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WIDENING THE SOCIO-ECONOMIC FOUNDATIONS OF ANDEAN CIVILIZATION: PROTOTYPES OF EARLY MONUMENTAL ARCHITECTURE

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Introduction

Moseley's (1975, 1985) maritime hypothesis concerns two different but integrated research problems. The first is a set of statements about the cause and effect relationships between the shift to a maritime economy and the emergence of complex society on the coast of Peru during the Late Preceramic Period (ca. 3500-2000 B.C.). As Moseley and several proponents (Benfer 1986; Feldman 1980, 1985; Quilter and Stocker 1983; Richardson 1981) and critics (Osborn 1977; Raymond 1981; Wilson 1981) of the hypothesis have argued, this problem is local and economic, and must be evaluated from the perspective of compatible archeological and ecological data from different resource zones on the coast. I shall not be concerned with this part of the hypothesis here.

The other problem concerns the contribution to early Andean civilization of coastal preceramic cultural achievements and transformations, primarily the relationships among public monumental architecture, corporate or public activity, technology, and centralized authority in the Late Preceramic Period. It was never Moseley's intention to explain cultural developments in the preceding Middle Preceramic Period (6,000-3,500 B.C.) and beyond the Peruvian coast, but because his hypothesis has broad interregional implications for understanding the "foundations" and processes of Andean civilization, it must be considered within an earlier temporal context and within a wider geographical and cultural context. The task of this paper is to stress our need to search for the precursors to monumental architecture and communal activity in wider contexts, and to review the possible types of sites which might have been precursors.

Environments and lifeways

It has long been recognized by Andeanists (Uhle 1902; Bennett 1948; Larco Hoyle 1948; Tello 1929; Rowe 1960; Lanning 1967; Lumbreras 1974; Matos Mar 1979) that the appearance and cultural expression of regional cultures are often as much the product of local and regional economic and social forces as they are of interregional forces. Theories about the rise of early Andean civilization seem to be best considered--and best documented--in the context of the nature and emergence of coastal, highland, or tropical cultural traditions. Although the Central Andes is far from having a genesis theory that commands complete acceptance, no theory has stimulated as much research and debate on these issues as Moseley's (1975, 1985) maritime hypothesis.

Moseley believes that a long tradition of fishing and gathering eventually led to the rise of centralized authority and corporate labor and the construction of large sites with public works between 3000 and 2500 B.C. Although fishing remained important on the coast, people eventually began to move inland and to practice irrigation agriculture, at a time when larger complexes of public buildings were built. This hypothesis is important for recognizing the early linkage between certain socio-economic and environmental factors, but it does not explain the emergence of more complex social forms and monumental architecture (Quilter and Stocker 1983; Wilson 1981). In the maritime hypothesis, causation relates primarily to ecology. With the emergence of complex society, we encounter public cultural expressions and group interactions, methods of transmitting cultural characteristics, and forms of social control that cannot be explained solely in terms of ecological conditions and principles. Where else in the Andes and under what kinds of environmental and socio-economic conditions do we find monumental structures, authority, and corporate labor manifest during the Preceramic Period? To what extent did the first complex societies develop independently or dependently, and did they follow divergent or convergent developmental paths? What principles of social, economic, and demographic organization link or distinguish local and regional cultures from

each another? With what economic and social units (*e.g.*, household, community) can we best analyze these cultures? What was the role of new technological systems in emergent complex society? What kinds of compatible research designs are required to answer most effectively questions about the relationships between human populations and marine or terrestrial resources? Are there small-scale antecedents to the earliest manifestations of public congregation and centralized authority in coastal and highland Peru? Due to the lack of information and to limited space here, it is not feasible to address all of these questions in this paper; however, it is important to realize that they underlie most of the discussion.

