CHANGING SETTLEMENT PATTERNS ON THE CENTRAL PERUVIAN COAST

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Between August 1961 and July 1963, the authors recorded nearly 300 archaeological sites in the vicinity of Ancón and in the lower part of the Chillón Valley.[1] In the course of the survey, we were principally concerned with archaeological sites that were occupied during the Preceramic Stage or the Early Intermediate Period; therefore, our data are more complete for these rather than other periods. A major conclusion based on materials found on the sites is that the area has been more or less continuously occupied by man for more than 10,000 years. One of the many changes that took place during this long span of time is in the character of the human occupations: the arrangement of archaeological sites over the landscape and what these sites were used for. In this essay, our goal is to describe these changes and to suggest plausible reasons why they took place.

The earliest sites are thirty quarry workshops located near the mouth of the Chillón River. They are situated on the tops and steep slopes of a series of hills that parallel the present coastline. The location of these sites was determined by a preference for the fine-grained quartzites which outcrop here and served as the raw material for stone tools. Chivateros I, the earliest of the lithic complexes, is closely similar to the Camare and Las Lagunas Complexes in Venezuela, while Chivateros II is evidently related to the Venezuelan Jobo Complex.[2] Thus, the radiocarbon dates of 14,415 B.C. $\pm$ 400 years (O-999) and 12,340 B.C. $\pm$ 500 years (M-1068) from Muaco, Venezuela, may be applicable to the earliest occupation of the central Peruvian coast.[3] A second industry, Oquendo, has been isolated in workshops in the same hills, and there is a suggestion of a third such complex. Such variety, together with the great quantities of Chivateros artifacts found in the zone, suggests that this part of the valley was used for a substantial period of time, probably until the end of the Pleistocene.

Though no habitation sites have been found associated with these workshops, the artifacts--large bifacial picks or hand-axes and spear points, followed by smaller projectile points, micro-blades and abundant burins--suggest a forest-oriented economy. Hence, the habitation sites were probably located in the wooded valley, where alluviation and plowing have long since destroyed them.

On the coast of Peru, the end of the Pleistocene was accompanied by a series of climatic and floral changes. Large areas of <u>lomas</u>, or fog vegetation, were probably formed at this time. During the early post-Pleistocene on the central coast, the vegetation covered vast areas, extending down nearly to sea level. With the onset of these conditions, a new set of potential food resources was established and was promptly utilized, as indicated by the presence of ancient campsites in the <u>lomas</u>. These were winter camps, since the <u>lomas</u> dry up and become uninhabitable for both game animals and man under the clear skies of summer. The absence of corresponding summer camps in the zone leads to the

suspicion that summers were spent in the highlands, where the animals would retreat in search of rainy season pasture. At the winter camps, projectile points, scrapers, grinding stones and core tools suggest a diversified hunting and gathering economy, as do seeds and small quantities of shellfish, fish bones and gourd rines in the thin refuse.[4]

Radiocarbon dates ranging between 5350 and 4650 B.C. mark approximately the middle of the period of lomas occupation.[5] These dates, together with progressive similarities to Lauricocha I,[6] Lauricocha II[7] and Ayampitín,[8] and the Shell Fishhook Culture of northern Chile,[9] suggest that the lomas camps were occupied annually throughout the post-Pleistocene until the appearance of domesticated cotton toward the end of the third millenium B.C. During this time, the coast was undergoing progressive drying and the fog vegetation was in gradual retreat, obliging the winter inhabitants to abandon one zone after another. The last area to retain any significant extent of vegetation was the Pampa de Canario, to the north of Ancón; it was finally abandoned almost simultaneously with the first appearance of cotton.

Contemporary with the latter part of this lomas sequence was the occupation of the shore by a different people who depended for their subsistence on fish, sea lions, shore birds, and squashes. These people, whose artifacts were stylistically distinct from any found in the lomas camps, lived by the ancient bay of Ventanilla, a broad, shallow inlet formed by the rise of sea level at the end of the Pleistocene. They cultivated squashes (Cucurbita moschata and C. ficifolia) and beans, but there is no evidence that they cultivated cotton or made cloth textiles. The sites, one definite and one probable, are small and may represent a temporary intrusion into the region from the south coast, where village-dwelling squash farmers seem to have been established during the third and fourth millennia before Christ.

