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Pre-Hispanic Resource Sharing in the Central Andes

Peaceful intergroup exploitation of a unique ecological zone is documented at a settlement in Peru.

Tom D. Dillehay

Group access to resources of different areas can generally be achieved by one or a combination of several means: trade, exchange and market systems, colonization, and warfare or conquest. These means imply either intergroup cooperation in or competition for the exploitation of those resources.

Studies have been made of the Andean method of achieving access to diverse resources in the absence of Western market systems. These studies have profited from the economic model of redistribution developed by Polanyi *et al.* (*1*) and later by Murra (*2*) in his ethnohistorical work on the Inca economy (*3*). Using documentation on late pre-Hispanic (around A.D. 1350 to 1534) ethnic groups in Peru, Murra (*4, 5*) further developed these ideas by proposing the principles of verticality: a nucleus population sends colonies to exploit and control a series of discontinuous ecological zones or "environmental archipelagoes" up and down the highly diversified Andean landscape. This system requires a certain level of political and economic organization and integration to maintain colonies and to ensure redistribution of local products to the nucleus. Colonies from different groups have also been shown to share the same zone.

The author is a professor of anthropology at the Universidad Austral de Chile, Valdivia, Chile.

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Verticality can be most easily understood in its economic sense as one Andean alternative to market networks. Local and regional product redistribution in certain areas of the Andes was accomplished by colonization of different ecological zones. Ideally, verticality is an attempt at economic autonomy and self-sufficiency (*6*). In contrast to populations that rely on marketplaces and trade, each ethnic group controls and manages its resources and does not necessarily depend on other groups for essential goods and services.

A number of investigators have identified verticality in the economy of certain present-day indigenous populations in the Andes (*7–9*). However, some anthropologists remain skeptical of the cultural operation and temporal and ecological setting of verticality, and archeologists have generally been reluctant to use the model, thinking that complete reliance on ethnohistory or ethnography may place limitations on their interpretations of data. To date, the model has been most successfully used for groups living at high altitudes in the late pre-Hispanic period. It is not yet well understood whether verticality was practiced by populations who lived on the coast or along the eastern and western slopes of the Andes.

These studies illuminate several archeological questions. For example, how far back in time can verticality be extended? What kinds of specific social, political, and economic arrangements would have developed or modified to solve problems arising from the coexistence of different groups in the same ecological zone? What kinds of early pre-Hispanic authoritative systems managed the vertical control of distant lands, and what were the nucleus settlements like?

One area that provides an archeological testing ground for some of these questions is the Chillon Valley on the central coast and western slopes of the Peruvian Andes (Fig. 1). On the basis of documents published by Rostworowski de Diez Canseco (*10, 11*), Murra (*5*) identified competition and coexistence between different coastal and highland societies for control of the *chaupiyunga* (*9–12*) (Fig. 1), a unique transitional zone between the coastal plains and highlands.

The research discussed here was conducted at the Huancayo Alto archeological site in the *chaupiyunga* (Figs. 1 to 3). This site represents the period from the middle Early Horizon through the Late Horizon, from 800 B.C. to A.D. 1534 (Table 1) (*13*). The advantage of studying Huancayo Alto is that it contains a 2000-year archeological record of multiple group interaction. During this time, a product storage and redistribution complex was developed, first in the context of a coastal-influenced ceremonial site and later of a *chaupiyunga*-highland secular setting. Data on intrasite architectural layout and function and highland and coastal interaction in the valley provide a means for studying product exchange and social organization at Huancayo Alto.

Archeological research was carried out in 1976 by Parsons and Matos M. in the Puna of Junin (*14*) above the Chillon Valley, and in early 1977 I surveyed the Chacalla-Jicamarca area in the lower sierra between the Chillon and Rimac valleys (Fig. 1). This research clarified certain patterns related to the coresidence of different groups and the role of the site in intra- and interregional product exchange. In this article, I present an overview of the archeological data related to the social, administrative, and economic growth and structure of Huancayo Alto, after summarizing geographic background material. I then discuss some tentative conclusions and the importance of the site in Central Andean prehistory.

Geography

The Chillon River flows from the lake region near Junin in the central highlands. The river valley can be separated into two major areas (*9*, pp. 30–74): (i) the coastal area, which can be further divided into the lower valley or subtropical desert plains and the middle valley or subtropical brushy desert (*chaupiyunga*), and (ii) the upper valley or lower thorny brush sierra (Fig. 1).

The lower and middle segments have humid valley bottom lands with fine-grained soils and are now considered to be prime agricultural lands (*15*). The economy of the coastal and *chaupiyunga* people in late pre-Hispanic times was based primarily on year-round agricultural crops and secondarily on marine resources. The soils of the upper valley are coarser and do not retain moisture for any appreciable time. The river, streams, and ravines in the area are deeply incised, and therefore afford only a small amount of good valley-bottom farmland. Within the highlands, extensive hillside agricultural terracing was and is practiced in the Canta area, in addition to llama herding in the Puna of Junin.

The limiting factors of the drier coastal region are the relatively small area of cultivable land and the need to utilize extensive irrigation networks, relying on water sources far up the valley. It is important to note that the *chaupiyunga* has the least amount of cultivable land in the valley, but the greatest diversity of agricultural produce, including the highly valued coca plant (*Erythroxylon coca*) (*11*). The primary limiting factors of the sierra are fallowing, restricted crop range, and harsher climatic conditions, particularly in the Chacalla-Jicamarca area. Huancayo Alto lies almost in the center of the middle valley and has access to plant and animal resources of both subareas.

