
Town and Country in Late Moche Times: A View from Two Northern Valleys

Author(s): TOM D. DILLEHAY

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TOM D. DILLEHAY

University of Kentucky

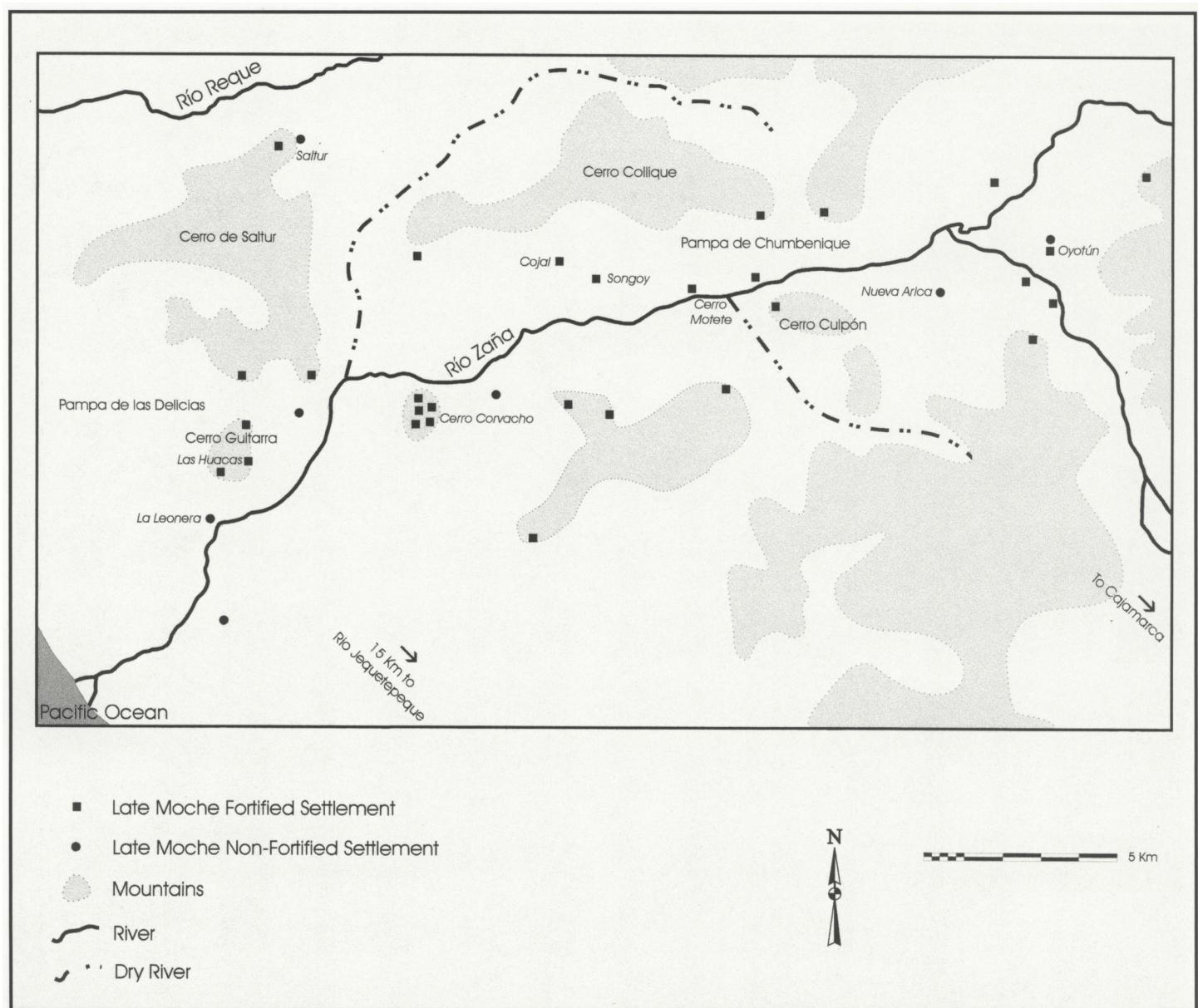
Town and Country in Late Moche Times: A View from Two Northern Valleys

The Moche people brought new heights of creativity and complexity to Peruvian civilization during the fourth through eighth centuries A.D. Social and political organization advanced, with the proliferation of large monuments and urban settlements and with the appearance of sophisticated arts and technologies. Unlike many other complex Andean societies, the Moche exhibited varying degrees of political centralization, hierarchy, and heterarchy (situational and temporary ranking of different groups which are usually unranked) throughout their long history. The bulk of information about this history is drawn from architecture, mortuary practices, and the visual arts. Recently, extensive field surveys and excavations have begun to yield new data on successive settlement patterns, political formations, social constructions, and major cultural transformations. Yet Moche cultural transformations have unfortunately been kept out of the larger theoretical debate in anthropology about the rise and fall of early complex societies. This is in part because they are not well documented archaeologically, and in part because we know little about the political and economic structures of Moche culture.

To date, three competing models for explaining cultural transformations in Moche history have been proposed: (1) environmental catastrophe (Moseley, Feldman, and Ortloff 1981; Moseley, Satterlee, and Richardson 1992); (2) internal social and economic

dynamics (Bawden 1995, 1996; Castillo and Donnan 1994a, 1994b; Donnan and Cock 1986, 1997; Schaadel 1951, 1966, 1972; Shimada 1986, 1990, 1994a, 1994b; Wilson 1988); and (3) invasion by foreign groups (Schaadel 1951; Shimada 1994a). With the exception of archaeological surveys in the Moche and Santa valleys (Billman 1996; Donnan 1973; Wilson 1988) and the Zaña (Dillehay, Eling, and Rossen 1989; Dillehay and Netherly 1977, 1979, 1984; Dillehay and Rossen 1989a, 1992), Jequetepeque (Dillehay and Kolata 1997; Dillehay and Rossen 1989b; Dillehay et al. 1998; Eling 1989; Eling, Dillehay, and Rossen 1990), and Chicama valleys (Gálvez and Briceño, this volume; Russell and Jackson, this volume), the reconstruction of Moche history has relied primarily on iconography (see Shimada 1994a), mortuary practices (Donnan 1995; Donnan and Mackey 1978), or excavation of elite architecture in large urban settlements (Quilter, this volume). Yet the two sources of data, surveys of the countryside and studies of monumental urban remains and portable arts, need to be studied in tandem. The archaeological history needs to be tempered by more information excavated from communities in the countryside and from environmental studies of changing landscapes, not just from urban elite architecture and commodities. Such an approach provides a much more comprehensive evaluation of our interpretative models and enhances the utility of the iconographic, mortuary, and

Moche modeled vessel with a representation of sacrifice in a mountain setting
Museum für Völkerkunde, Berlin (VA 48095)
Photograph by Steve Bourget



architectural data. One gains a broader and richer sense of a culture's history when one considers both the urban setting and the countryside.

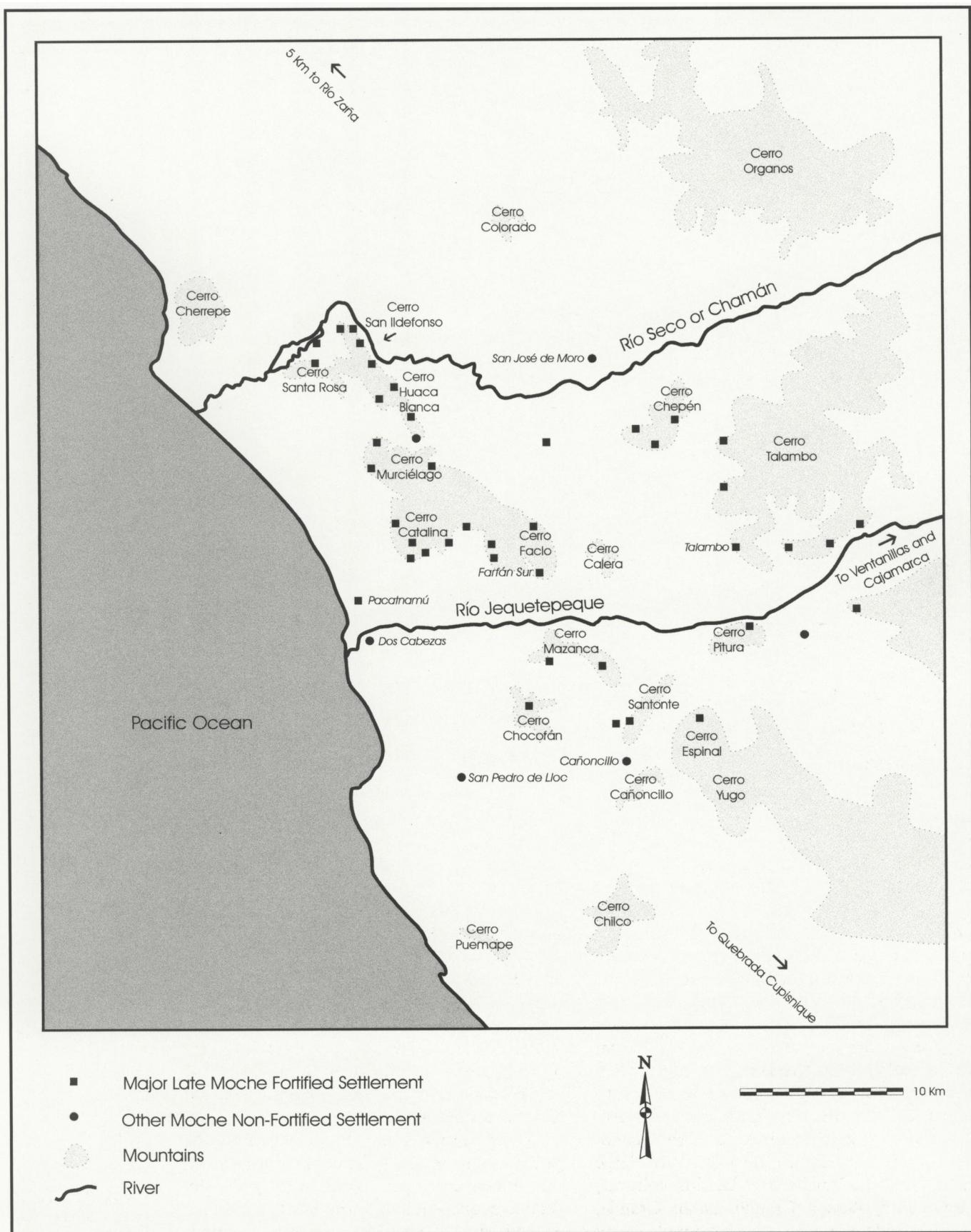
Many cultural changes in Moche history may have been accelerated by environmental stress and/or by internal and external social events, either of which could have led to political turmoil and realignment, urban collapse and rural reorganization of the economy. Despite periodic crises at such large urban sites as Moche (Uceda, this volume), Pacatnamú, Pampa Grande, Batán Grande, and Galindo (Bawden, this volume), many

