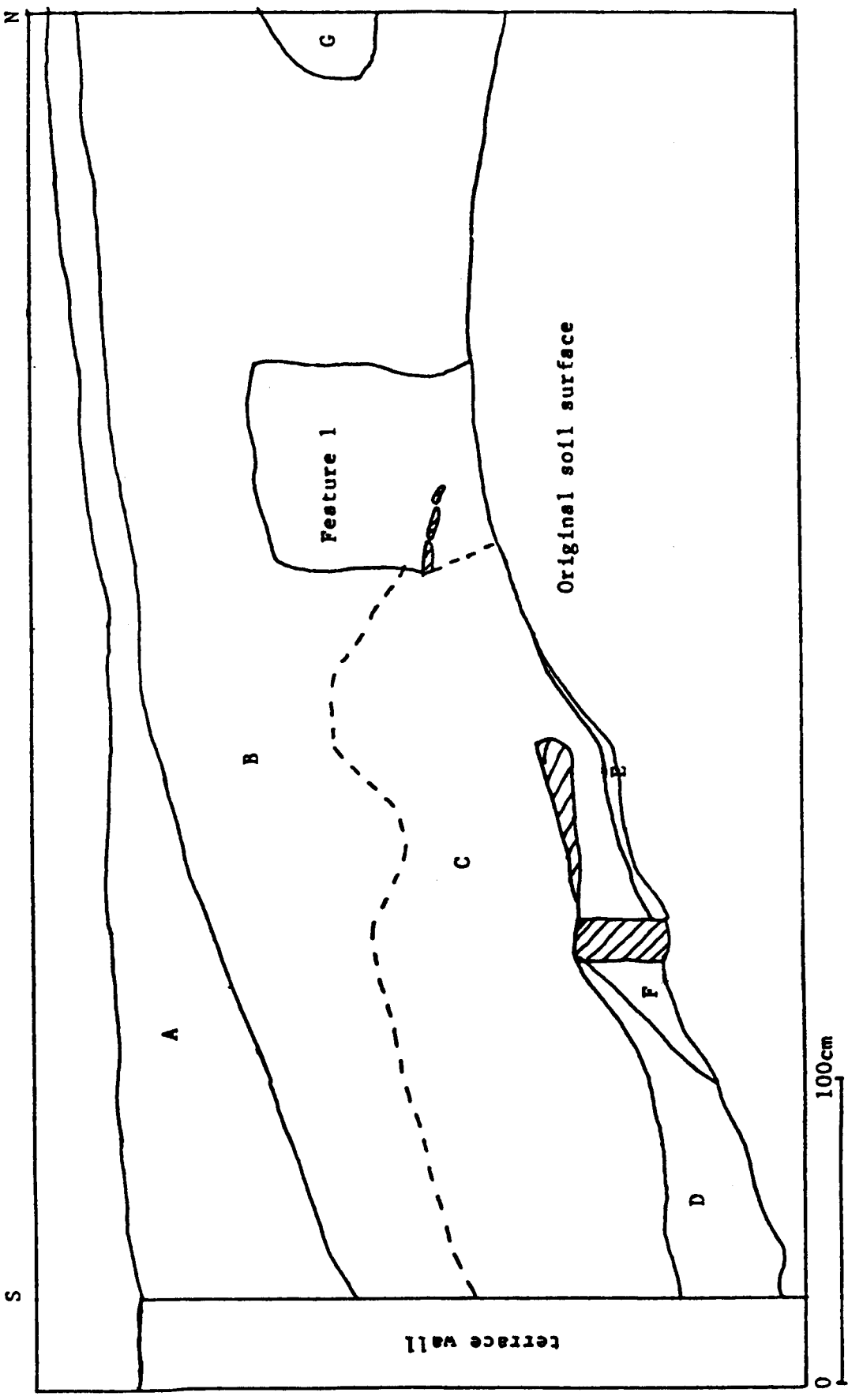


Figure 3. Trench I: West wall profile.

a rare (and fortuitous) rainfall. This block apparently is part of some sort of low wall, as it was found in the corresponding location in the opposite wall profile. More irregularly-shaped inclusions of similar soil were found at the rear of the trench (Stratum G). While it is conceivable that this feature only represents fill for the terrace brought in from a different area than the remaining fill, its rectangular shape suggests a retaining wall function. The rubble from the earlier of two terrace walls described below is piled against Feature 1, suggesting that it is earlier than the two walls.