Research Results

The archeological zone at Huancayo Alto lies on a *quebrada* (alluvial cone) at the base of a mountain range on the south side of the valley about 60 kilometers inland from the Pacific Ocean (Figs. 1 to 3). The Chillon River passes about 150 meters from the *quebrada*. The larger part of the settlement occurs in the *quebrada*, but ceremonial structures lie on the valley floor and storage and habitational areas extend onto the southern hillside (Figs. 2 and 4). The total area of the site is estimated at approximately 14 hectares. During two field seasons in 1974 and 1977, 32 different architectural structures in all site sectors were tested or fully excavated. I estimate that no more than 1.5 percent of the total structures at the site have been uncovered in all excavations.

Research in Huancayo Alto has defined seven major pre-Hispanic cultural phases covering more than two millennia of occupation from approximately 800 B.C. to A.D. 1534. These phases are divided into periods I through VII, from early to late. In this article I deal mainly with period I (middle to late Early Horizon, about 800 to 420 B.C.), period II (Early Intermediate, 420 B.C. to A.D. 540), and period III (Middle Horizon, A.D. 540 to 900), the developmental phases of the Huancayo Alto occupation (Table 1). At present there is no archeological evidence to indicate that the site area was inhabited during the Preceramic and Initial periods.

Period I. The earliest occupation at Huancayo Alto occurred during period I sometime around 800 to 500 B.C. The major settlement component, three small cobblestone *huacas* (artificial mounds) (Fig. 2) averaging about 10 m in diameter and 3 m in height, lie immediately in front of the main residential sector in the *quebrada* and the storage area on the

hillside (Figs. 2 and 5). Three parallel rows of boulders lead from the largest *huaca* to two small stone mounds some 30 m to the west. The domestic architecture in the *quebrada* for period I is not well defined spatially because it is covered by buildings from periods II and III. Nevertheless, our excavations in these later structures have shown that period I architecture is characterized by small one-room units made of river cobblestone. These rooms measure roughly 3 by 4 to 5 m.

Only the lowest storage zone (A) (Figs. 2 and 4) is dated in this period. This zone begins approximately 120 m up the southeastern hillside. Entrance to the area is controlled by a stone wall 1.5 m high that spans the hillside arm. Behind the wall 57 storage units laid out in uneven rows extend about 100 m up the hill.

The shape of the storage units varies between elliptical and rectangular (Fig. 5). These preserved architectural forms represent the stone foundations for cane-paneled walls and roofs. Excavations in these units revealed friable clay floors underlain by cultural deposits 30 to 45 centimeters deep. Scant floral remains and most often large ceramic rim forms suggestive of storage vessels were recovered from the deposits. The three most common economic products recovered from the excavated units were corn cobs, marine shells, and coca leaf fragments.

The earliest ceramics in the *huacas* and one-room cobblestone structures in the *quebrada* are rims indicative of the late Early Horizon, hemispheric bowls, bowls with incurved rims, and jars with flaring necks. A precise date cannot be set for the initial construction of storage zone A. Coastal-style Maranga sherds (around 200 B.C. to A.D. 540) were found on the surface in and around several storage units and were excavated in levels superimposed on Early Horizon ceramic types in two others. However, the zone may have been utilized much earlier since one charcoal sample (TX-2004) from a level underlying the Maranga sherds and containing rimless plain brown wares was dated at 930 ± 80 B.C. (*16*). These early ceramics are similar to those of the middle to late Early Horizon from Garagay, San Humberto, Chocas, and other Chavin period sites in the lower part of the Chillon and Rimac valleys (*17*).

The connection between these lower valley ceremonial centers and Huancayo Alto is not considered to be a case of colonization of the *chaupiyunga* by lower valley coastal groups. The ceramic wares and architectural features at Huancayo Alto show enough local development to rule out direct occupation by nucleus groups from the coast. Instead, the similarities among the materials at these sites are interpreted as the result of several factors acting in combination: intravalley product exchange, budding populations seeking new lands to cultivate upvalley but not necessarily maintaining relations with their former territories downvalley, and possibly religious