communities in the countryside evidently continued to survive, most likely through significant restructuring of social organization and intercommunity relations and through shifts in their domestic and political economies. When societies "collapse" (Tainter 1988; Yoffee and Cowgill 1988), however, it is the political structure and the economy that ceases, not the populace at large.

In this paper, I am concerned with the political nature of Moche urban and countryside communities in the Zaña (fig. 1) and Jequetepeque (including the Río Seco) (fig. 2) valleys during the Moche IV and V periods

1. Map of the lower and middle Zaña Valley, showing location of major Moche IV and V sites

2. Map of the Jequetepeque and Río Seco or Chamán valleys, showing Moche sites



and with the nature of changing environmental and settlement conditions in these valleys. I have two specific and interrelated issues to discuss. First, in the lower and middle sectors of these valleys nearly every hilltop adjacent to a Moche V community is associated with a fortress or fortified settlement. This contrasts sharply with the later Chimú period, when such constructions are far less common. This would suggest that there was a great deal of internal conflict in late Moche times and leads me to question the nature of the late Moche political system. Was the north coast truly a highly centralized state in Moche V (or even earlier) times, as some researchers have postulated (Keatinge 1977; Wilson 1988)? Or was it occupied by several powerful inter-valley polities or factions competing for control over peers and occasionally forming a federation that had a shared elite iconography and ideology, as others have contemplated (see Bawden this volume, and 1996; Uceda and Mujica 1994)? If the northern valleys from Lambayeque to Chicama constituted a single Moche state, it was clearly a very different polity from the later powerful Chimú state. The few Chimú fortresses are located at key positions to defend the valley, not specific communities in the countryside.

Second, archaeologists have long realized that major social transformations occurred in the final phases of the Moche culture (c. A.D. 600–750) and have postulated that environmental and economic stress may have been important factors in this process (Donnan 1997; Eling 1987; Moore 1991; Moseley 1978; Moseley, Feldman, and Ortloff 1981; Moseley, Satterlee, and Richardson 1992; Schaadel 1985; Shimada 1978, 1985, 1994b; Shimada et al. 1991). These scholars, for the most part, have interpreted local developments as part of a broader regional process of political conflict, disruption, and reconstitution. In doing so they have made a significant contribution to our understanding of the ideological changes that occurred at the apex of late Moche society. Elites evidently strove to maintain their central power at a time of growing vulnerability caused by social and/or environmental stress. The wider subject population, however, less visible in the archaeological record, was equally affected by periods of widespread change. Indeed, in many cases the responses of these people to stress and the political

agendas they had with and apart from ruling elites may have been deciding factors in directing the course of late Moche history. Although not always explicitly considered by archaeologists, these aspects of late Moche history have important implications for a fuller understanding of social dynamics, political organization, environmental stress and competing ideologies.

Competing Ideologies

Ideological beliefs are complex sets of ideas that influence and guide people's actions. Social theorists in anthropology have traditionally taken a strict functionalist approach to preindustrial complex societies, believing that people's beliefs and actions were largely controlled by ruling elites (for example Bourdieu 1977; Braudel 1973; Hebdige 1979; Ros-signal and Wandsnider 1992; Therborn 1980; Thompson 1990). Inherent in Andean settlement pattern and social studies is the idea that small groups of powerful rulers created ideological systems and public rituals that affirmed their hierarchical power over commoners. Recent theorists (for example Bawden, this volume), however, have turned their attention to the ideologies of the commoners—ideologies that often contradicted and competed with those of ruling elites.

Due to this relentless functional interpretation of hierarchical political structures and settlements, most Andeanists have reduced the richness and cultural significance of late Moche ideology exclusively to elite control. Elite material culture shows formal similarities throughout the Moche region. Most specialists assume that this indicates a uniform ideological power among elites, and thus reflects even further a highly centralized state organization (see Bawden 1995, 1996; Donnan 1976). But as I have discussed before (Dillehay 1976, 1979, 1987), this may not always have been the case in the Andes. There were probably times when competing ideologies existed at all levels of Moche society, with some operating among elites and others operating between urban and rural communities. In other words, a centralized state society operating under a single ideology may have been the exception, not the rule, and commoners may have had more independence than previously recognized.

Garth Bawden is one of few Moche scholars to recognize the potential independence of commoners. He states in his book *The Moche* that commoners "...as the substratum to a succession of native dominions...had long nurtured the kin-based structural foundations of Andean social life despite the endeavors of systems like that of the Moche [elite] to subordinate this to a more hierarchical and exclusive political system. Ultimately, the commoners with their primary conception of social order outlasted all of the imposed political systems" (Bawden 1996: 338).

Perhaps Andeanists do not study less powerful ideologies and practices because they focus most of their work on the ceremonial center, a place where the dominant ideology is housed and sustained. Other or competing ideologies are not represented at these centers because the elites controlling them simply did not permit their existence. To detect other ideologies, we must look elsewhere—to secondary or smaller settlements in the countryside. For this reason, the presence of numerous fortified settlements in the Zaña and Jequetepeque valleys intrigues me. If the late Moche were a unified state society, why were so many fortresses necessary within their own boundaries? I do not at present have all of the answers to this question, nor do I understand all of the social and environmental variables involved. Nonetheless, I believe that at certain times and in certain places, major environmental stress triggered or accentuated fissures in either internal or external relations, which in turn produced political turmoil and rapid change. This position does not represent environmental reductionism but admits to the potential influence major natural events may have on the decisions made by societies to respond to stress.

Centralization, City, and Countryside

To date our ideas of urban societies in the pre-colonial Andean world have focused mainly on the centralization of services and functions within cities (or "ceremonial centers"), which have been conceived primarily as bounded space physically manifested in a concentration of public and private architecture and other urban infrastructures. As a result, we have tended to perceive all hinterland or countryside sites as rural or peasant

communities, as if they had one rationality and no ideology, internal economy, and social policy of their own. In other words, each peasant community just waited for another urban ruler to come along and give it orders, the premise being that commoners cannot survive as acephalous units.

Yet, when we look beyond the city to the countryside, we see other interactions not only linked to the city itself but to other sectors of society and to the land in a way the city is not (Anders 1990; Bawden 1983; Conrad 1990; Crumley and Marquardt 1990; Isbell and McEwan 1991; Kolata 1990, 1991, 1993, 1996; Moseley 1982; Rapoport 1982; Schaadel 1966, 1972; Shimada 1994b; Topic 1982, 1990, 1991). For instance, countryside settlements have relations with other non-urban communities and distant lands independent of an urban center. Also, the city is heavily dependent on social and economic forces in the countryside. When viewed from this perspective, the city cannot be disentangled from dynamic social processes within the countryside, such as changing patterns of economic growth or recession, environmental stress affecting economic production, fluctuations in the consumption needs of dispersed human populations, or periodic abandonment and reuse of strategically located rural settlements. In short, the city is permeable and often emulates rural social structures. Some rural communities may operate outside the formal sphere of influence of the city. That is, hinterland communities may have had a life of their own, especially in times of demise of large, centralized political authority when the populace at large continued to survive. During periods of demise (or growth), there may even have been different, but complementary economies associated with elite and hinterland communities. In other ancient societies, scholars have stressed the importance of distinguishing between economic management by elites and management by local communities, suggesting that separation of rural communities from elite economic control can engender a heterarchical rather than a hierarchical social system within developing polities. Oscillations in the power of late Moche provincial lords may reflect this pattern.