With the abandonment of the lomas camps, we find their inhabitants moving to permanent villages near the shore. They now depended on the sea as a primary source of food, cultivated cotton, gourds and ají, fished with shell fishhooks, and made twined cotton textiles. There are five archaeological sites of this period, which we estimate as approximately 2000 to 1200 B.C. One site is a last small winter camp in the lomas, and two are typical fishing villages at Ancón. The fourth is a village at Ventanilla where the principal foodstuffs were root crops--including at least potatoes, sweet potatoes and achira--all of which were probably grown in the Chillón Valley, presumably at its far northern end. The fifth site is a large ceremonial center located on the valley floor, at the foot of the hills which contain the Pleistocene workshops, near the river and about two kilometers from the sea.[10] The temple, Chuquitanta, covers an area about 800 by 600 meters. There are nine major structures at the site, of which the largest two are more than 400 meters long, 50 to 100 meters wide, and up to 5 meters high, enclosing two sides of a 200 by 400 meter plaza. All of the structures consist of rooms formed by walls made of angular field stones set in clay mortar and plastered over. Some of the rooms have been filled with irregular lump adobes set in mortar. Architecturally, Chuquitanta is reminiscent of both Las Haldas and Río Seco, which have radiocarbon dates of 1630 B.C.

± 130 years (GaK-607) and 1790 to 1850 B.C. respectively.[11]

Probably between 1400 and 1200 B.C. the idea of making pottery reached the central coast of Peru. During the Initial Period, estimated at approximately 1400 to 700 B.C., the Ancón-Chillón zone belonged to a cultural tradition which extended as far south as San Bartolo. The large Initial Period village at Ancón is located on the hill slopes behind the present town, where it overlies the more recent of the preceramic villages. For at least part of this period, there was a large ceremonial structure associated with the village. Hermilio Rosas Lanoir, a student at the University of San Marcos, uncovered a part of this structure, buried under five meters of Initial Period refuse and associated with the earliest pottery made at Ancón.

During the later part of the Initial Period or the beginning of the Early Horizon, a large impressive ceremonial center was built at Garagay, on the southern edge of the Chillón Valley. This site, in plan and structure, is reminiscent of Chuquitanta and even more of Chavin.[12] It is likely that Garagay was the principal ceremonial center in the region throughout much of the Early Horizon.

The hill slope above Ancón continued as the locus of a large village throughout the Early Horizon, while the same pattern of hillside occupation may have carried on in the Chillón Valley during the first part of this period, though our data are weak at this point. At the same time, there appear a number of small shell fishing stations around the Bay of Ventanilla. Toward the middle of the Early Horizon, we have, for the first time, a significant number of habitation sites in the valley. These sites are found on hilltops, at least one of which is fortified. Their appearance at this time is likely to be connected with increased military activity, since they are easily defended positions, and may also be associated with the construction of a small-scale irrigation system in the region.

By the beginning of the Early Intermediate Period (about A.D. 150 to 800), Ancón and the Chillón Valley again shared the same pottery tradition. The settlement pattern in both areas had changed, so that villages--with or without associated ceremonial structures--were located on flat ground. In the valley, there are only a few remains of these villages because of subsequent intensive cultivation. Meanwhile, at Ventanilla, uplift had led to the retreat of the ocean from the old bay and ultimately to the destruction of the banks of shallow water clams which were found there. Occupation at Ventanilla continued for only a short time more, after which the area was completely abandoned until only a few years ago.

During Epochs 4 and 5 of the Early Intermediate Period, we find further shifts of settlement. At Ancón, the village was moved back briefly into the hills behind the present-day town and then across the hills to the Santa Rosa beach. During the later part of Epoch 5 or the beginning of Epoch 6, there was at least one hilltop settlement in the region, a large unfortified village in the lower part of the Chillón Valley. It is also possible that the walled

hill at Ancón was associated with the village of Santa Rosa. During Epoch 6 in the Chillón Valley, the village or town sites with associated ceremonial centers were moved to the gentle slopes along the edges of the valley, while small family settlements were found on the slopes of hills within the valley.