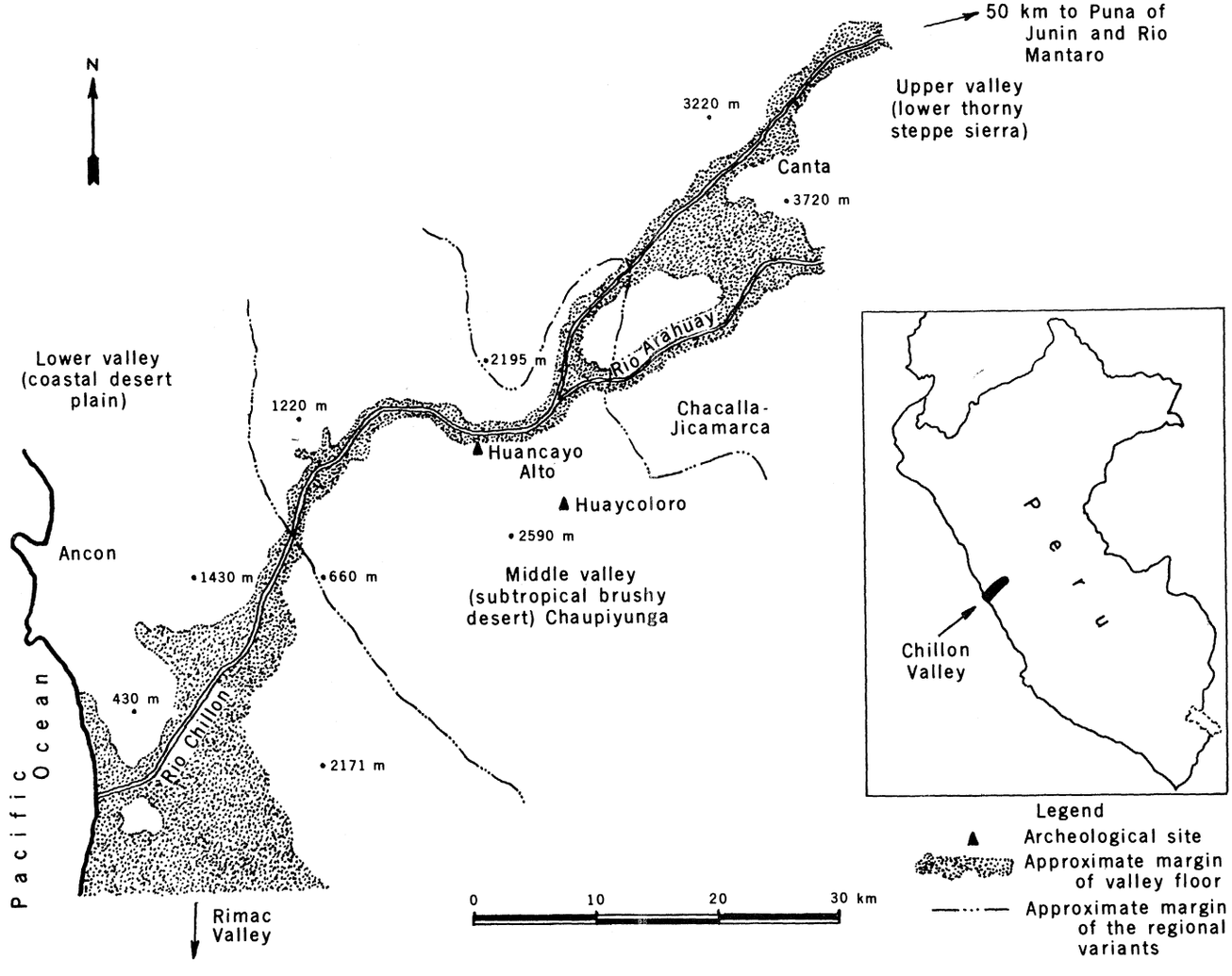


Fig. 1. Location of Huancayo Alto archeological site and general ecological zones in the Chillon Valley.

proselytizing from the lower valley Chavin temples.

During period I, there is no evidence of large-scale movement from the highlands to the middle valley. However, there are enough camelid bones and ceramics made of highland paste in pre-Maranga levels to demonstrate that the early Huancayo Alto inhabitants were interacting with groups from higher altitudes in the Canta or Junin areas. It would not be surprising if highlands (possibly pastoralists) migrated seasonably to trade their goods and to replenish the camelid stock of middle valley groups in exchange for local products (*18*). (There are no corrals to indicate that the inhabitants of Huancayo Alto housed camelids.)

In summary, the low quantity of Early Horizon sherds and the size of the *huaca* and storage zone suggest that during period I (i) minor ceremonial and economic activities took place at Huancayo Alto, (ii) the site was marginal to the mainstream of Chavin period activities on the central coast, and (iii) the site had some interaction with the adjacent Canta and Junin highland areas to the east.

Period II. During the latter half of period II (200 B.C. to A.D. 540), two major architectural features were added to the site. A coastal-style adobe multiroom secular building (AU-I) was constructed in the center of the *quebrada*, and a highland-style residential area with stone-lined terraces was built on the hillside to the southwest.

The original architectural layout of the public building is difficult to reconstruct, since some sections were modified by Inca activity during the late 15th century. However, on the basis of excavations within the structure, I surmise that its extant form is generally characteristic of its original layout. The main feature of the building is an enclosed plaza area from which a ramp leads to an elevated platform (Fig. 6). The unit has diversified small rooms making up its eastern side. Entrance to the building is restricted by L-shaped doorways and high walls. This structure is thought to have been a secular administrative unit in the settlement because it is centrally located and architecturally complex and because it contained the most elaborate artifactual material found within the site. Polychrome rims indicative of ceramic bowls of the lower valley Maranga type, elaborate coastal-style textiles, and local potsherds were found in the deeper levels of the structure.

The second major addition to the site during this period was the building of numerous stone-lined living terraces on the lower slopes of the hillside to the west (Fig. 2). Excavations revealed that these terraces supported *quincha* (pole and thatch) huts and were occupied sporadically as evidenced by alternating culturally sterile layers and thin occupational floors. This area is most significant since its residential population was separated from the main site area by a controlling wall 1.5 m high extending down the hillside near the main *quebrada* settlement area.

I suggest that this hillside was a residential zone of low-status people from a distant area who worked at the site as migrant laborers or sharecroppers either seasonally or every few years. This interpretation is based on the physical isolation of the sector, the lack of permanent architecture, and a high density of basalt blades and flakes (which are thought to have been utilized for the processing of food crops) in occupational floors.