This is not to deny the centralizing power nested in urban settings. Urban areas such as

Cerro Corvacho, Songoy, and Oyotún in the Zaña Valley (fig. 1) and Pacatnamú and San José de Moro in the Jequetepeque Valley (fig. 2), undoubtedly altered the relationship of the lower valley population's social and physical environment in fundamental ways (Kosok 1965). The presence of these sites meant that populations were probably differentiated spatially by social status, economic activity, and political and ideological practice. Social interdependency among these differentiated populations would be intensified by the creation or acceleration of interlocal economic, political and ideological linkages. Finally, substantial environmental change would be generated by stimulating rapid increases in collective consumptions of renewable and nonrenewable resources.

The point here is that most studies have failed to take into account the social permeability of city boundaries, the pervasive emulation of rural social structures in the organization of the city, the interaction between both urban and rural communities, and changing physical environments. A more complete picture of Moche history can be formed by conceiving of these cities not merely as centralizers of populations, infrastructures, services and functions, but rather as dynamic and highly differentiated processes of social and environmental relations. In addition, the hinterland communities should be viewed as having potential independence apart from the city center. We also need to recognize that major environmental change, such as excessive drought and flooding (see Barber and Chavez 1983; Bull 1991; Craig and Shimada 1986; Diaz and Markgraf 1992; Moore 1991; Nials et al. 1979; Philander 1989; Sandweiss et al. 1996; Thompson and Moseley-Thompson 1989; Uceda and Canziani 1993), periodically altered the conditions of interdependency between urban and rural populations.

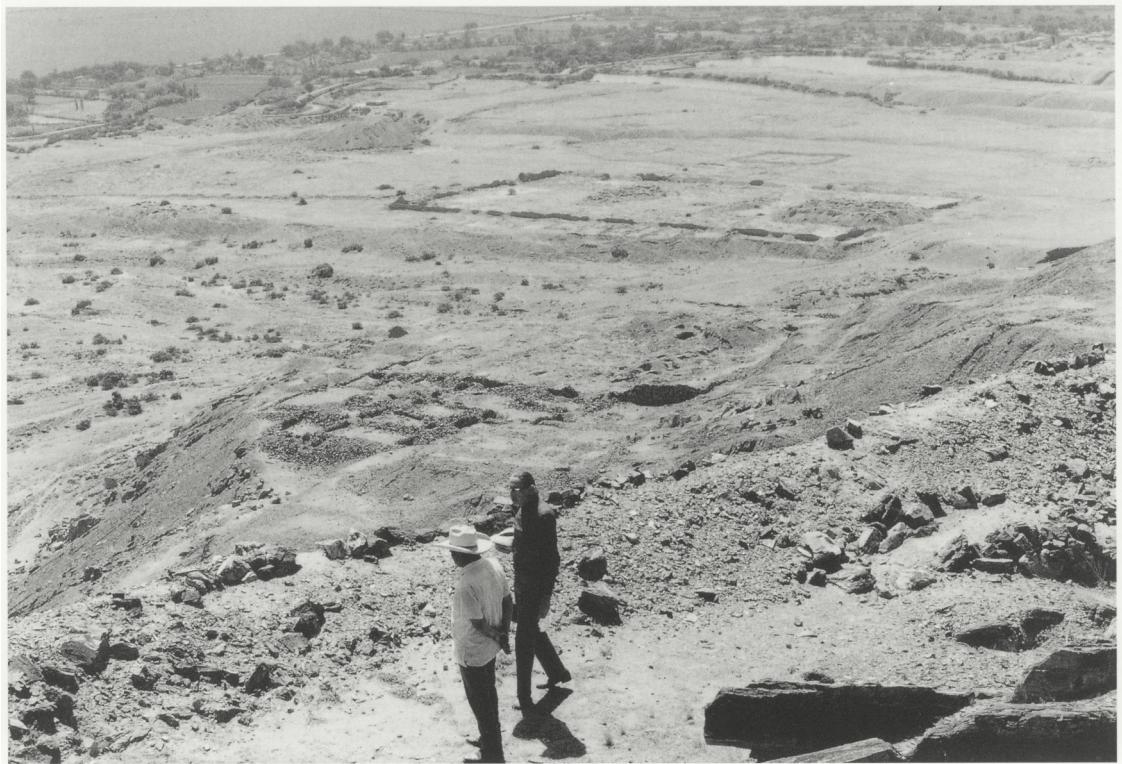
Research in the Zaña and Jequetepeque Valleys

Between 1977 and 1995, the Zaña-Niepos-Udima Project located eighty-two Moche period sites in the lower, middle, and upper Zaña Valley (Dillehay and Netherly 1977, 1979, 1984; Dillehay, Rossen, and Eling 1989). Although the survey was systematic, it was not fully comprehensive in the lower and

middle sectors, concentrating on large and intermediate scale habitation, fortress, ceremonial-civic, and cemetery sites dating primarily to the Moche IV and V periods (fig. 1). Among a number of other remains located and mapped during the survey were roads and other features dating to these periods.

The Zaña Valley settlement patterns differ from those in the Jequetepeque Valley to the south (fig. 2) and the Lambayeque Valley to the north in several ways. Unlike the Jequetepeque Valley, a moderate Moche IV and V presence characterizes the late Moche occupation in the Zaña Valley. Large and intermediate settlements are located at La Leonera, Las Huacas, Cojal, Cerro Corvacho, Songoy, Cerro Motete, Cerro Culpón, Campana, and Nueva Arica. Unlike other north coast valleys, a heavy upper and upper-middle valley Cajamarca presence was recorded, apparently limiting the expansion of Moche populations beyond Oyotún in the middle valley (Calabrese 1993). A few Moche IV and V sherds are found at *huacas* (monumental platform mounds) in these valley sectors, but they are associated with intrusive Moche burials, not with domestic sites. Another difference is that the Moche IV and V occupations in the Zaña Valley are not as large or as extensive as those in the Lambayeque and Jequetepeque valleys. My impression is that the Zaña Valley served as a buffer zone between these two larger and presumably more powerful valleys, and between these valleys and the adjacent Cajamarca highlands.

Prior and ongoing research projects in the lower Jequetepeque Valley (fig. 2) have begun to establish chronological and contextual control for understanding Moche V mortuary practices, dietary regimes, economic relations and social development. Luis Jaime Castillo's and Christopher Donnan's investigations (Castillo, this volume; Castillo and Donnan 1994a) at San José de Moro have revealed elite burials in both residential and ceremonial contexts. At Dos Cabezas, a massive early Moche complex located south of Pacatnamú, Christopher Donnan's research has brought to light a wide variety of archaeological materials that, along with data from San José de Moro and other sites, demonstrates that there was a significant increase in external contact with highland Cajamarca and central coast polities (for example, Nievería) in a



3. Fortified hillsides settlement dating to the late Moche and Chimú periods, Cerro Corvacho, lower Zaña Valley. Chimú compound is in the background

local social context of fragmented political structures.

Donnan's previous work at Pacatnamú is significant (Donnan and Cock 1986, 1997; see also Hecker and Hecker 1982, 1985, 1991; Keatinge 1977; Ubbelohde-Doering 1983) because he defined the major internal structures of the site, and identified a number of activity areas through excavation of elite and non-elite buildings (Donnan and Cock 1986; Gumerman 1991, 1994). According to Donnan, Pacatnamú experienced an intensive occupation in the Moche II-III Period, and then again in the Moche V, Lambayeque and Chimú periods, which resulted in construction of the majority of the large, terraced and ramped mounds at the site (Donnan and Cock 1986; 1997; Keatinge 1977). Donnan and others at Pacatnamú have suggested that the site achieved early prominence as a religious center and, by late Moche times, was transformed into an extensive "sacred city" and, possibly a pan-north coastal center of religious pilgrimage (Donnan and Cock 1986; Keatinge 1978; Schaedel 1985).

The surveys of Eling (1978, 1981, 1987), Hecker and Hecker, and the author (Dillehay and Rossen 1989b) in the lower Jequetepeque

Valley collectively recorded 192 sites dating to the late Formative through the Inca periods. Although none of these projects attempted a systematic, full-coverage survey in all physiographic zones of the lower valley, they are highly valuable for locating major settlements and recording agricultural features such as irrigation canals, aqueducts, and fields.

Recent archaeological work by the author and Alan Kolata in the Jequetepeque Valley (Dillehay and Kolata 1997; Dillehay et al. 1998; Eling, Dillehay, and Rossen 1990; see also Ravines 1981) concerns long-term human and environment interaction on the north coast by developing an integrated multiphase research strategy. During three recent field seasons in the lower Jequetepeque Valley, we found 322 Moche period sites. The sites date to the Moche II-V periods. Sherds of the Moche IV period are rare, with the majority of the sites pertaining to the Moche V period (fig. 2).