It is evident that a complex socio-political organization was highly evolved along the Central Coast and in certain highland basins during the Late Preceramic Period and Initial Period of the Central Andes (see Feldman 1992 [this volume]). In other areas, possibly at sites such as the Cementerio de Nancho in the Upper Zaña Valley in the western slopes of northern Peru (Dillehay and Netherly 1983; Netherly and Dillehay 1986; Dillehay *et al.* 1989b), Real Alto (Lathrap *et al.* 1977) in southwestern Ecuador, the Chinchorro sites in northern Chile (Bird 1943; Rivera 1991; Schiappacasse and Niemeyer 1984), and perhaps Asana in southern Peru (Aldenderfer 1990), we find other types of archaeological expressions of communal activity in earlier preceramic or ceramic contexts. Since these expressions are manifested at sites with widely varying environments and economies, we may be dealing with more generalized and widespread, albeit much less architecturally conspicuous, aspects of development than the well-known Late Preceramic Period and Initial Period settlements.

Public space and activity

Approaches to the study of the relationship between public activity and emergent authority in the Preceramic Period have been hampered by failure to consider seriously the linkages between cultural space and activity, and how these linkages may be manifested conspicuously or inconspicuously in the archaeological record. Most often, the Preceramic Period has been examined in ways that emphasize certain measurable (and usually highly conspicuous) attributes of a culture, such as assemblages of buildings and land-use patterns. Whether a site refers to a village, a stone-lined dance ground, an impermanent ceremonial structure, a large-scale monument, non-architectural gradients and ground levels, or an open ceremonial or agricultural field, it always first involves a social appropriation and transformation of space. When architecture is added, it is simply the society's commitment to that space and a reflection of the organization of authority and corporate activity. With more information available about the earlier periods, we may find that the appropriation and use of public space might have been a more fundamental property of early societies than was monumental architecture, the latter comprising the material and form that gave culturally selected portions of space an imposing physical and visual expression (Tuan 1977; Korosec-Serfaty 1985; Lawrence 1982). We also may find that the founding spatial and organizational principles of large monumental buildings in the Late Preceramic Period have their roots in the use of less elaborate ceremonial grounds or small impermanent public structures in the Middle Preceramic Period.

So far, Andeanists have considered a limited variety of spatial and architectural forms in their attempts to identify the contexts of emergence of public activity and authority. The collective hunt (Rick 1980) and harvest (Lynch 1973) have been suggested as early Preceramic forms of regulated communal affairs, together with the socio-economic changes implied by a sedentary village way of life (Moseley 1975, 1985). Although the archaeological data on the antecedents of Preceramic public structures are scant, enough evidence exists from Late Preceramic sites (see Moseley 1983: 206-214) and from ethnographic and archaeological patterning elsewhere to suggest the existence of earlier forms not yet recognized in the Andes.

The use of architecturally simple and spatially distinct features, such as dance plazas, ceremonial fields, and sacred places, by various modern Andean and Amazonian hunter-gatherer and horticultural or pastoral peoples can be seen as possible analog forms of preceramic public activity.

Well known examples include the dance grounds of the Tupinamba (Metraux 1928), sacred places of the Shipibo, Gê, and other Amazonian groups, the *alpachetas* (Mendizabal 1976) and sacred hilltop *coqela* ceremonial fields of the Aymara (Bandelier 1910: 103), and the ritual plazas of the Mapuche (Dillehay 1990a).

Probably the largest functioning use of impermanent architecture and permanent space in the present-day Andes is the *nguillatun* fertility ceremony of the Mapuche of South-Central Chile (Faron 1961; Dillehay 1990a, 1990b). Although the Mapuche never reached a state level of society and never developed a "great art style", their loosely structured chiefdom-level of socio-economic organization provides a rough analogy for preceramic cultures of the Central Andes. The *nguillatun* ceremony, performed twice a year and rotated administratively among consanguinally related and territorially contiguous lineages, is attended by local and non-local kinsmen and friends and is held in a permanently appropriated ceremonial field on communal, non-residential land outside of the living settlements. The field is characterized by semi-permanent *rukas* (huts) made of wooden posts, thatch, and tree branches. The fields range in size from approximately 60 m to 600 m in length, depending upon the number and size of participating communities. Each ceremony is attended by as few as 50 and as many as 8,000 individuals. Approximately 150 to 200 active fields in the Araucanian region serve an indigenous population of 150,000 to 200,000 people.