Another significant aspect is that the ceramics from the zone are primarily thin burnished red wares. Such ceramics are not typical occurrences in the lower or middle Chillon Valley segments, indicating the possibility of occupation by an external group. During the 1974 field season, it was discovered that the lower sierra settlement of Huaycoloro, near the ecologically poor Chacalla-Jicamarca area (Fig. 1), contains the same type of ceramic ware as this hillside residential zone. Interestingly, Huancayo Alto and the Chacalla-Jicamarca area are connected by a well-worn footpath that spans about 9 km of mountains. [Interaction between these two areas is not surprising, since ethnohistorical documentation (*8*) has shown that before and during the Late Horizon period groups from the Chacalla-Jicamarca region interacted strongly with the Chillon middle valley groups.]

Three other points are relevant to highland activity at the site during period II. First, a local plain-ware ceramic style that has attributes in common with Early Intermediate highland pottery from the lower and middle segments of the Mantaro basin was developed at the site (*19, 20*). Second, there was a sudden appearance of larger quantities of camelid

Table 1. Chronology of Peruvian pre-Hispanic cultures.

Period	Dates
Late Horizon	A.D. 1476 to 1534
Late Intermediate	A.D. 900 to 1476
Middle Horizon	A.D. 540 to 900
Early Intermediate	420 B.C. to A.D. 540
Early Horizon	1500 to 420 B.C.
Initial	2120 to 1500 B.C.
Preceramic	? to 2120 B.C.

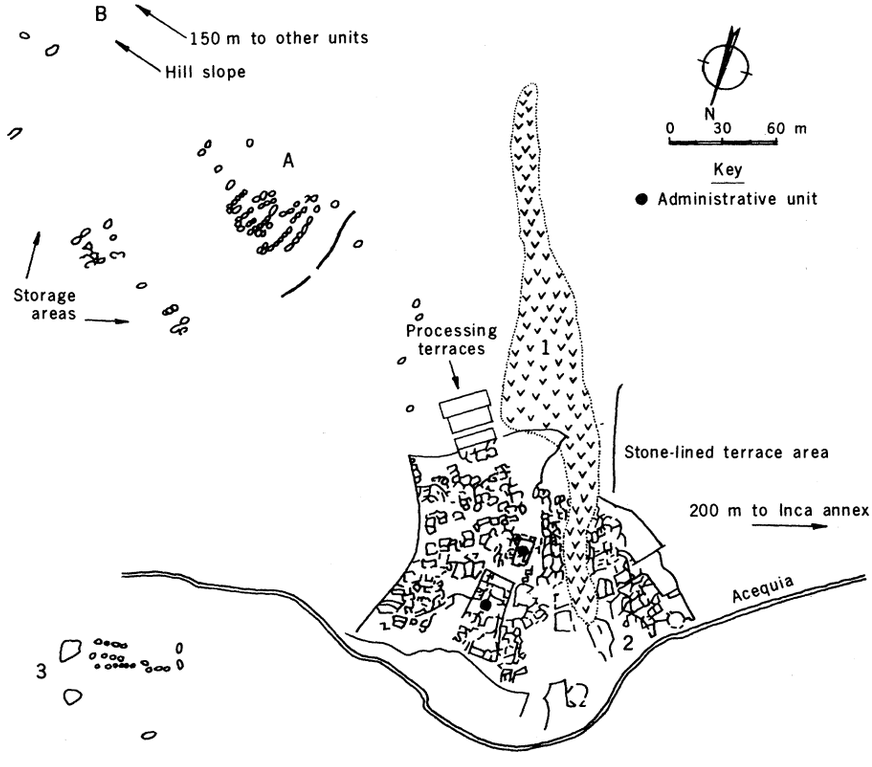


Fig. 2. Main site area at Huancayo Alto, showing administrative units, storage areas *A* and *B*, and the following major features: 1, *huayco* (landslide); 2, elite residence made of adobe; and 3, early *huaca* (stone mound) complex.