Collectively, we have recorded a total of 412 Moche sites spread over portions of the Zaña and Jequetepeque valleys. Site types include large Moche towns, ranging from fifty to eighty hectares, (for example Pacatnamú,



4. Fortified hilltop settlement (PV-39-125) dating to the late Moche period, lower Jequetepeque Valley

San José de Moro, Cerro Corvacho, and Cerro Songoy), intermediate-scale towns (twenty to forty hectares in size), and small villages and farmsteads. Agricultural fields and canals, fortresses, cemetery plots, and miscellaneous features were also recorded. Most of the habitation sites are small to intermediate in size and provide a highly detailed view of Moche activity in the countryside.

In looking more closely at the regional settlement pattern data, it appears that a number of large to intermediate-size urban centers were occupied only intermittently at various points in Moche history. These include Cerro Corvacho, Songoy, and Oyotún during the Moche IV and V periods in the Zaña Valley, and Pacatnamú, San José de Moro, and possibly San Pedro de Lloc during the Moche V period in the Jequetepeque Valley. The social and economic status of these settlements is known almost exclusively from limited survey and excavations at Pacatnamú and San José de Moro. It is not known whether Pacatnamú was functionally more complex than other late Moche settlements or just larger, or just different. We also do not know the relationship between these larger sites and smaller and intermediate-size settlements.

Numerous large or intermediate-size walled towns also exist. Most major towns seem to have been walled complexes of tightly compacted stone and adobe brick houses. These sites appear to have grown substantially during the Moche V period. The large walled towns may imply some central planning and design, but most of the small to intermediate size settlements do not adhere to rigid plans; rather, they conform to local hillside topography. Sites without monumental architecture show considerable variability. I would suggest that the lack of uniformity in layout at the intermediate and small communities indicates that they were built at different times and/or on local initiative, not under the direction of a central authority.

The survey has also documented massive mountaintop forts, fortified hilltop communities (figs. 3-5), and agricultural fields. Most of these are associated with walled, intermediate-size communities located at strategic points in the valley. These defensive positions are important because they have never been reported in detail for a late Moche north coast population, although Wilson (1988) has reported them in the Santa Valley. The fortified hilltop communities are between



5. Fortified hilltop settlement (PV-39-286) dating to the late Moche period, near Cerro Cañoncillo, lower Jequetepeque Valley

twenty-five and forty hectares in size; the mountaintop forts range between twelve and twenty hectares.

There are many methods of defending a community that are difficult to detect archaeologically. The absence of defensive walls at some sites does not mean that there was no armed conflict. Sites such as Pacatnamú were difficult of access due to the agglomeration of walls and structures, with entry only via limited roads; such layouts can be seen as functionally defensive.

There also are '*huaca* communities,' or relatively circumscribed settlements around one or two principal, presumably religious, platform mounds. At the San Pedro de Lloc site and elsewhere there are substantial settlements directly associated with one or two *huaca* complexes. Although sectors of these communities may have been partly seasonal and associated with maritime and/or agricultural activity, administrators, craftpersons, and others may have resided there permanently.

Turning to small countryside villages and towns, we found many small settlements representing part-time or full-time farmsteads. These sites range in size between 0.25 and 8 hectares with an average size of approximately

2.5 hectares. In most areas these sites are located immediately adjacent to low hills, fortresses, and the valley floor.

Extensive areas of ancient agricultural fields, canals, aqueducts, and furrows were recorded by Eling's survey of the lower Jequetepeque Valley (Eling 1989). Most of these are located around Cerro Faclo, Cerro Catalina, and Cañoncillo. Similar fields exist in several areas of the lower Zaña Valley but they are not as extensive as those in the Jequetepeque Valley. Fragments of fields are also found near the desert margin on either side of both rivers throughout the lower and middle portions of the valleys. Many of these fragments are associated with lateral canals and intermediate and small-scale settlements located at the base of large hills and mountains, especially in the Cerro Corvacho and Songoy areas of the Zaña Valley and in the Cerro Chepén area in the Jequetepeque Valley.

It is difficult to date all sites and to determine their sequence of use and abandonment, as north coast chronology is still poorly understood. The transition between Moche IV and Moche V is not well documented in any valley. In general, we suspect that during

this time the southern territories (the Virú, Chao, and Santa valleys) ceased to participate in the Moche interaction sphere farther north (see Castillo and Donnan 1994a; Donnan and Cock 1986, 1997). In the Moche Valley, this period is marked by the collapse of the capital at the Huaca del Sol and the Huaca de la Luna, and a notable population shift inland. A new capital arose around A.D. 600–650 at Pampa Grande in the Lambayeque Valley. The areas in this study lie between these northern and southern capital valleys.

Our surveys in the Zaña and Jequetepeque valleys show that the degree of urbanization increased over time in the late Moche period, although at individual sites increased urbanization was not a constant. The sites waxed and waned, as evidenced by examination of numerous stratigraphic cuts showing intermittent periods of site use and abandonment. Although we have not carried out extensive survey in the middle sector of the Jequetepeque Valley, our cursory inspection of the area shows most sites being small to intermediate in size, and without large mounds. One exception is Ventanillas, which dates to the early Moche period. Also notable is the scant presence of Cajamarca sherds in the Jequetepeque Valley in comparison to the Zaña Valley.

The situation is more complex in the Zaña Valley, where Early Intermediate and Late Intermediate period Cajamarca settlements are found in the middle valley (Calabrese 1993; Dillehay and Netherly 1984). This presence probably deterred a stronger Moche or Lambayeque expansion upvalley. Also different in the Zaña Valley is the presence of Moche IV and V, particularly in the middle valley where Moche V is ubiquitous. I suspect that this indicates waning of Moche power in late Moche IV times and explains why Moche V is found primarily in the lower valley, especially in the Jequetepeque Valley. To date, evidence for a Moche IV occupation of the Jequetepeque Valley has been scarce, leading some scholars to suggest that it was entirely absent. Our survey rarely found Moche IV materials in lower valley sites, although a few were encountered in the middle valley. Confirmation of a Moche IV presence in the lower valley may be achieved through greater attention to domestic contexts, where utilitarian wares of the Moche IV period may exist. The

two contexts often contain different ceramics and thus different chronologies.

Settlement Distribution and Environmental Stress

There is good archaeological and geological evidence in both the Zaña and Jequetepeque valleys to demonstrate the impact of major environmental events on late Moche society. For instance, the Moche V phase at Pacatnamú was marked by El Niño (ENSO)¹ flooding that may have spurred the site's demise, or at least destabilized its political economy and damaged its status as an important center (see Donnan and Cock 1986, 1997). This same ENSO event is recorded at Moche V sites outside the valley, including the Galindo site in the Moche Valley (Bawden 1996) and the Pampa Grande site in the Lambayeque Valley (Shimada 1994a). A later episode of massive flooding is documented at the sites of Batán Grande and Huaca Chotuna in the Lambayeque Valley to the north.

Our research at several localities in the Zaña and Jequetepeque valleys has confirmed the impact of numerous ENSO events. For instance, runoff from El Niño events triggered heavy flooding, soil erosion or mass wasting of unconsolidated sediments in these locations. Although ENSO-driven rains probably did not persist for long periods in any one area, stratigraphic cuts at the Chimú sites of Huaca A in Farfán Sur and Cañoncillo, and several small to intermediate-scale late Moche residential sites in selected areas of the lower Zaña and Jequetepeque valleys exhibit thick (20–80 cm) wash deposits of colluvial silt and fragments of adobe walls that abruptly and severely interrupted occupational activity. These events also had a negative impact on agricultural production and possibly on the continuity of political leadership in some areas. In addition, sediment release signatures of slack-water flood deposits forming beds 30–85 cm thick were observed in several natural drainage cuts throughout the study area, but particularly at Cañoncillo and the desert plains between Pacatnamú and Cerro Faclo, where dissected, steep topography facilitated rapid discharge. These buried deposits often contain Moche V and Chimú sherds indicative of outwash events that date sometime after A.D. 600.

Although several studies report the presence of ENSO events in major urban settlements, they provide no evidence for its impact on communities in the countryside.

In some localities, outwash events associated with canals, agricultural fields, aqueducts and rural settlements serve as temporal indicators, as well as indices of highly localized and differential land use patterns by communities that were evidently aware of the potential destructive impact of periodic flooding. These communities avoided severe impact by locating some settlements and agricultural infrastructure in areas less susceptible to rapid runoff and destructive outwash. Although the physical damage from ENSO events was widespread throughout the study area (Kolata and Dillehay 1998), impacts were highly localized and varied significantly in terms of effect, depending on local hydrology, slope and topographic characteristics.

Periods of extreme aridity are also documented at several localities, as indicated by extensive deposits of aeolian sand and periodic abandonment and reuse of sites and agricultural features. Archaeological surveys in both valleys have revealed wind-blown deposits in the form of sand sheets and dune formations that choked irrigation canals, buried old agricultural surfaces, and covered residential surfaces. Extraordinary examples of massive dune fields are seen on the desert plain from the Pacific Ocean to Cañoncillo and Quebrada Cupisnique and across the plain from Rio Seco or Chamán to Cerro Colorado and the southern bank of the Zaña River. The evidence also suggests settlement shifts from one localized area to the other through time. What triggered these shifts is not yet understood, nor do we have a chronology sufficiently resolved to determine whether these changes were abrupt or protracted. Long-term social and/or environmental stress on all population sectors and their resources should be our focus, rather than any single climatic event.