During Epoch 7 of the Early Intermediate Period, or perhaps slightly earlier, a number of large pyramids made of adobe brick walls and fills were constructed in both the Chillón and Rimac valleys.[13] The pyramids in the Chillón Valley are found along its edges, while those in the Rimac drainage were built on both the valley floor and the gentle slopes of the valley edge. In the Rimac Valley, two of the major irrigation canals end in the vicinity of the Early Intermediate Periods pyramids at Maranga and the Huaca Juliana. It is possible that the construction of the pyramids near the ends of these large ditches was associated with the construction of the water channels themselves. At the same time, the large settlements, such as Cerro Culebra and Copacabana in the Chillón Valley and Cajamarquilla[14] in the Rimac Valley, were built in the arid land at the edges of the valley, thereby maximizing the amount of flat land that could be brought under cultivation. That a major irrigation system was built during the later part of the Early Intermediate Period is supported indirectly by the fact that vegetal remains are present in relatively greater quantities in the later habitation sites of this period than in the earlier ones.

Two large complexes of fish-drying terraces may also have been built during the Early Intermediate Period, though our data are not adequate to guarantee this or to delineate the full span of their use. These terraces indicate that commercial food processing was carried on on a considerable scale.

At the beginning of the Middle Horizon, the region was heavily influenced by people from the vicinity of Ayacucho in the central highlands. The large village at Santa Rosa was abandoned, and a new one--the so-called Necropolis--was established on the flats at Ancón, where it has remained until today.[15] The old towns in the valley were also abandoned, and so far we have found only one of the sites which replaced them. It is located on the lower slopes of a large isolated hill on the floor of the valley. Also, several of the Early Intermediate Period ceremonial structures seem to have been re-used as burial grounds during the early part of the Middle Horizon. By the end of the period, around A.D. 1200, settlements were again being built along the edges of the Chillón Valley. During the Late Intermediate Period, they are situated on the gentle slopes. In the first part of this period, the pottery tradition of Ancón and the lower Chillón Valley is shared with the Chancay Valley to the north, though the Three-Color Geometric style so characteristic of Chancay pottery at this time may be less common in the southern part of the Chillón Valley than in the other areas encompassed by this tradition. During the later half of the Late Intermediate Period, there were two distinct pottery traditions in the area: Ancón and the northern part of the Chillón Valley continued their affiliations with Chancay, while the southern end of the valley shared its pottery style with the Rimac Valley. Bernabé Cobo, writing in 1639, stated that there were two nations with different languages inhabiting the

Chillón Valley. One language was spoken from Carabayllo in the northern part of the valley to the corregimiento of Chancay, the other language from Carabayllo south to Pachacamac.[16]

With the appearance of Inca influence in the Late Horizon (A.D. 1474 to 1532), there was another change in the arrangement of habitation sites in the Chillón Valley. From the beginning of the Late Horizon until a few years ago, all of the settlements were situated on the valley floor, commonly at the foot of hills. During the Late Horizon, a new variety of archaeological site appears in the Chillón and Rimac valleys. These can best be termed "villas." They consist of large structures with tapia-block walls that are built on low natural mounds or on older structures located on the valley floors. Some of these estate houses continued to be used into the Colonial and Republican Periods, and the Spanish conquerors and their descendants took up the same pattern of life, building their hacienda houses in the valley bottoms, often near those formerly occupied by the aristocracy of the Inca period.

The Colonial Period reducciones of Carabayllo and Chuquitanta, which were established in the lower Chillón Valley in 1570 by Francisco de Toledo so that the activities of the Indians could be more closely supervised by the civil and religious authorities, followed the same settlement pattern that was established at the beginning of the Late Horizon. In fact, both reducciones seem to have been located at or near sites that were occupied during the Late Horizon.

Puente Piedra, the largest and most important of the present-day towns in the lower part of the Chillón Valley, is located on the valley floor and was settled during the second decade of the twentieth century. The town apparently grew up around an hacienda, the major north-south highway on the coast, and a railroad station on the Lima-Ancón railway.[17]

Within the past ten years, there have been further shifts in the arrangement of new settlements with respect to the landscape. At Ancón, a substantial number of residential units have been built on the slopes overlooking the present-day town and the beach located to the south of the major area of habitation. In several instances, these houses are built on or near archaeological sites that have not been occupied since the middle of the Early Intermediate Period or before the appearance of pottery-making on the central coast. On the other side of the hills from Ancón, the Balneario de Santa Rosa, complete with golf course, was established during the 1950's and overlies the large Early Intermediate Period settlement of Playa Grande. The majority of the new residential units at Ancón and Santa Rosa is occupied only during the summer season, since both settlements are favorite resort areas for the wealthier inhabitants of Lima. The remainder of the population in the two areas resides there throughout the year and earns its living mainly as fishermen, shopkeepers, caretakers, or day laborers.