The second feature in Trench 1 has been interpreted as the remains of an earlier terrace wall that was probably deliberately destroyed but may have fallen down naturally. This earlier wall is represented by Stratum C, a layer of stone rubble. The existing terrace was then constructed, incorporating the stones from the earlier wall as fill. The constructional sequence has been reconstructed as follows.

After Feature 1 was constructed, the earlier terrace wall was built and soil was brought in, or allowed to accumulate behind it, creating the rear part of Stratum B. Some soil washed over and through the wall to accumulate down-slope, creating Stratum D. Presumably, this terrace was then used for some time.

The earlier terrace apparently was constructed at about the same time as the house located two meters to the east, as it is in line with the side wall of the house. This fact indicates that the house, and by extension the other houses nearby, were constructed *prior* to the construction of the existing terraces in **Chijra**. How much earlier awaits analysis of the radiocarbon samples collected during excavations.

Sometime after the early wall was constructed, the present terrace wall was built, and the earlier one either fell down or was deliberately thrown down, creating Stratum C. It seems more likely that its destruction was a deliberate act, since the stones are lying against the later (present) wall. The fill for the earlier terrace then washed over the rubble of the wall, or was thrown in, accounting for the steeper slope of Stratum B. Finally, additional fill was brought in to bring the terrace to the desired height and degree of flatness, accounting for Stratum A.

It is worth commenting here on the origins of the terrace fill. David Guillet (personal communication) notes that modern terraces at Lare are constructed using fill collected from the area of the terrace, because it is land owned by the terrace owner. If insufficient soil is available, it is brought in from elsewhere. Cook (1916:496) states that Inca terraces along the Urubamba were constructed in this manner, with fill brought from elsewhere. However, he also notes that occasionally modern farmers construct a wall and allow it to fill up with slopewash during the rainy season. Thus, it is conceivable that the artifactual contents of terrace fill are of origins completely external to the terrace itself.

The third feature found during the excavation of Trench 1 was a stone-lined canal, located along the base of the earlier terrace wall (Figure 4). Examples of canals in the same locations relative to terrace walls can be found in **Chijra** today, although the slightly arcuate shape of this feature is unusual. It was composed of flat stones placed upright in the natural hillslope, one of which