Environmental perturbations elicited variable combinations of cultural responses that may have underlain the interactions of the wider populations in parts of both valleys. Environmental stresses were potential sources of economic opportunity and productive activity, as well as potential sources of conflict and alliance building. For instance, com-

munities apparently responded to major ENSO events by relocating some settlements in landscapes less susceptible to flooding; others simply rebuilt damaged structures. Communities opportunistically expanded cultivation in the short-term to take advantage of ENSO-driven rainfall in low, wet areas. Individual farmers and communities may have responded to short-term drought through a variety of strategies, such as reducing the intensity or extent of irrigation, changing the composition of cultigens, or shifting production to heavier reliance on maritime or pastoral resources. Response to protracted environmental stress, on the other hand, may have required coordinated response on a regional scale by higher-level authorities or on a local scale by a network of allied groups. Such responses may have included massive population movement or intergroup conflict. The widespread abandonment of sites may indicate the effects of factional competition over choice land and/or environmental stress.

As repetitive environmental stress occurred over a prolonged period of time, we should observe a learning curve from late Moche through Chimú times as populations moved primary production zones away from vulnerable areas, reengineered irrigation systems and altered production strategies. We have preliminary archaeological evidence for such a curve in the lower Zaña and Jequetepeque valleys, where agricultural fields were systematically relocated away from areas of heavy water runoff to better drained land less subject to flood damage (Kolata and Dillehay 1998). The Chimú learned from their predecessors, as evidenced by comparing the Moche V and Chimú settlement patterns. The Chimú located communities in areas less susceptible to water damage and deposition of aeolian sand. The presence of late Moche settlements in all areas, even those highly susceptible to excessive duration and/or flooding, may indicate one or more of the following things: (1) the late Moche population was larger than the later Chimú population and thus placed more pressure on the land; (2) the Chimú were much more centralized as a state-level society and could coordinate the placement of people in selected localities across the valley; and (3) Moche society was characterized by factional conflict, and communities adhered strictly to

their homelands regardless of differential and periodic environmental impact (see Conrad 1990; Donnan and Cock 1997; Eling 1987; Keatinge 1982; Keatinge and Conrad 1983; Moseley 1990; Topic 1990, 1991).

Political Configuration and Settlement Pattern

In returning to the question of political order in late Moche society, one important finding relates to population distribution. Richard Schaedel (1951, 1966, 1972, 1985) has long argued that the Moche populations were concentrated primarily in resource-rich large ceremonial centers such as Huaca de la Luna and Huaca del Sol, Galindo, Pacatnamú, and Pampa Grande. Only in recent years have there been enough fine-grain settlement data available to show that there was an uneven occupation of high-productivity zones, especially in the lower valleys. Rather than filling up primary agricultural zones in an optimal way, people in the countryside of both the Zaña and Jequetepeque valleys clumped together in certain areas, forming separate pockets of population, often divided by tracts of unoccupied and apparently rarely used land. Large urban settlements were geographically fixed localities, but were apparently abandoned from time to time, as shown at Pampa Grande, Túcume, and Pacatnamú. Our work in the Zaña and Jequetepeque valleys reveals that people in the countryside also tended to move over time, as indicated by periodic abandonment of all types of sites. This movement, however, may not be related to the ebb and flow of the major urban settlements.

More specifically, our work suggests that the location and layout of villages and household clusters changed markedly during the Moche V and, where evidence is present, Moche IV periods. Our preliminary test excavations at several sites in both valleys and our observation of more than eight hundred exposed stratigraphic profiles from habitation and agricultural sites, also indicate widespread and periodic abandonment and reuse of most sites. The impetus behind these changes is not well understood, although they presumably had something to do with new kinds of interactions taking place among local social groups. These new kinds of inter-

actions may have developed in tandem with the rise and fall of the large urban settlements, and probably as a result of the long-term effects of sequential and at times converging climatic changes. The chronology of these changes is not well understood. Was abandonment gradual, planned with relocation within a short distance, or abrupt, with people relocating at greater distances? The spatial dimensions of these shifts are also unclear. Was there a shift from a pattern of rural occupation with small villages and towns to the growth of a few large urban centers such as Pacatnamú, San José de Moro and Cerro Corvacho? Further research may show that some intermediate-size sites were temporary defensive localities for populations living in the large centers. While this remains a possibility, the size and well planned layouts of the intermediate sites suggest that they were more than temporary solutions. In addition, hilltop fortresses, not well planned settlements, would suffice for temporary refuge from conflict.

Thus, the basic pattern of settlement in the Zaña and Jequetepeque valleys was of enclaves of small and intermediate-scale communities spread out across the irrigable parts of the plain. Each enclave of sites was within five kilometers of one of two major settlements, though we do not know if they were under the control of these settlements. Smaller sites were located at short distances from intermediate-scale settlements and were often found in linear patterns, following the major mountain and stream courses. Some of the enclaves were far enough apart that there would have been unfarmed land between them; others were located side-by-side, in which case occasional disputes over land and water almost certainly occurred, as suggested by the presence of hilltop fortresses and fortified settlements in these areas. Although the settlement pattern in Moche V times was strongly shaped by basic environmental and demographic factors, I suspect that it was also heavily influenced by a preferred way of living—a preference for the village life and highly localized administrative systems.

The same questions about location may be applied in the analysis of large urban sites. Access to irrigation water and to a hillside position on a steep precipice overlooking the valley floor or ocean were primary determinants

of site location and long-term economic success. Several of the larger sites were located along the major courses of the Zaña and Jequetepeque rivers. The rivers offered a relatively constant and manageable supply of water for simple, small-scale irrigation systems. Location adjacent to hill slopes provided immediate protection, as a view for advance warning of an approaching threat, and the height itself gives a tactical advantage in battle. The exception to this is Pacatnamú; here one finds a double defensive wall and a moat for protection.

The determining effects of some political factors are also evident. The large and intermediate-size settlements built in the Moche V period appear on major north to south roads. In fact, the shift of population to the lower Jequetepeque Valley in Moche V times, and the increased growth of the ceremonial complex at Pacatnamú, are probably best understood as a response to political factionalism and to certain environmental processes, not just internal or external relations. In Chimú and Inca times, regional political and economic factors were powerful determinants of settlement location, and the lower valleys were favored, largely due to local environmental and historical factors. The settlement configurations in the Moche V period in the countryside of the Zaña and Jequetepeque valleys are found next to adjacent hills rising above the valley floor, for defensive purposes. Even Cerro Corvacho, Songoy, Pacatnamú, and San José de Moro are at the junctures of environmental diversity, communication, and defense.

Armed Conflict

Armed conflict has often been cited as a powerful stimulus to population aggregation and, in many cases, urbanism in Peru and elsewhere. On the basis of archaeological evidence, however, it is difficult to measure the effects of military threats—real or perceived—on settlement patterns and composition in the two valleys. The immense mountaintop fortresses of Cerro Faclo and Cerro Guitarra, and the vast majority of hilltop fortresses associated with small and intermediate communities, surely reflect military threats. In the absence of written records, it is difficult to determine what hostilities, if any, took

place, and whether they were in the form of raids, skirmishes, or organized campaigns. Some forms of combat and raiding, however, were surely a part of Moche V society, as implied by the need to locate hilltop fortresses immediately above settlements. We do not know whether the number of fortified sites in these two valleys is greater in comparison with other valleys, as the latter have not been systematically surveyed. The larger number of fortresses in the Zaña and Jequetepeque valleys may be a function of their location as a frontier zone between conflicting polities in the Lambayeque Valley to the north.

Based on the presence of numerous forts in both valleys, which appear to date primarily to the late Moche period, most likely Moche V, we can suggest that periodic conflict, if not organized warfare, was a crucial element in the culmination, maintenance, and demise of late Moche society. Conflict probably had two important effects: 1) people who were being attacked were forced to consider defensive operations; and 2) the attackers had to organize offensive operations. Large, densely nucleated population aggregates were advantageous for defense, but their concentrations of material wealth probably made them rich sources to plunder.

Community defense is evidenced in the massive stonewall and rock-cut ditches constructed in late Moche times at numerous sites, including Cerro Chepén, Cerro Faclo, and Cerro Guitarra. The concentrated wealth of the settlements they defended and the fear of being raided were probably strong enough stimuli to prompt the largest cooperative architectural effort of that period, the site on Cerro Faclo. The walls and ditches at Pacatnamú also suggest defensive efforts in the face of warfare. It is more difficult to identify with certainty weapons used in armed conflict. The prevalence of large storage vessels, probably for water and food, and sling stones and piles of rocks on defensive walls, however, supports the interpretation that these were defensive settlements and not ritual places. Enclosure walls are also present at other Moche V sites not associated with hilltop forts or fortified slopes. Each community with defensive works was a settlement with a concentration of portable material wealth, as evidenced by the presence of *Spondylus* shells, turquoise, stored food surplus, copper

jewelry, and other items of value. It is unlikely that attacks on these settlements were well organized campaigns, and there is little archaeological evidence to suggest that attackers destroyed any of the aforementioned communities.