Another important area for comparison is Mesoamerica, where a crude, apparently impermanent dance ground, defined by two parallel lines of boulders, has been identified in the Oaxaca region of Mexico (Drennan 1976: 353-354). Dating to a preceramic period hunting-gathering phase (ca. 5000-4000 B.C.), this "dance ground" possibly indicates an antecedent form of public ritual activity. By 1500 to 500 B.C., household "shrines" and small public "buildings" appeared, probably representing later forms of ceremonial architecture associated with public activities in the integration of large permanent villages. It was not until the later proliferation of social complexity that larger, more elaborate public ceremonial buildings appeared in Oaxaca (*ibid.*: 355).

In other areas of the world where complex societies emerged, archaeologists already have recognized the importance of identifying the variable ways in which incipient forms of corporate activity and public meeting places may be expressed (see Renfrew 1982; Bradley 1984, editor 1990; and Friedman and Rowlands, editors 1982 for Europe; Phillipson 1990 for Africa and Egypt; Redman 1978 for the Near East; Higham 1989 for Southeast Asia; and Allchin and Allchin 1982 for India and Pakistan).

The intriguing problem of early Peruvian coastal archeology is the absence of spatial or architectural antecedents in the Middle Preceramic Period and early Late Preceramic Period. As Lanning (1967), Lynch (1981), Haas (1982: 192-198), and others have noted, the later monumental buildings appear rather abruptly on the coast, with no known precursors. Prototypes might be buried under sand dunes on the desert or under silt deposits on river floodplains (Lynch 1981). Richardson (1981) has suggested that earlier coastal sites were probably inundated by sea level changes. Earlier forms also have not been found in the highlands. To date, however, little, or no, systematic search has been carried out.

This absence of prototypes in Peru raises questions whether the principle (or invention) of permanent public monuments had its roots in earlier, smaller-scale public places or architectural forms in other kinds of Preceramic sites, and whether this principle had its origin on the coast, was imported from elsewhere in the Andes, or was developed simultaneously and possibly independently in widespread regions of the Andes. Of course, the origin and history of growth of this principle may be contained in the architectural form of the monumental buildings themselves; that is, their *first* construction form or building phase, or some outlying or underlying space, field or plaza with or without permanent architecture may be the prototype itself. However, the fact that many Late Preceramic Period and Initial Period sites on the coast and in the highlands were often built in sequential phases of construction indicates only that their development was gradual instead of sudden.

It does not necessarily mean that the first manifestations of this principle are represented by the first building phases. It is also possible that with more chronological refinement of the older deposits and architecture at early Late Preceramic Period sites, such as Aspero and Asia on the coast and Mito Tradition sites in the highlands, local antecedents will be understood better.

One alternative is that smaller sites with or without surface architecture are the prototypes of these buildings. If prototypes existed, we need to establish and demonstrate the continuity and transition between them and the larger structures. Until we seriously and systematically consider this and other alternatives, arguments concerning the social and economic foundations and the architectural origins of early Andean civilization are incomplete by virtue of the little attention that archaeologists have given to this issue.

I now turn to an examination of possible types of earlier public places and activities in the Andes by discussing the findings at a few early sites. These sites are Real Alto in Ecuador, Cementerio de Nanchoc in northern Peru, various locations of the Chinchorro Tradition in northern Chile, and others. Since descriptions of most of these sites have been published, I provide only summary presentations of features relevant to the theme of this paper. (As a cautionary note, I am not implying that these sites are the direct genetic forebears of Late Preceramic monumental forms. Future research may show that the kinds of forms and activities expressed in these sites represent the kinds of regional developments that might have contributed to the emergence of these forms.)

Real Alto: Southern Ecuador

Real Alto, a well known early ceramic site in southern Ecuador (Lathrap *et al.* 1977), revealed much about the use of public space and architecture in ritual (Damp 1984). The village plan of the site is defined by a rough ovoid configuration comprised of numerous oval houses. The central plaza area of the village had two spatially segregated, low earthen mounds, each supporting large oval structures, believed by Marcos (1988) to have been a fiesta house and a charnel house. The fiesta house yielded an assortment of food delicacies and broken drinking bowls, thought to have been intentionally smashed during ceremony. The charnel house contained several burials associated with grave goods. The site radiocarbon dates between 3000 and 2200 B.C.