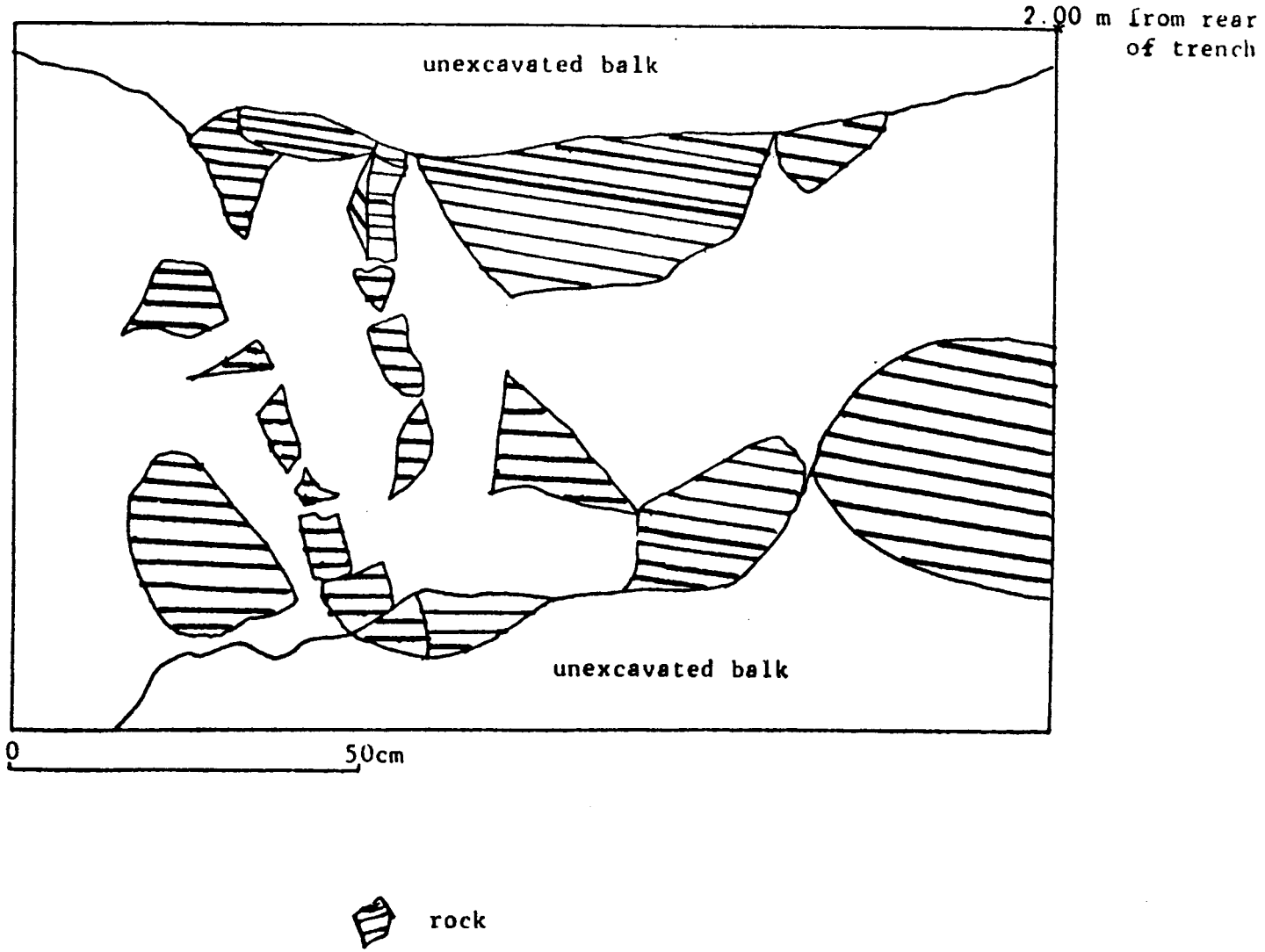


Figure 4. Trench I: Plan view of buried wall foundation and canal at 160 cm. below datum.

can be seen in profile in Figure 3. If it was an irrigation canal, it presupposes the presence of a terrace contemporaneous with, but downslope of, the earlier terrace in Trench 1. The only evidence for such a terrace is the relatively flat surface of Stratum D, which suggests that it was impounded behind an obstruction lower down the slope. It is possible that the supposed earlier terrace was destroyed during the construction of the present terrace system. Further excavations in the lower terrace could confirm or deny this hypothesis.

The evidence from Trench 1 does suggest that there have been at least two phases of construction in the abandoned terraces of **Chijra**. The first, represented by the buried wall foundation, probably dates to the period of construction and use of the nearby houses. Subsequently, the terraces were rebuilt, and probably expanded, to their present configuration. Whether the houses were still used during this second phase of construction is unknown: the door sill and the foundation of the house excavated by Neira are well below the present terrace surface, but it is conceivable that this is due to soil buildup subsequent to the terraces' abandonment.

A considerable quantity of ceramics, lithics, and animal bone was recovered from the excavations near Coporaque. Unfortunately, little could be analyzed prior to the end of the 1984 field season. Results to be presented here, then, are restricted to trends seen in the rough sort of the ceramics, and to further observations on the relative ages of the terraces and irrigation systems.