The possibility of discontinuous or continuous armed conflict opens the door to a variety of social and ecological questions concerning political tensions and the spatial distribution of communities. Do the fortresses imply internal conflict among distinct communities in the valley, defense against intruders from beyond the valley, or simply fortresses associated with the gradual expansion of late Moche polities into northern frontiers? How do we reconcile the presence of fortresses with the depiction of violent encounters in art, and mortuary evidence of conflict? Does conflict increase in times of environmental stress? Are fortresses associated with external frontiers of the late Moche polity? Or are they associated with individual communities, suggesting factional competition both within and among local Moche communities? Did Moche rulers take advantage of factional competition to favor one side over another, as in succession wars? Did the emergence of elite centers in some places occur at the expense of elite centers in other places? Was the intensity of competition related to exchange, labor services, or to competition over patchy resource zones of high productivity and/or land less susceptible to environmental impact? Were the great monuments and burial rituals of the Moche, with their displays of consumption, designed to promote political careers and form factional solidarity? Do factions reflect informal, structured political situations without a centralized authority?

This latter point may be a bother to some Moche specialists, but perhaps we should consider that factionalism among competing elites or among communities at large is a potential aspect of any competitive process, and that competition and cooperation are potentially interlocking in almost every human activity. Factions may be alliances forged by individual leaders to increase their ability to compete. Such alliances would also have provided local Moche leaders access to resources outside their territory during times of famine or stress.

City and Countryside

I believe that as a result of environmental stress in certain zones, and as a result of periodic autonomy during moments of political collapse, countryside communities in the Zaña and Jequetepeque valleys anchored themselves to particular kinds of landscapes, and periodically to such large urban areas as Pacatnamú and San José de Moro. This attachment to the land probably relates to the rationality and social order of these communities and to competition among communities over high-productivity zones less susceptible to major environmental stress. I say this because I am not convinced that all outlying communities were under the permanent and strict control of elites residing at the large urban settlements. Instead, it may be that individual communities were vying for access to power in multiple ways and that large centers were not central but perhaps peripheral to a different level of interaction, one taking place between countryside communities. To understand this issue more we need to return to relations between rulers and the ruled and between Andean cities and adjacent hinterland populations.

Andeanists have worked under the assumption that large, intermediate and small settlements within a circumscribed valley represent a strictly nested political hierarchy. The hierarchical nature of Moche society throughout its history is taken for granted by most Moche specialists. This hierarchical model is based on three data sets: distribution and type of grave goods in burials; the representation of presumed social stratification in art; and settlement patterns. If mortuary goods truly reflect differences in access to wealth, power, and prestige, then the Moche were a hierarchically arranged society from A.D. 300. Moche specialists have tended to overlook the power relationships between local, less powerful elites and communities of the countryside. These relations are crucial, not only during times of power in the large settlements but during periods of demise and abandonment of those centers, when the population at large continued to survive and reconstitute a new social and economic order. As mentioned earlier, there may even have been separate spheres of social and economic interaction in late Moche times, character-

ized by coexisting elite and non-elite economic networks.

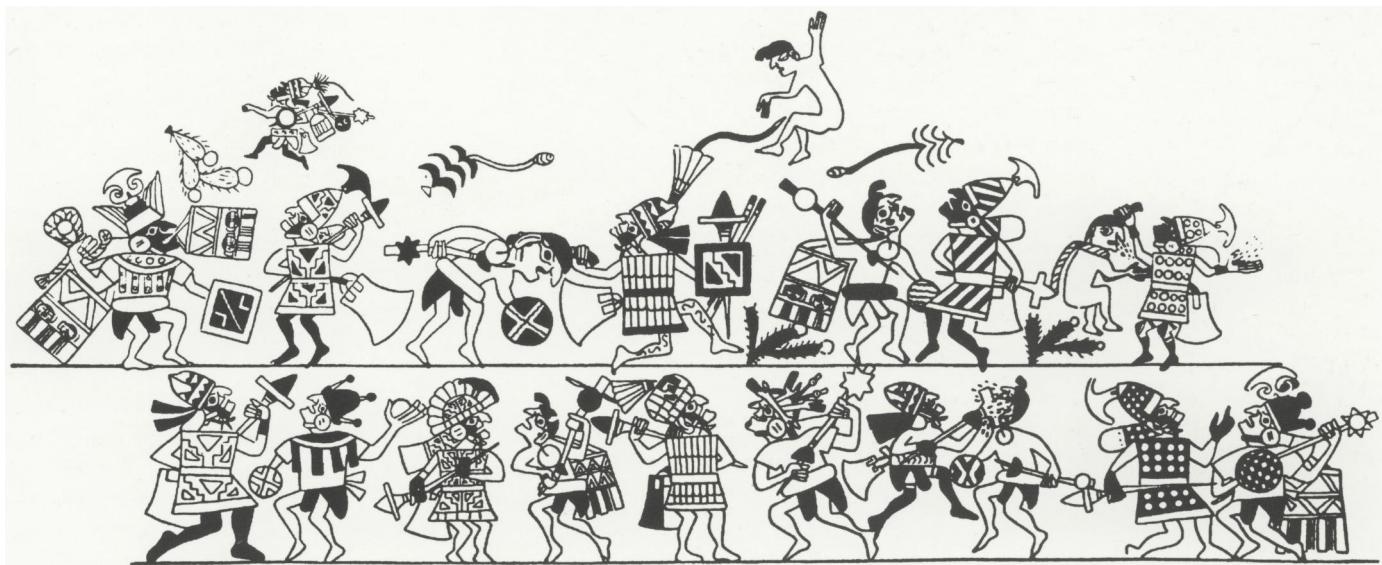
Furthermore, some specialists have argued that the warfare-related evidence is also proof that hierarchies existed. For example, the battles seen in Moche art, whether real or fictive, can be construed as illustrative of hierarchical tensions between different elites or communities. Considering the archaeological evidence for conflict, the difference in size between some large hilltop forts and the small settlements they often defended suggests that a larger administrative power might have been necessary to construct these forts for the security of several settlements. This arrangement may also speak of different polities or factions, however, and not of a centralized state system. Factionalism typifies organizations without clear hierarchical structures (Landé 1977). Periodically groups could have coalesced in the countryside to undertake major public works such as fortresses; yet no strong centralized political authority is necessarily required to oversee such major endeavors. In other words, late Moche populations may have had a heterarchical system whereby they ranked or unranked themselves according to different situations and power shifts. That is, some settlements were dominant in exchange, others in leadership during warfare, others in organizing religious events, and others in craft production. There was hierarchy but it may have been embedded in heterarchy. In this regard, mortuary patterns may reflect hierarchical arrangements within a community or within an allied group of factions or lords organized on a heterarchical level.

Once locally powerful rulers emerged in some places in the Moche V period, neighboring groups may have been displaced and absorbed into expanding complex polities, or they may have strengthened their position through ever increasing alliances. On the other hand, it is possible that local leadership was tenuous and confined to certain sectors of Moche society such as monument building and public ceremony. After all, local communities are quite capable of accomplishing major works without centralized rulers. Local communities are also quite capable of shedding the yoke of centralized powers. For instance, Shimada (1994a) argues that Pampa Grande violently collapsed by A.D. 700–750

due to an internal revolt against the elite. The postulated revolt at this important site may signal the role of outside powers in local affairs or the potential political power residing in local communities. Furthermore, at the Moche V site of Galindo (Bawden, this volume) commoners used the visual arts and architecture to recreate their social identities in the unfamiliar urban setting of the site, and probably to preserve their social cohesion in the face of any new political orders mandated by elites. Social tension between classes may here too have led to the collapse of social order at Galindo, according to Bawden.

Additional examples of the strengths of commoners are drawn from other valleys. In the case of the Moche and Chicama valleys, studied by Charles Ortloff (Ortloff, Feldman, and Moseley 1985), repeated coastal uplift progressively led to channel entrenchment. For proper function, irrigation canals then required water from higher-lying heads, located further back in the foothills. Canals also had to be protected from El Niño floods. Eventually the intervalley canal between the Chicama and Moche valleys was devised as a last resort to draw water from one valley across to the next via a 75 km long canal. Such an undertaking would have required massive labor investments over the course of a century, in addition to great engineering sophistication. The project was never fully completed. Ortloff offers a circumstantial argument that the large-scale planning in anticipation of changing circumstances, as well as the labor mobilization required, reflect a creative and effective bureaucracy that managed water policy across several centuries with a good grasp of complex environmental and engineering problems. Patricia Netherly (1984) sees this situation differently. She believes that with the exception of the intervalley canal, the one possible instance of state intervention, the role of the state may have been limited to providing labor or capital. The canal system could have been built and maintained by small-scale communities, as they were in the early colonial period.