The significance of the Real Alto data is threefold. First, it documents the spatial incorporation and centralization of communal ritual architecture into the overall village layout. Second, it reveals an emergence of ritual architecture, in association with a political or religious body of authority (apparently uninfluenced by developments to the south) in a non-maritime setting. And third, it developed in the context of agricultural experimentation (or perhaps intensification) probably focused on maize production (Pearsall 1988).

Upper Zaña Valley: Cementerio de Nanchoc and domestic sites

As reported elsewhere (Dillehay and Netherly 1983; Netherly and Dillehay 1986; Dillehay *et al.* 1989a, 1989b), the Upper Zaña Valley in northern Peru is characterized by the presence of a relict tropical forest and a significant Preceramic occupation. Of particular importance is one multi-component, non-residential preceramic site characterized by a pair of small mounds (Dillehay *et al.* 1989b: figure 4). These low, three-tiered earthen mounds are faced with aligned stones and are situated by an adjacent, non-architectural work area (Area B). They consist of a series of undisturbed architectural fills and living floors, some containing basalt flakes with *cal* or lime residues on the edges. The lower floor of one mound is radiocarbon dated around 5,770 B.C. (which is probably 700 to 500 years too early), while the uppermost one probably dates to the late Middle Preceramic Period or early Late Preceramic Period (ca. 5,000-3,000 B.C.).

Area B, located about 50 m to the west, appears to be a work area. This area is defined by a cultural deposit containing scattered concentrations of non-domestic debris, including ash stains and lenses, unifacial stone flakes, charcoal, and fire-cracked rock. In addition, there are abundant burned

and unburned chunks of calcium carbonate and travertine and modified concretions of *cal*, presumably extracted by burning and boiling calcium-containing rocks (Dillehay *et al.* 1989b). Radiocarbon dates ranging between 5,340 and 5340 B.C. were processed on charcoal from deeper midden deposits and hearths (*ibid.*). The upper component of Area B is estimated to date between 4000 and 2000 B.C.

Coterminous with the Cementerio de Nanchoc was a complex of 47 small preceramic residential settlements scattered across the valley on the pampas of several adjacent *quebradas* (see Dillehay *et al.* 1989a, 1989b: 736, figure 2; Rossen 1991). They are defined by architectural foundations made of small adobe blocks and cobbles and by midden deposits that contain coca leaves, processed *cal*, hearths, several varieties of marine shells, post-holes of residential huts, exotic stones, grinding stones, unifacial stone tools, wild and possibly domesticated plants, and animal bones. In assessing the contemporaneity, density, and age of these sites, radiocarbon dates from five of them (CA-09-27, CA-09-52, CA-09-77, CA-09-80, CA-09-81) ranged between approximately 6,000 B.C. and 5,070 B.C.

It is likely that the Cementerio de Nanchoc site was a public area where raw lime was brought to be processed. We can assume that lime was consumed and possibly distributed by the local population for use as a mineral supplement or more likely with coca leaves (Dillehay *et al.* 1989b), as evidenced by the presence of both *cal* and coca leave fragments recovered recently from the habitational surfaces of excavated domestic sites. As yet, we do not know who controlled this public activity or what percentage of this activity might have been "ceremonial" as opposed to "secular", if, indeed, such a distinction can be made for this period.

Chinchorro Burial Complex in Northern Chile

Along the littoral desert of northern Chile is the Chinchorro Tradition (ca. 4,000-2,500 B.C.). Among the most outstanding traits of this tradition are: economic concentration on marine resources; artificial treatment (*e.g.*, mummification) of deceased persons; formally bounded burial areas; silver, copper and gold metallurgy; use of hallucinogenic equipment; cotton textiles and basketry; and experimental pottery and adoption of domesticates at the end of the period. It also is known that the Chinchorro people lived in circular houses arranged around open courtyards, and that some cemeteries were associated with formal architectural structures (Rivera 1991; Schiappacasse and Niemeyer 1984). The location and artifact content of Chinchorro sites also suggest an incipient form of territoriality (Schiappacasse and Niemeyer 1984). Collectively, this evidence suggests a corporate society with specialized ritual related to elaborate mortuary ceremony, an apparent long-distance exchange network, and a broadly based economy and technology.