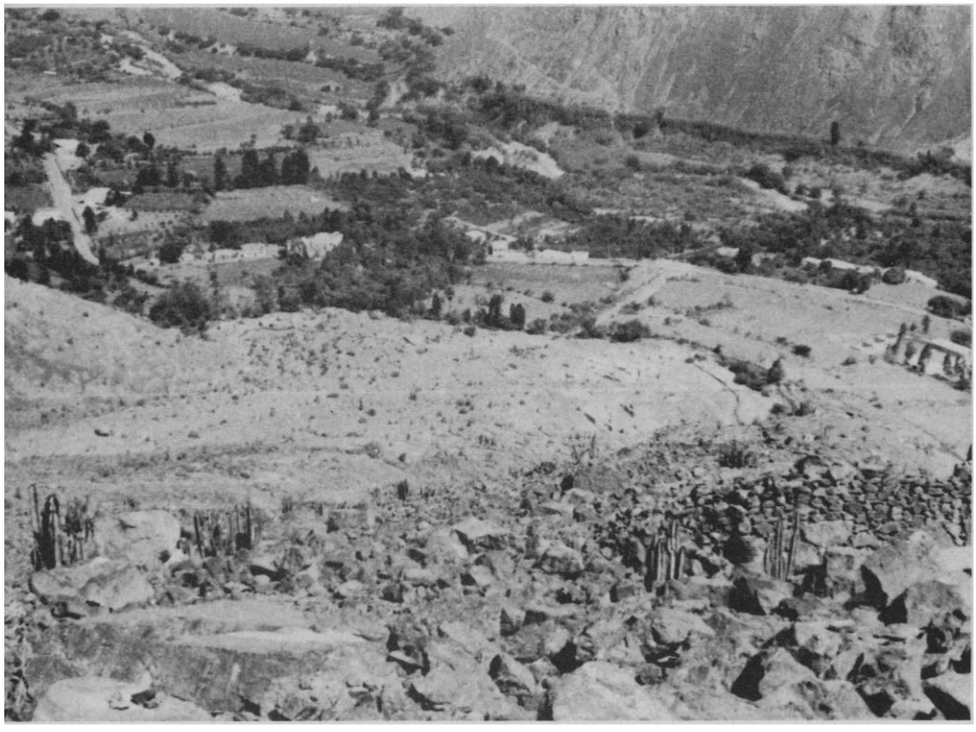


Fig. 3. View of Huancayo Alto administrative and residential zone in the *quebrada* and of the Chillon River and oasis-like valley floor.

bones in habitation rooms. Third, highland-type elliptical and rectangular one-room residential structures made of unmodified fieldstone were constructed in the upper sector of the *quebrada* behind the adobe administrative unit. This architectural type is atypical of other lower and middle settlements for the period and strongly resembles that found in the Mantaro and Huanuco basins (*19*). The presence of a *puna* group at the site is not surprising, in view of the recent report by Browman (*21*) that Jauja-Huancayo pastoralists of the Mantaro River basin experienced significant economic and demographic shifts around A.D. 500 as a result of increasing population pressure.

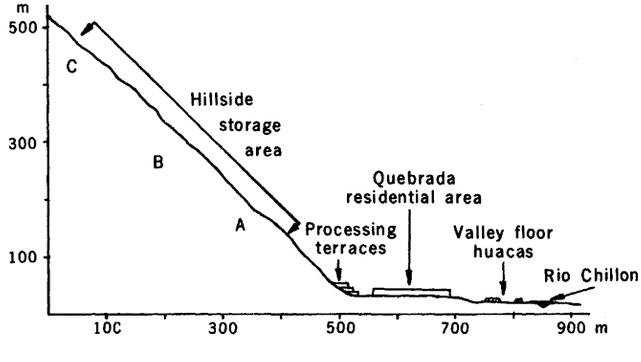
The data for period II show (i) that Huancayo Alto was inhabited by a mixture of *chaupiyunga* and highland ethnic groups and (ii) that for the first time societal functions at the site were no longer exclusively under the authority of a religious-political head but were also, and probably to a greater extent, under the authority of a secular administrative figure.

Period III. Huancayo Alto reached its peak of development in terms of social, political, and economic complexity sometime around A.D. 540 to 900. During this time the *huaca* complex was abandoned, and greater highland participation at the site is suggested by another quantitative increase in camelid bones and sierra-type ceramic wares and architecture. It is most interesting that a second and smaller administrative building (AU-II), this time made primarily of stone, was constructed behind and on a line with AU-I (Fig. 6). What is surprising is that the architectural plan of AU-II resembles that of AU-I, but the unit yields primarily highland-type sherds from the upper Chillon Valley and Junin area. The remarkable similarity in layout and structural impositions suggests that a contemporary *chaupiyunga*-highland social and political dual structure functioned within the site.

Other additions to the site during period III include a terrace area for food processing and drying, storage zone B, a high-status residential zone of multiple-room adobe buildings in the typical coastal style, and a controlling wall around most of the *quebrada* settlement.

The food processing terraces are situated in a steplike fashion on the lower slopes of a hill that abuts the eastern side of the site (Figs. 2 and 4). Each terrace is about 30 m long and 12 m wide. The terraces are entered through a large wall that separates them from the main settlement sector in the *quebrada* flat. Immediately below this wall is a series of small aligned rooms, which presumably served as a control and management area for the movement of goods to and from the terraces and storage units above. The only cultural materials recovered from excavations in the terraces were plant remains (mainly corn cobs showing cut marks) and large ceramic sherds of the type found in storage units.

Storage zone B was constructed higher up the hill than zone A (Figs. 2 to 4). It



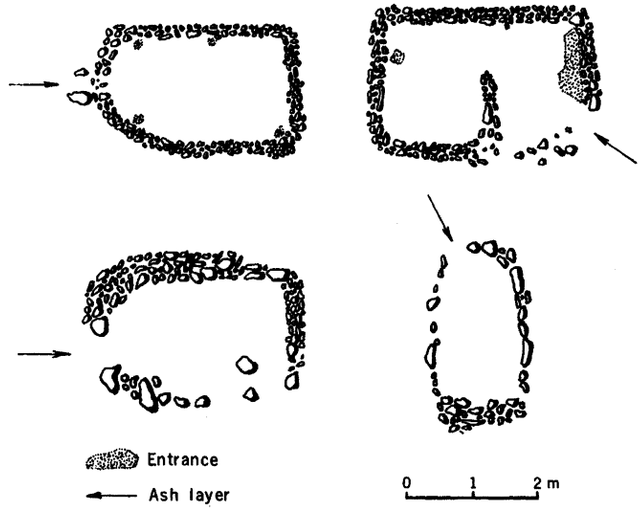


Fig. 4 (left). Schematic profile of the different architectural zones within Huancayo Alto. Fig. 5 (right). Schematic architectural plan of excavated storage units at Huancayo Alto.

has two controlling walls, one at its point of entrance from zone A and the other near the top of the hill. There are approximately 40 individual storage units in zone B. The architecture is similar to that of zone A, but the units are slightly larger and more elongated. Excavations in units from zone B yielded ceramic rim forms typical of period III and economic products similar to those of zone A.