In other early complex societies, it is clear that while a powerful central authority may have existed, it did not necessarily control all aspects of community life. For instance in ancient Egypt, massive labor conscription is



evidenced in the building of royal monuments, and the pharaoh symbolically guaranteed the annual flood cycle. The historical texts, however, extending back almost five thousand years and confirmed by nineteenth-century historical sources, show that there was no managerial bureaucracy controlling water resources (Butzer 1984). Instead, outlying local communities controlled them.

In summary, there is no doubt that there were long periods in Moche history when centralized authorities ruled from the city centers. My hunch is that during some periods of Moche history many commoners lived relatively free of state intervention, retaining some independence even during periods of strong centralized authority. How was this possible and sustainable? It may be as Bawden has noted: commoners found ways to express their social identity and to regulate certain politicoeconomic affairs on their own accord.

Moche History and Political Logic

An appropriate question at this point may be why do commoners cooperate with their own subordination and exploitation in noncoercive circumstances? Why do people revolt? Godelier's (1978) answer is that people only surrender autonomy in exchange for services of leaders recognized as owners of the supernatural means of production. This may be applicable to Moche, where there was a context of intense communal belief in ritually

controlled supernatural forces of awesome power. Secular political power developed much later—in this case probably in Chimú times. It is hard for me to accept interpretations of political authority which ignore the Moche politywide religious cult and its functional advantage. The functional efficiency of cult and religion in unifying people for military and other group efforts, for legitimizing rulers and class stratification, and for facilitating all other operations necessary to the polity seems apparent. What I question is how long the cults lasted, how long were the large *huacas* used, and how much power did they exercise? In other words, what was their social and spatial reach and their temporal *durée*? My hunch is that the monumentality and conspicuousness of the massive, highly decorated and expansive Moche centers were much more short lived than the archaeological record reflects, having been used periodically during many short periods of centralized authority over a long period of time. From an archaeological perspective, the massiveness of these sites and the imprecision of radiocarbon dating tend to overcomplicate these issues and make the *huacas* seem immortal and everlasting in Moche times.

The issue of the political and economic relationships embedded in ancient Moche culture is highly complex. No doubt the creation of monumental architecture and elaborate cults required an enormous flow of exotic items, such as gold, plumage, textiles

6. Roll-out drawing of a fine-line painting on a stirrup-spout bottle in the collections of Museum für Völkerkunde, Berlin
Drawing by Donna McClelland

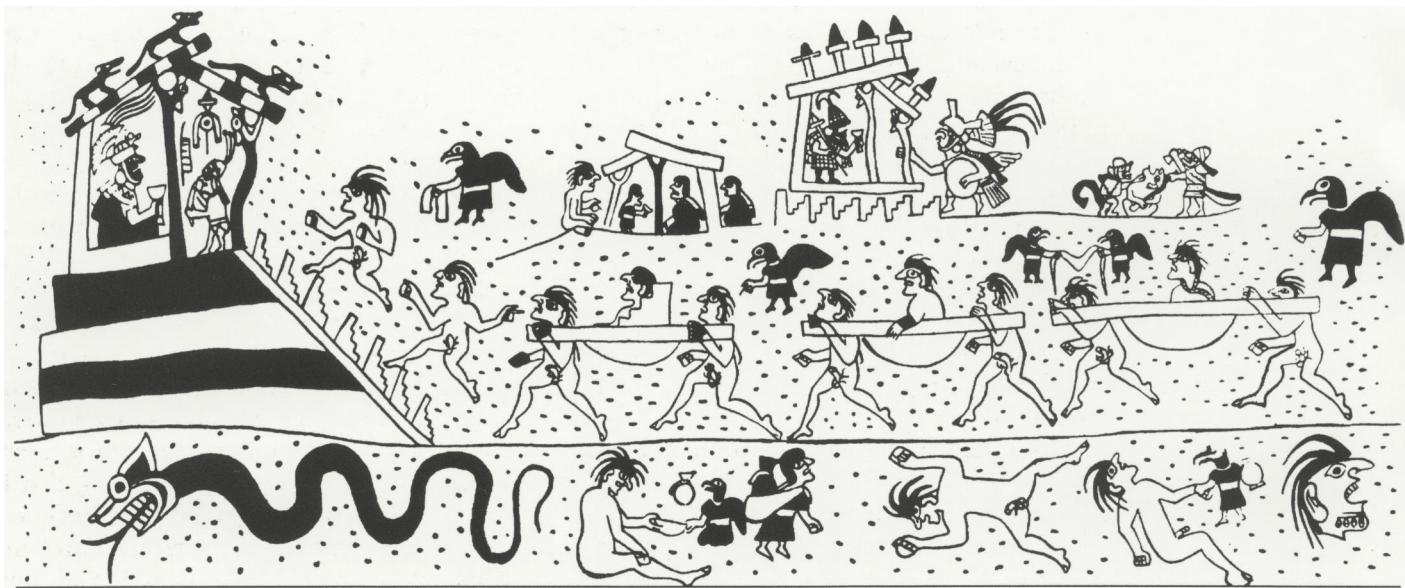
OPPOSITE PAGE:
7. Modeled vessel with a representation of sacrifice in a mountain setting
Museum für Völkerkunde, Berlin
(VA 48095)
Photograph by Steve Bourget

8. Drawing of a detail from the Berlin vase illustrated in figure 7
Drawing by Donna McClelland



and so forth, on occasion. The labor costs were real and impressive, but the capital value must be regarded as largely symbolic in light of its tremendous value as a potent mechanism of social control. Most likely the majority of the Moche people lived within a complex web of economic relationships that extended across the polity, from corvée labor performed for the ruling elite by the ordinary populace, to small-scale exchange within the community in food and other commodities. Yet, it also is possible that many of the small fishing and agricultural sites scattered throughout the two valleys were most strongly linked to less powerful lords who resided at the intermediate sites and formed alliances among themselves.

While it seems clear to me that Moche society never unified into a state system in late Moche times, there is reason to believe that at least one major earlier attempt at unification occurred: at the Huaca del Sol and Huaca de la Luna in Moche II and III times. As described by Bawden (1996), the community at Huaca del Sol and Huaca de la Luna attempted to make it the political and religious center for the entire Moche culture. The degree of success achieved by this polity in establishing a distinctive, pervasive state religion remains a topic of debate. But it is reasonable to suspect, as Schaadel (1985) does, that the motivations of the Moche in establishing major alliances outside the valley were unification with, and hegemony over, the other Moche populations in the north. Instead of unification, however, these polities collapsed. There are many possible explanations for the collapse, but I suspect that one major reason is competition over choice land. This may have encouraged the development of warfare, both as a means of boundary maintenance and as a means of supplementing local supplies with booty and captives for sacrifice and slavery. Conflict over choice land (less susceptible to environmental impact) may have led to the initial establishment of local elites residing in intermediate-level sites rather than in one of the major power settlements such as San José de Moro or Pacatnamú. Wars could lead to unification, but they could also lead to internal weakening and outside invasion. Conquest may have played a major role in the early development of Moche society, while factional war may



have been a major factor in the collapse of late Moche society.

Until recently, information on Moche conflict came almost solely from the exquisite fine-line paintings on modeled ceramics (figs. 6–9; Bawden 1996; Benson 1972; Berezkin 1978; Donnan 1976, 1995; Donnan and Mackey 1978). Most of the representations of conflict graphically portray individuals being mutilated, decapitated, and dismembered. Both sacrificial and combat scenes shown on these vessels have figured prominently in arguments about the nature of Moche armed conflict (Bonavia 1985; Castillo 1989; Donnan 1976; Moser 1974; Quilter 1990, 1997; Uceda et al. 1994; Uceda and Mujica 1994) and thus political structure. Some researchers have even suggested that ritual battles still conducted today in highland Andean communities may serve as an ethnographic analogy for Moche combat (Topic and Topic 1997).

The iconography of late Moche vessels suggests conflict among neighboring rival populations or perhaps exclusively among competing elites within a centralized polity. Several Moche specialists have questioned whether these scenes represent real battles showing organized warfare or just ritualized or fictive combat among elite rulers (see Verano, this volume). Most seem to represent Moche-to-Moche combat, although a few may represent battle between Moche and foreign warriors. In Figure 6, for example, some

of the combatants wear unusual headdresses (for example the figure on the extreme right of the lower register), suggesting that perhaps they are from a different cultural group. Other scenes appear to depict the ritual sacrifice of captive warriors taken from non-Moche polities.

Recent research has shown that many of these practices were actually carried out at Moche sites and that these practices must have formed an integral part of late Moche ideology and religion (Bourget, this volume; Verano, this volume). Yet we still do not know about any potential conflict outside of the ceremonial centers, or the broader political ramifications of the ceremonial sacrifices. Did battles occur within a centralized or non-centralized political context? Did they take place within an urban or nonurban setting? Only a few of the depictions show any clues as to the setting of the battles and rituals; Figure 7, for example, shows a ritual in a mountain setting. On the side of this vessel, a cactus plant is shown (fig. 8), suggesting a desert setting for the action. Did conflict consist largely of periodic raiding or skirmishing between factions or was it more of an all-out affair, leaving burned settlements and subjugated populations?