The third new settlement in the area is the planned community of Ventanilla which is located in a wide quebrada at the east end of the old bay.

This community, which may eventually have a population of 100,000, was built by the government to ease the pressure on low income housing in Lima.

The barriadas situated on the lower slopes of the hills overlooking the eastern side of the Chillón Valley and the Pampa de Comas were established during the late 1950's, when an organized group of "squatters" from other low income districts in Lima and recent immigrants invaded the uncultivated land and settled there.[18] Since then, the population of Comas has swelled to more than 50,000 people.

Another recently settled area is along the hills enclosing the northwestern corner of the Chillón Valley. This zone is occupied for the most part by independent farmers owning small plots of land who derive their livelihood by growing crops that are well suited to dry conditions, since the area is not supplied with water from one of the irrigation canals. In the past, only a few scattered family settlements were established in this part of the valley. The utilization of this land for farming at the present time suggests that more land is now under cultivation than at any time in the past.

Throughout the history of their occupation in Ancón and the lower part of the Chillón Valley, people have exhibited a marked tendency to reside in one particular kind of situation: on slopes along the edges of the valley or behind the present town of Ancón. This pattern of behavior made its appearance around the end of the Pleistocene with the earliest of the lomas camps and has persisted until the present day. This settlement pattern has been interrupted on a number of occasions, most recently during the Late Horizon when the Incas exerted a great deal of influence in the area. Even though the Inca influence has persisted for more than four centuries, there is substantial evidence suggesting that the settlement patterns are again shifting back to the traditional arrangement of habitation sites along the valley edge.

The reasons for the changes away from or toward the traditional settlement pattern are not always obvious, particularly during the Middle and Late Horizons. In other instances, however, the reasons for these changes seem more apparent. During the period of the lomas camps, the fog vegetation provided an excellent source of food, both vegetal and meat from the animals that fed on the plants in these localities. The establishment of villages at the end of the third millennium B.C. reflects a sudden change in the economy of the people, for they began to rely on the ocean rather than on the disappearing lomas as their principal source of food. The shift of habitation sites from coastal to inland areas of the valley, where more farming land was available, may reflect the increasing importance of cultivated plants in the economy as well as the pressure of an increasing population on the fishing grounds.

Two factors may have been associated with the shift from habitation sites on the valley floor to sites along the edges of the valley that took place about the middle of the Early Intermediate Period. First of all, the increasing size and number of these sites suggests that the population may have been increasing in size. Second, there appears to have been a continually increasing

emphasis on the use of plant foods which may have led to a desire or necessity to place more valley land under cultivation. The settlement pattern established during the Late Horizon, particularly the villa pattern, was maintained throughout the Colonial and Republican Periods and persists even today. The most obvious reason for the persistence of this pattern is that the labor force was living near the land that it was working.

The recent changes in settlement patterns are related to the existence of a large urban center in the Rimac Valley, a condition that did not exist in Pre-Columbian Peru. The new settlements at Santa Rosa and Ancón are in a sense derived from the additional prestige which people gain by having summer residences in resort towns. Two factors seem to have influenced the selection of sites for the barriadas of Comas and the planned community of Ventanilla. First and most important is their proximity to Lima; it is possible to reside in these settlements and to commute daily to and from their place or work in Lima. The second factor is that both Comas and Ventanilla are located on waste lands so that the amount of productive land in the area was not affected by the new settlements. The northwestern corner of the valley was settled, because it was the only part of the valley with flat land suitable for growing crops that was not already being cultivated by the owners of the large haciendas.

NOTES

[1]The archaeological fieldwork on which this report is based was sponsored by the Comisión Fulbright de Intercambio Educativo del Perú and was carried out under the auspices of the Universidad Nacional Mayor de San Marcos and the Museo Nacional de Antropología y Arqueología. An earlier version of this paper was presented at the 62nd Annual Meeting of the American Anthropological Association in San Francisco on November 21, 1963.