It is interesting to note that access to the whole storage complex and to each subzone is achieved only through a series of control points beginning below the processing terraces at the base of the hill. Access is further restricted by the steeply sloping terrain to the east and west of these facilities. This separation seems to be well planned and was probably designed not for separate products but for the different groups occupying the site. That the storage area was shared once the two groups had achieved coresidence, product exchange, and mutual exploitation of local resources is evidenced by the presence of both highland and middle valley ceramic types in the same strata of storage units.

The high-status residential zone in the southeast portion of Huancayo Alto is composed of four multiroom adobe buildings that are roughly rectangular (Fig. 2). Within these rooms are wall niches and floor benches of high quality and tombs containing skeletons associated with copper adornments and patterned textiles, similar in style to those at other coastal sites across and down the valley. The complex is separated by a low stone wall from a contiguous and more spacious residential zone of highland-type one-room stone structures. A final addition was a controlling wall, which enclosed the site on the south, east, and possibly the west. The wall functioned mainly to restrict access to the processing terrace and storage complex and to prevent movement of the *quebrada* into the site area (*22*).

Period III data can be interpreted as representing three ethnic groups. I suggest that the residents of AU-I and the multiroom adobe residential structure were middle valley administrators with high status. Residents of the medium-size stone rooms and of AU-II were of the lesser ruling elite, presumably of Canta or Junin origin. Inhabitants of the stone-lined terrace residential sector were from the Chacalla-Jicamarca area and occupied the site on an intermittent basis.

After period III, architectural construction at Huancayo Alto included a third processing terrace and possibly a few more stone residential units within

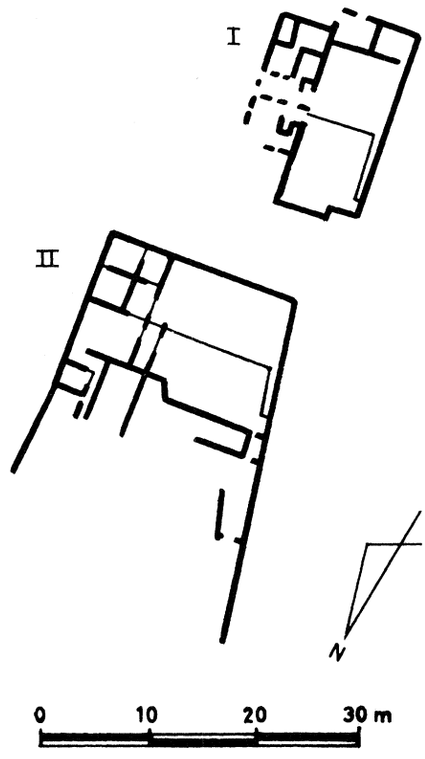


Fig. 6. Architectural layout of administrative units I and II.

the *quebrada* sector. From this period until Inca times the storage area was either used infrequently or abandoned, as indicated by the rarity of Late Intermediate period ceramic wares in units. (The reason for this change is poorly understood. It may be that as the different groups reached higher levels of integration, there was little or no need to guard local goods from highlanders.) Sometime in the latter half of the 15th century, the Incas penetrated the valley by conquest and diplomacy and inhabited Huancayo Alto (*23*), modifying the architectural plan of AU-I and reactivating only storage zone A. Additional Inca activity is also noted on a far *quebrada* to the west, where a small multiroom compound made of low stone walls and containing only Inca sherds was found (Fig. 2). Above this compound on a nearby hillside is an area that was cleared of stone. A few Inca plain-ware sherds were observed in the cleared area. The data suggest that the Incas were building another hillside storage complex similar to the one above Huancayo Alto.

It is most interesting that the storage function was again important at a time when the Incas had a problem similar to that of the middle valley inhabitants during the late Early Horizon period—that is, the management and movement of economic produce in a competitive multiple-group situation. The replication of these circumstances in the *chaupiyunga* may indicate that isolated storage was a politicotechnological device utilized by groups to shield their local economic operations from competing groups in an ecologically rich (and bounded) and politically fluctuating zone (*24, 25*).

Coresidence and Verticality

Huancayo Alto was probably founded by villagers from the lower or middle part of the valley around 800 to 500 B.C. From its period of initial occupation to about 200 B.C., the inhabitants of the site performed religious rituals and redistributed products, most likely in connection with the larger downvalley ceremonial sites. Sometime in the middle Early Horizon to early Early Intermediate period, product exchange with incoming highland groups from the upper part of the valley began and the storage zone was added to the site.

The hillside storage complex of this period is an innovation not seen at other sites in the valley. Its association with the Early Horizon *huaca* complex and its later growth within an administrative framework are significant from the vantage points of the decline of ceremonialism, the development of secularism at the site, and the interaction betwen *chaupiyunga* and highland groups in the valley.

With our present knowledge of Early Horizon theocratic authoritative societies in the Central Andes (*26*) and of theocratic chiefdoms in worldwide ethnography (*27*), we may assume that any surplus food produce was redistributed through reciprocal relations between the chief and his producer-kinsmen. If there was a theocratic authority in the Chillon Valley before A.D. 540 and surplus from Huancayo Alto was redistributed to lower and middle valley groups on a cyclic ceremonial basis, then highlanders who participted in the local economic scene must have disrupted the local sphere of redistribution, forcing protective ownership of surplus goods. I suggest that ownership, control, and access by the local groups at Huancayo Alto were protected by isolating and centralizing storage.