The ceramics can be divided into two general groups, decorated and undecorated wares. The majority of the decorated wares include pottery with painted designs, virtually all being the Black-on-Red or Black-and-White-on-Red types of the Chuquibamba series. These, for the most part, include animal or geometric designs. Forms include ollas and straight-sided bowls. A second group of decorated pottery had no designs, but included a zone of red slip applied over the generally orange paste. The red slip was restricted to the interior and exterior of the rim, extending down either side a variable distance. Undecorated wares were usually scraped on the exterior and/or interior and sometimes were smoothed as well. No forms have been identified yet, except for a flat-based, narrow-necked shape.

The only trench that showed any trends in ceramics was Trench 1, where Black-on-Red pottery decreased with increasing depth, as the wares with a red-slipped rim increased. Undecorated ceramics did not appear to change frequency from the top to the bottom. Whether these trends are associated with the two building phases of the terrace is not clear at this time.

There were also differences between the ceramics found in the different terraces. The most important of these is the almost total lack of the decorated ceramics in the lower terraces, that is, the ones still in use. Excavations in the trenches in these terraces recovered Colonial and modern sherds, as well as a kind that has been tentatively identified as Inca, or Inca-influenced. A survey of the lower terraces confirmed the almost total lack of the decorated pottery types associated with the upper terraces.

In addition, the lower terraces had very little animal bone or lithics, while the abandoned terraces had abundant examples of both. Over thirty small, tanged projectile points and hundreds of animal bones were found in Trench 1 alone. The presence of bone and lithics in the other terraces in **Chijra** and

Chilacota suggests that the abandoned terraces were functionally distinct from the lower terraces. A more varied set of activities is thus indicated for the upper terraces. Alternatively, the fill from these terraces could have come from an area where such activities were carried out, while the fill from the lower terraces could have come from elsewhere. This difference could be related to the presence of houses in the upper terraces: those terraces closest to the houses have more bone and lithic debris than the ones farther away. In contrast, there are no houses near the lower terraces. However, even those of the upper terraces far removed from any houses have more bone and lithic debris than the lower terraces, supporting the idea of functional differences between the two areas.

There are also variations in the organization and construction features of the terraces in the two areas. The lower terraces generally have some sort of endwall which sets off groups of terraces from each other. These groups usually consist of tiers of terraces of equal length, which gives a very orderly appearance. This suggests that they were conceptualized and built as a unit. The irrigation canals for these units run horizontally between them, and also down between the endwalls. Water is diverted from the main canals to the highest terrace in a unit, then diverted across the terrace by scratch canals, and finally allowed to fall down the face of the terrace to the one below. In contrast, the abandoned terraces do not have endwalls and are very uneven in length, giving the appearance that they were constructed individually, rather than as a unit.

While a significant amount of analytical work remains to be done, a few preliminary interpretations are in order. The first, and most important, is that the abandoned terraces were probably constructed and used *prior to* the construction of the presently utilized ones. This is suggested by the differences in ceramics in each and by the formal variation present in both sets of terraces and their irrigation systems. Based on the assumption that the Black-on-Red and Black-and-White-on-Red ceramics are Late Intermediate Period in date (Lumbreras 1974; Neira 1961), then the upper terraces date to that period as well. The ceramics on the lower terraces are Inca, Colonial, and modern, thus later.

An Inca date for the lower terraces is also suggested by their formal organization, which is highly reminiscent of Inca terracing elsewhere in the Andes. In addition to the linear terraces, arc-shaped terraces also present in the lower units are very similar to Inca terraces in the Urubamba valley. In contrast, the upper terraces in the Colca valley are much more randomly organized and do not resemble Inca terracing in either form or organization.

Further Questions

An interesting problem yet to be resolved is whether there was any overlap in the use of the upper and lower terraces. The marked dissimilarities in the artifactual content of the terraces in each area argues against their contemporaneity. However, it is conceivable that the Incas continued to use the upper terraces even after the construction of the lower ones, but discontinued the activities indicated by the artifacts found there. This alternative is suggested by the presence of Inca ceramics in the large site of San Antonio, which is located within the abandoned terraces just to the east of **Chijra**.