[2]Rouse and Cruxent, 1963b, pp. 28-37 and pl. 3.

[3]Rouse and Cruxent argue that the two samples may not actually date the cultural materials, because they came from a bog (Rouse and Cruxent, 1963a, pp. 537-540). It is reasonable to assume, however, that radiocarbon dates of this order of magnitude will be applicable to the Chivateros industry of the central Peruvian coast. At present, there is a seriational gap between the Oquendo industry and the Luz-Arenal complexes, the earliest of the lomas campsite industries, which probably represents a substantial period of time. In further excavations in the Lauricocha I deposits, Augusto Cardich found several stemmed points that are identical to those of the Arenal complex. This suggests that the radiocarbon date of 7565 B.C. $\pm$ 250 years (I-1959) for Lauricocha I is also applicable to the Arenal complex.

[4]Lanning, 1963a.

[5]The five radiocarbon dates for the lomas campsites are:

5350 B.C. ± 100 years (UCLA-201)	Luz Complex
5350 B.C. ± 120 years (Y-1303)	Luz Complex
5190 B.C. ± 100 years (UCLA-202)	Luz Complex
4650 B.C. ± 120 years (Y-1304)	Luz Complex
4750 B.C. ± 100 years (UCLA-203)	Canario Complex

The group of sites originally set aside as Piedras Gordas Complex (UCLA-201) are now felt to be nothing more than exceptionally poor Luz sites. The Arenal Complex, which was originally seriated between Luz and Canario, can now be shown to pre-date the Luz Complex (Lanning, 1963a)

[6]Cardich, 1958, pp. 50-52.

[7]Cardich, 1958, pp. 46-50.

[8]González, 1952, pp. 113-114, and 1962.

[9]Bird, 1943.

[10]Stumer described Chuquitanta briefly and suggested that it should be dated in the early part of the Middle Horizon because of the lack of pottery at the site; he believed incorrectly that a lack of pottery is characteristic of Middle Horizon sites on the central Peruvian coast (Stumer, 1954a, p. 177). The only refuse deposit at Chuquitanta is one which is typical of the cotton-using preceramic stage, yielding many fragments of twined textiles but no pottery. This fact, taken together with its architectural similarities to other preceramic temples on the coast, gives us confidence in the dating of Chuquitanta.

[11]The most detailed description of Las Haldas is found in Ishida and others, 1960, pp. 444-447. After examining the excavation from which sample GaK-607 was obtained, Lanning asserted that the major structure which the sample dates was constructed before the appearance of pottery (Lanning, 1963b, pp. 100-101). Engel described the structures at Rio Seco (1958b, pp. 79-80), and in another publication listed two radiocarbon dates of 1790 B.C. ± 100 years and 1850 B.C. ± 100 years which were obtained from samples collected at the site (Engel, 1958a, p. 3).

[12]Rowe, 1962, p. 5.

[13]The distribution of some of the Early Intermediate Period huacas in the Rimac Valley is shown in Stumer, 1954b, figs. 46 and 47.

[14]The Italian Archaeological Expedition to Peru excavated at the site of Cajamarquilla in the fall of 1962 and found two superimposed building levels, the earlier of which was associated with Lima 7 pottery.

[15]Bonavía apparently found pottery of the later phases of the Lima

style in his excavation in the Urbanización Miramar on the Necropolis of Ancón (Bonavía, 1963, lám. I).

[16]Cobo, 1956, p. 301.

[17]Neither the town of Puente Piedra nor the hacienda after which it was named was mentioned in Córdova y Urrutia's survey of the towns and haciendas in the vicinity of Lima first published in 1839 (Córdova y Urrutia, 1877, pp. 102-104). In 1910 the Hacienda Puente Piedra is mentioned in a list of haciendas located in the administrative district of Carabayllo, which comprised the Chillón Valley (Cisneros, 1910, p. 144). By 1922 the town of Puente Piedra had a population of 61 and was the capital of the district of Puente Piedra (Stiglich, 1922, p. 863). In the 1940 census the town was listed with a population of 955 (República del Perú, 1944, p. 36).

[18]For a description of the barriadas of Lima see Matos Mar, 1961.

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