From about 200 B.C. to A.D. 540, Huancayo Alto had an increasing number of functional roles, as shown by the presence of different architectural forms. For the first time, highland groups reached the site in large numbers and coresided with middle valley groups. (It is not known whether the site inhabitants

were under the simultaneous leadership of a religious-political authority operating from the *huaca* complex and a secular political authority operating from building AU-I, or whether the former was gradually replaced by the latter.) The evidence available at present suggests that these highlanders probably came from the adjacent Mantaro basin in Junin and from the Chacalla-Jicamarca area to the southeast. The presence of large quantities of camelid bones may indicate that these intruders were part of a highland group of pastoralists who settled in the neighborhood of a *chaupiyunga* pole of their former transhumant territory, while the rest of the group kept a more mobile base in the highlands.

These data from the site do not indicate which of these poles was the highland nucleus and which was the colony. It is possible that migratory highlanders first entered the pole at Huancayo Alto, retaining social and economic contacts in the higher altitudes, and later sent colonies back to their original pole. If this was the case, then Huancayo Alto would have been the nucleus settlement for this highland group. In this sense, verticality was practiced from the coastal zone, but by highlanders in situ and not by middle valley groups. On the other hand, it is likely that this same group was a colony of a *puna*-based nucleus settlement. So far, no nucleus settlement has been identified in the archeological record of the higher-altitude lands. As for the middle valley inhabitants of the site, the data suggest that they were stationary, receiving the incoming highlanders.

Dual Sociopolitical Authorities

The coresidence of coastal and highland groups at Huancayo Alto was based mainly on the complementarity of goods and services connected with their different subsistence patterns in distinct ecological zones and their mutual needs for the valued middle valley products, particularly coca. Perhaps most interesting is the series of changes that might have been triggered by this coresidence.

About A.D. 540, coastal and highland interaction intensified at Huancayo Alto. The site became a functional lattice (*28*) along a *chaupiyunga*-highland frontier. This function gave more opportunity for processing, storing, and redistributing goods on a regional basis. Because of this greater economic integration, even more efficient management of competition for the middle valley products was needed. The *huaca* complex was abandoned, the storage area was expanded, a second administrative building was added (AU-II), and a higher-lower (*chaupiyunga*-highland) ethnic group status or dual sociopolitical administration was established. This dual structure was incorporated into the Huancayo Alto cultural system at the point when the trend toward highland and *chaupiyunga* aggregation became irreversible. The middle valley religious-political leadership was apparently incapable of managing the external highland participation in the exploitation of *chaupiyunga* products and the redistribution of these products both upvalley and downvalley. Ways had to be found to keep the peace while enlarging the economy beyond the range of local groups. The overwhelming need was not to expand the existing religious mechanism, but to work outside it. Thus, this aggregation was united not so much by social relations or territory but by the highland and local secular leaders.

The governing duality inherent in the site derives from a lattice of hierarchically ordered local and highland groups associated with interlocking complementary regions. The upper administrative mechanism continued to be in the hands of the local population with a settled year-round agricultural economy, while the lower position was assumed by the more mobile highlanders from the upper part of the valley. I suggest that the duality had the purposes of ultimately (i) unifying the highland and middle valley groups, (ii) redistributing local *chaupiyunga* resources to groups occupying higher and lower ecological zones, and (iii) stimulating the acquisition of resources from one another's traditional territories through storage and redistribution—all in the absence of a valley-long centralized political organization. Such a duality would have unified all groups for the purpose of avoiding conflict, preserving equilibrium and peace, and perhaps most important, ensuring access to the products from different high and low ecological zones (*29*).

The relationship between the ecologically poor Chacalla-Jicamarca highlanders and the middle valley inhabitants is not well understood. Nevertheless, the present data indicate that the former were not residing permanently or performing administrative functions at Huancayo Alto. These highlanders were occasional residents, perhaps with sharecropping arrangements at the site. Again, their location within the isolated, controlled hillside living area may indicate that they voluntarily assumed a lower position within the site hierarchy in order to have access to some resources from the rich valley floor.

From A.D. 900 until the Inca invasion, Huancayo Alto continued to be a single integrative lattice in which both coastal and highland groups overlapped and integrated. This interpretation is reinforced by ethnohistoric evidence showing that Huancayo Alto was not a seat of power in the valley, nor was it a frontier stronghold for distant coastal or highland cultures. There was no development of a large urban setting that might represent a state, for it did not combine a middle and lower valley central administrative function under one group. The interpretation is reinforced archeologically by the lack of a widespread Huancayo Alto ceramic or architectural style in the valley. (As shown above, the material culture at Huancayo Alto over time showed an increasing mixture of highland, middle vally, and coastal traits.) The present evidence suggests that only middle valley products (and not political policies) diffused from the site and that these were distributed to certain upper and lower valley groups.

Conclusions

To the several questions raised at the beginning of this article, I offer the following answers.

1) Multiple-group resource sharing in the form of verticality was practiced by mobile highlanders in the *chaupiyunga* of the lower western slopes of the Central Andes.

2) This pattern was initiated around 800 to 500 B.C. by product exchange between groups, which took place under a centralized local religious-political authority, evidenced by the ceremonial complex. Verticality was in full operation by about 200 B.C. to A.D. 540 under the direction of local and highland ethnic leaders housed in administrative buildings.