Another unanswered question is the age of the abandoned terraces. A single radiocarbon date of 290±60 AD exists for the middle layers of Stratum B in Trench 1, which is earlier than the Late Intermediate Period date suggested by the ceramics. However, the sample may date the fill, not the terrace: if the fill was collected from elsewhere, then there may be a considerable discrepancy between the dates of the fill and the terrace construction. It is hoped that forthcoming dates from under the earlier terrace wall will clarify this situation.

It is also uncertain when the Trench 1 terrace was rebuilt, and by whom. There are three possibilities. If we assume that the decorated ceramics all pertain to the Collagua occupation of the Colca valley, as Neira does, then both sets of terraces in the abandoned region are also Collagua. However, the ceramics with red slipped rims may pertain to the early inhabitants of the valley, those preceding (and conquered by?) the Collagua, in which case the earlier terraces were built by the original inhabitants, and the Collagua then expanded them. The third possibility is that some of the Black-on-Red ceramics are Incaic,[1] and that the expansion was directed by the Inca, and the earlier terraces were thus Collagua. Until more is known about the ceramics, the question of who built the terraces must remain in doubt.

It is likewise uncertain what caused the abandonment of the upper terraces. It is tempting to suggest that the abandonment was related to the Inca conquest of the valley. This area today is at the upper limits of maize cultivation, and it is possible that the Inca wanted to maximize their corn production by utilizing the areas lower down. An equally likely alternative is that the Inca utilized both the upper *and* lower terraces, and that the abandonment of the former resulted from the drastic population decline in the valley due to epidemics in the sixteenth century.

A further point requiring clarification is the relationship of the Chuquibamba pottery to other, contemporaneous ceramics in nearby areas. As stated, Chuquibamba appears to resemble most closely the Churajón ceramics from Arequipa. Similarities are also seen to the Allita Amaya ceramics of the Puno region (Lumbreras 1974), and to the Collao ceramics of the western Altiplano (Lumbreras and Amat 1968). Neira (1961) favors the view that the Chuquibamba pottery was a local development out of earlier, yet to be identified wares through contacts with Altiplano groups. However, Lumbreras (1974:207) suggests that the Churajón pottery may reflect an actual colony from the Altiplano. Such could be the case for the Chuquibamba ceramics, explaining both the apparently sudden and pervasive appearance of this series in the Colca valley and its similarities to other Altiplano pottery types. This explanation would also tie in with the ethnohistoric data for multiple ethnic groups with different languages in such a relatively small area of the Colca valley. More research will be needed before this question and the others can be resolved.

Conclusions

From the evidence recovered during our first field season, it appears that the terraces in the Coporaque district of the Colca valley were constructed in at least three phases. The earliest terraces appear to have been built on the mountain slopes, from which point construction of the others proceeded downslope. The earliest terraces are those of **Chijra** and **Chilacota**. These terraces were built in a somewhat random fashion, utilizing runoff from the

snowfields above the valley, which was channeled around the summit of **Yurac Ccacca** by a main canal. Stone-lined feeder canals then brought the water to the terraces located just below the summit, which were probably built by Late Intermediate Period groups including, but not necessarily restricted to, the ethnohistorically documented Collagua. These terraces appear to have been enlarged at least once.

Subsequent to the construction of these terraces, the two irrigation canals currently in use were dug along the east face of the slope below **Yurac Ccacca**, and a much more formalized system of terraces was constructed below them. These later terraces and canals were used both during Inca times and up to the present. It has been suggested that either before, or slightly after, the construction of the lower terraces, the upper ones were abandoned. Alternatively, the upper terraces could have been used through early Colonial times, but not subsequently.

How representative these results are for the rest of the Colca valley remains to be seen. The general pattern of abandoned terraces above presently utilized ones appears to hold for the entire valley. The differences between the presently utilized and abandoned terraces in organization and the use of endwalls also seem to be present in the Lare area (D. Guillet, personal communication), although this suggestion still requires empirical proof. Daniel Shea's archaeological work in the vicinity of Achoma should also provide valuable information as to the generality of the conclusions given here. It is hoped that further research will answer these questions.

Acknowledgments

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Note

1. Craig Morris of the American Museum of Natural History suggested that the llama motifs seen on some of these sherds are very similar to Inca motifs.

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