Other sites with possible public areas

Other Middle to Late Preceramic Period public architecture, in the form of small to large stone-lined structures or semi-circular to circular constructions, have been recovered at other Middle to Late Preceramic sites in the Andes. Some of these are the Alto Salaverry site on the coast of the Moche Valley (Pozorski and Pozorski 1979), lithic sites on the desert pampa of the lower Jequetepeque Valley (Herb Eling and Daniel Julien, personal communication, 1985), Asana site in the Upper Moquegua Valley in southern Peru (Aldenderfer 1990), and the Ring Site (Sandweiss *et al.* 1989) in southern Peru. In addition, Fung Pineda (1988: 69-76) discusses several sites (*e.g.*, Asia, sites 96 and 514 at Paracas) radiocarbon dated between 4,000 and 2,000 B.C. along the Central and South Coasts and in the highlands of Peru that contain larger structures which she attributes to social differentiation.

Although vaguely known and poorly dated, Rosello *et al.* (1985) have reported the discovery of stone-lined or piled markers, figures, and lines on the Pampa de Canto Grande along the Central Coast. Two radiocarbon dates processed at 4,495 B.C. and 2,545 B.C. very tentatively place the chronology of these figures in the Late Preceramic Period. The use and organization of these lines and

markers, like the Preceramic geoglyphs in northern Chile (Núñez 1976), suggest an alternative way of manifesting public place and activity.

Form and function

Although the archeological record of the Middle Preceramic Period in Peru and neighboring areas is very scant and fragmented, the presence of public works at these early sites and the surprisingly complex nature of monumental settlements of the Late Preceramic Period, in the absence of known antecedent forms, raises questions concerning the socio-economic and environmental conditions that produced early corporate activity and authority. At a superficial, heuristic level, these kinds of sites suggest that other spatial and architectural forms, perhaps analogous in corporate and authoritative intent, but different in context and scale from the monumental structures, were developed by earlier pre-monumental societies, in both non-maritime and maritime environments.

It is known that the Middle and Late Preceramic Periods were characterized by gradual population increase, by more group-oriented projects, and by the appearance (and spread) of complex new technologies and commodities (*e.g.*, Lanning 1967: 29-43; Moseley 1975; Fung Pineda 1988; Feldman 1992 [this volume]). Among other innovations, the early period witnessed the accomplishment of plant domestication and cultigens, weaving and textiles, and mummification and mummies. Later, hydraulic engineering and irrigation canals, ceramic production, masonry and large-scale structures, metallurgy and gold, silver and copper, and other feats were added. These developments must have been accompanied by significant changes in the division of labor within and between groups. Based on hints from the few sites mentioned above, it is not farfetched to suggest that a group-oriented (as opposed to individual-oriented) occupation specialization probably appeared along with these technologies when self-sufficient domestic households were no longer capable of providing enough goods and services to sustain the consumption demands of a growing population engaged in increasingly wide-ranging economic relations. In all likelihood, group specialization was a small-scale operation, probably focused on one or a combination of technological skills (*e.g.*, masonry, plant processing, canal construction), resource exploitation (*e.g.*, shellfish, copper), and craft production (*e.g.*, ceramics, embroidered textiles).

In cases such as the Upper Zaña Valley, scattered households probably formed into co-resident clusters that concentrated on the production of a single commodity (*cal*) and became part of an exchange system. Communal activity in a spatially segregated area like the Cementerio de Nanchoc might suggest that the local population developed a new integrative mechanism for managing specialized commodity production and an increasing social complexity, and for interposing an organizational structure between itself and the outside world. It might be inferred that similar technological and occupational developments developed at sites in different areas, including Real Alto and possibly even some Chinchorro localities.