3) The present data suggest that incoming highlanders willingly yielded political autonomy to inhabitants at Huancayo Alto in return for access to lower-altitude resources. These highlanders, who had economic contacts at distant poles, were admitted to participation in the *chaupiyunga* economy on a cooperative basis with local groups. The highlanders could acquire new and diverse resources by offering highland products and possibly labor in exchange.

The unique growth and development of Huancayo Alto in the *chaupiyunga* of

the Chillon Valley was primarily the result of a centralized system for redistributing to different groups products from different vertically arranged ecological zones. The circumscribed environmental characteristics of the *chaupiyunga* had the property of strengthening the coherence of a local-highland economic collectivity by making plain to both groups the benefits of having direct and permanent access to its rich resources. Nowhere in the archeology for the time period discussed do we find evidence that one group used force to maintain governance over the other. It is probable that there was conflict between the different groups, but the site function and layout attest to peaceful coresidence and economic cooperation (*30*) rather than warfare as the initial integrative factor.

In conclusion, I do not wish to present a pan-Andean model based on the Huancayo Alto materials. However, the data might tell us that in rich, circumscribed frontier areas, a large part of late pre-Hispanic Andean society was based not on conquest (*31*), but on the the expansion of certain local social forms by the continuous addition of new economic organizational ingredients.

References and Notes

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13. The chronology of Peruvian pre-Hispanic cultures is from J. Rowe [*Southwest. J. Anthropol.* **18**, 1 (1962)] and E. Lanning [*Peru Before the Incas* (Prentice-Hall, Englewood Cliffs, N.J., 1967)]. Dates were calculated from uncorrected carbon-14 measurements based on a half-life of 5.7 ± 40 years.
14. Archeological research in the Puna of Junin has been carried out under the Proyecto de Investigaciones Arqueologicas "Puna de Junin" of the Universidad de San Marcos, Lima; R. Matos M. is director. During 1975 and 1976, J. Parsons of the University of Michigan at Ann Arbor conducted an intensive survey of sections of the Puna of Junin.
15. "Descriptión del uso actual de terreno den el Valle del Chillón," anonymous report on land use in the Chillon Valley, on file at the Ministry of Agriculture, Lima (1974).
16. Similar ceramic wares from Quivi Viejo, an archeological site that lies about 5 km farther upvalley from Huancayo Alto, have been radiocarbon-dated at 760 ± 170 B.C. (uncorrected date; TX-2068).
17. R. Ravines, H. Ludena, A. Ruiz, personal communication. Ravines has found *coca* leaves at the Early Horizon site of Garagay in the lower Rimac and Chillon valleys in association with ceramics similar to those from Huancayo Alto. It is most likely that these leaves came from the middle Chillon Valley.
18. T. Dillehay, "*Llama glama:* una eslabón económica entre la costa y la Cordillera," in *Estudios Atacameños* (Antofagasta, Chile, in press). Migratory labor groups are considered to be distinct from colonies in this case. Although both types of groups are sent by a home or base settlement to distant lands, the former provide a service on either a permanent or semipermanent basis in exchange for local products, whereas the latter "control" a zone through occupation. This is not to say that labor groups may not eventually have taken control of a zone. Until labor groups are formally defined as one form of colonization, I prefer to treat them separately.
19. R. Matos J., personal communication.
20. J. Parsons, personal communication.
21. D. Browman, *Am. Antiq.* **41** (No. 4), 465 (1976).
22. Sometime between A.D. 800 and 1200, the middle *quebrada* sector of Huancayo Alto was partially destroyed by a flash flood. The dating of this event is suggested by exposed geological strata containing wall segments and ceramics. This destruction is represented in Fig. 2 by an area enclosed by dotted lines (No. 1) with v's running north to south across the *quebrada* sector of the site.
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28. My usage of functional lattice follows that of C. L. Crumley [*Am. Anthropol.* **78** (No. 1), 59 (1976)], who defines it as "the spatial expression of relationships (economic, social, religious, or administrative) between functional centers" (p. 68).
29. It is interesting to consider the set of circumstances under which this dual social arrangement is suggested to have emerged and later operated as the possible roots of the dual or moeity social structure of the Inca. See J. Rowe, (*25*) and Murra (*2*) for a discussion of this structure in the Inca state.
30. The data do not indicate that these highlanders and lowlanders occupied the site at different times, which might account for the observed architectural configuration and function. Almost all excavated structures yielded deposits showing a mixture of highland and coastal material traits or resources. Furthermore, as noted previously, some ceramic sherds show a combination of attributes from both areas.
31. For a discussion of the role of warfare in the development of indigenous societies, see R. L. Carneiro, *Science* **169**, 733 (1970).

32. The archeological investigations at Huancayo Alto and in the Chillon Valley were supported at different times from 1973 to 1977 by the Institute of Latin American Studies, The University of Texas, the National Science Foundation, the Fulbright Commission, Lima, and the Universidad Nacional de San Marcos. I thank H. Ludena, R. Matos M., J. V. Murra, P. Netherly, J. R. Parsons, M. Rostworowski de Diez Canseco, and R. Schaedel for their assistance. I also thank J. Correa, L. Lumbreras, R. Ravines, and H. Ludeña of the Instituto Nacional de Cultura for their cooperation in carrying out this project. This article is a revised version of an earlier manuscript published in *Cuadernos* **24–25**, 25 (1977).