The principal issue is how and why the development occurred from hunter-gatherers to corporate domestic groups preoccupied with food production and possibly the production of an exchange-linked technology or commodity. Perhaps, at this stage of incipient development, the concentration of a sector of the local economy on the production and exchange of a specialized commodity(ies) would have provided the opportunity to access resources in distant zones, thereby offsetting broad economic specialization (*e.g.*, agriculture, pastoralism, maritime fishing and gathering) and partial loss of mobility resulting from a more localized or sedentary lifeway. Whatever the causes, the local group response at some early sites might have been to locate public activity in a separate place or in more formal architecture. Of particular significance is why this architecture and the new system it represented became invested with conspicuous sacred importance and institutionally standardized form (U-shape buildings) during the later Late Preceramic Period.

In sum, evidence from the Late Preceramic Period and Initial Period suggests that there were many places where sedentary agriculture, pastoralism, and a maritime economy led to gradual increase in demographic density which in turn probably stimulated innovations in technology and social organization that consummated in public places. The search for understanding how these transformations occurred will be advanced by examining how new specialized technologies and occupations were structured in different areas. We need to look for sites in specialized areas where these technologies might have developed and spread. It becomes a matter of identifying Middle to Late Preceramic age societies that required the organization and economic ingredients necessary to accomplish this. What is important is not whether one social structure can be identified which led to these developments, but how many alternatives were available that were capable of generating them. We also must look at this problem without engaging in archaeological reductionism, by which I mean the tendency to assume that the accumulation of wealth and the attempt to gain prestige and ultimately social power are the principal basis upon which incipient socio-economic complexity developed. When we reduce explanation to wealth-prestige variables, we invariably focus our attention on conspicuous consumption and, in turn, conspicuous archaeological records-- *i.e.*, large, elaborate ceremonial centers. By studying specialization and exchange-linked technologies and commodities, we give more attention to less conspicuous and possibly antecedent archaeological forms. Finally, how all this might have facilitated the development of centralized management remains unanswered. I would guess that the answer lies in the distinctive character of the corporate group itself, which in Middle and Late Preceramic times probably represented a bounded social system with unbounded economic opportunity.

Concluding observations

As suggested in the examples discussed here, the social and economic formations displayed by preceramic Andean societies may vary regionally and temporally. This variation requires us to consider them as specific cases of more general Andean developmental processes, which may be characteristic of a larger number of early food or non-food producing population sectors. Whatever social, historical, and ecological events explain these processes, some might have been older and more widespread, albeit probably not more dense, than previously conceived. Despite apparently similar socio-cultural developments in different areas, it is yet to be determined whether a single complex of historical events, a single diffusion from one homeland--whether on the coast, in the highlands, or in the tropical forest--underlies the appearance and distribution of centralized authority, corporate labor, and public architecture in the Andes. At present, the spread from a single region can neither be excluded nor assumed.

A geographically and culturally widespread Andean distribution of earlier Preceramic public sites in the absence of a single diffusing movement need not be a paradox. It requires simply that a particular set of social and economic conditions existed in several areas at this time, and that these favored the rise of authority and corporate labor. Such a general consideration, if it can be achieved, would explain for us the possible independent genesis of small-scale public places in several areas. It might also help explain the adoption of similar features in adjacent areas, based on detailed, locally-operating reasons rather than appealing to migration or diffusion as adequate explanations.

In spite of all the recent attention given to Late Preceramic and Initial Period coastal and highland cultures, the pronounced bias toward the investigation of large, elaborate, elite ceremonial centers has made it difficult to consider (and archaeologically detect) antecedent, small-scale public spaces or architectural forms. I believe it would be well worth our while to devote considerably more energy to the study of prototype sites and the organizing principles of large-scale settlements than we have to date. Comparative data are also badly needed for areas other than the major coastal valleys and highland basins of the Andes. Until such studies are carried out, our view of the diversity and complexity of the socio-cultural foundations of Andean civilization will continue to be impaired.

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