A number of scholars have pointed out that the iconographic evidence for armed conflict in the late Moche period suggests that it was an activity largely confined to competing

9. Roll-out drawing of a fine-line painting on a stirrup-spool bottle in the collections of the American Museum of Natural History, New York
Drawing by Donna McClelland

elites. The early Moche seem to have focused on the role of conflict as an instrument of conquest and statecraft; the late Moche seem to have focused on the capture, humiliation, and sacrifice of high-status individuals. Endemic conflict in late Moche times was evidently not simply over political conquest, but for booty, slaves, and sacrificial victims. The focus in Moche art appears not to be on places taken in battle, or even on subjugated elites, but rather on the treatment of the individual and occasionally their status or identity. Figure 9, for example, shows in great detail the arraignment of stripped prisoners. Thus, it may be that one purpose of conflict was to procure individuals for sacrifice. Furthermore, warfare was probably a highly stratified activity, fully integrated into ritual hierarchy and the cycle of festivals at ceremonial centers. Yet conflict may also have taken place in the countryside, either between competing elites of lesser power or between individual communities.

Whatever the situation may have been, the processes of political unification, hierarchy, or heterarchy must be seen within the context of the interaction of Moche sociopolitical models and shifting geopolitical situations. Local elites probably competed for power and prestige, pursuing personal and group interests, within this context. In doing so, they largely maintained the existing symbols (iconography and architecture, for instance) and models of the Moche, rather than replacing them and developing novel models of organization. These models probably retained much of their force and legitimacy in the transition period and later into the early Chimú period.

Epilogue

I am becoming weary of the Andeanist propensity to mold archaeological interpretations by analogy with centralized state models of cosmology and social organization. We archaeologists tend to treat the record in terms of a utopia of hierarchical relations between elites and non-elites. This certainly simplifies the interpretation of the archaeological record. I think, however, that we must consider a more complex interplay between two types of ideologies in the Andes. One is the preservation of local communities and their kinship-based rituals, which is impor-

tant for the development of a viable peasant substratum. The second is the aggrandizement and emulation of lords. In late Moche times, communities may not have been just a place or a group of kinspersons living together in close proximity, let alone solidarity. There may have been an underlying cohesion not based just on kinship but a higher level: one related to institutionalized land tenure, which regulated access of individuals to land, especially in times of environmental stress and/or population pressure on resources.

To gain a clearer understanding of Moche history, it seems that we must study political authority and community structure as a language to formulate social obligations, that is as ideology, before taking for granted its effectiveness as a principle of political control and social organization. The aggregation of communities in certain areas of the countryside is important. The signals in archaeological variability and abandonment of both large and small settlements tell us of societies that at their very core are accustomed to high mobility—perhaps within set politico-economic structures and among specific geographic places, including more dispersed settlement in places less susceptible to environmental and social stress. That is, we have a countryside or peasant stratum engaged in a multiplicity of activities in a multiplicity of places, practicing a *culture of mobility*. There may have been a sense of community based on amorphous units fusing and fissioning and perhaps vying for access to the large urban settlements when they were active.

But what does the late Moche archaeological record tell us? Two scenarios come to mind. First, late Moche society may have been more highly mobile and dispersed, and less urban or centrally placed, than we realized. The late Moche may also have been more defensive and economically minded, moving from locality to locality in an urban and rural “foraging” pattern, leaving behind a thin and redundant archaeological pattern. This pattern would likely have been associated with rapid resource depletion in some areas during periods of physical stress, forcing some groups to move and others to defend their positions. Second, these sites may represent the very end of the late Moche period, when the centers were abandoned, internal

conflict ensued, and people lived in defensive positions. To understand these and other possibilities, we need to study why some sites were briefly occupied, and how the periodically occupied sites relate stratigraphically to the centers. More work correlating sectors within sites and between sites will also help us to comprehend these scenarios. Yet, either model probably reflects a waxing and waning political system characterized by decentralization, collapse, and conflict. We need to explore not only the different ways in which, over a period of a few centuries, those with economic and political power and the necessary symbolic and cultural capital have attempted, physically and aesthetically, to appropriate and control the landscape, but also how these appropriations have been contested by those engaged with land in quite different ways.

NOTES

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1. El Niño–Southern Oscillation (ENSO) events are climatic shifts when warm waters accumulate in the central Pacific Ocean and move east, reversing the normal trade winds and bringing warm, humid air to the west coast of South America. During major El Niño events this results in heavy rains and floods along the normally arid coastal desert.

BIBLIOGRAPHY

- Anders, Martha B.
- 1990 Maymi: Un sitio del Horizonte Medio en el valle de Pisco. *Gaceta Arqueológica Andina* 5 (17): 27–39.
- Barber, Richard T., and Francisco P. Chavez
- 1983 Biological Consequences of El-Niño 1982–83. *Science* 222: 1203–1210.
- Bawden, Garth L.
- 1983 Cultural Reconstitution in the Late Moche Period: A Case Study in Multidimensional Stylistic Analysis. In *Civilization in the Ancient Americas: Essays in Honor of Gordon R. Willey*, ed. Richard M. Leventhal and Alan L. Kolata, 211–235. Albuquerque, N.M., and Cambridge, Mass.
- 1995 The Structural Paradox: Moche Culture as Political Ideology. *Latin American Antiquity* 6 (3): 255–273.
- 1996 *The Moche*. Oxford and Cambridge, Mass.
- Benson, Elizabeth P.
- 1972 *The Mochica: A Culture of Peru*. New York and London.
- Berezkin, Yuri
- 1978 The Social Structure of the Mochica Through the Prism of Mythology (Ancient Peru) [written in Russian with English summary]. *Vestnik Drevnej Istorii* 3: 38–59. [Moscow].
- Billman, Brian R.
- 1996 The Evolution of Prehistoric Political Organizations in the Moche Valley, Peru. Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.
- Bonavia, Duccio
- 1985 *Mural Painting in Ancient Peru*, trans. Patricia J. Lyon. Bloomington, Ind.
- Bourdieu, Pierre
- 1977 *Outline of a Theory of Practice*, trans. Richard Nice. Cambridge and New York.
- Braudel, Fernand
- 1973 *Capitalism and Material Life, 1400–1800*, trans. Miriam Kochan. New York.
- Bull, William B.
- 1991 *Geomorphic Responses to Climatic Change*. New York.
- Butzer, Karl W.
- 1984 Long-Term Nile Flood Variation and Political Discontinuities in Pharaonic Egypt. In *From Hunters to Farmers: The Causes and Consequences of Food Production in Africa*, ed. J. Desmond Clark and Steven A. Brandt, 102–112. Berkeley, Calif.

- Calabrese, John
- 1993 A Study of Cultural Interaction in Northern Peru: 200 B.C. to A.D. 1532. Master's thesis, University of Kentucky, Lexington.
- Castillo, Luis Jaime
- 1989 *Personajes míticos, escenas y narraciones en la iconografía Mochica*. Lima.
- Castillo, Luis Jaime, and Christopher B. Donnan
- 1994a La ocupación Moche de San José de Moro, Jequetepeque. In *Moche: Propuestas y perspectivas* [Actas del primer coloquio sobre la cultura Moche, Trujillo, 12 al 16 de abril de 1993], ed. Santiago Uceda and Elías Mujica, 93–146. *Travaux de l'Institut Français d'Etudes Andines* 79. Trujillo and Lima.
- 1994b Los Mochica del norte y los Mochica del sur. In *Vicús*, by Krzysztof Makowski, Christopher B. Donnan, Iván Amaro Bullón, Luis Jaime Castillo, Magdalena Diez Canseco, Otto Eléspuru Revoredo, and Juan Antonio Murro Mena, 143–181. *Colección Arte y Tesoros del Perú*. Lima.
- Conrad, Geoffrey W.
- 1990 Farfan, General Pacatnamu, and the Dynastic History of Chimir. In *The Northern Dynasties: Kingship and Statecraft in Chimir* [A Symposium at Dumbarton Oaks, 12th and 13th October 1985], ed. Michael E. Moseley and Alana Cordy-Collins, 227–242. Washington.
- Craig, Alan K., and Izumi Shimada
- 1986 El Niño Flood Deposits at Batán Grande, Northern Peru. *Geoarchaeology* 1: 29–38.
- Crumley, Carole L., and William H. Marquardt
- 1990 Landscape: A Unifying Concept in Regional Analysis. In *Interpreting Space: GIS and Archaeology*, ed. Kathleen M. S. Allen, Stanton W. Green, and Ezra B. W. Zubrow, 73–79. London.
- Díaz, Henry F., and Vera Markgraf
- 1992 [Editors] *El Niño: Historical and Paleoclimatic Aspects of the Southern Oscillation*. Cambridge and New York.
- Dillehay, Tom D.
- 1976 Competition and Cooperation in a Prehispanic Multi-Ethnic System in the Central Andes. Ph.D. dissertation, University of Texas at Austin.
- 1979 Pre-Hispanic Resource Sharing in the Central Andes. *Science* 204 (4388): 24–31.
- 1987 Estrategias políticas y económicas de las etnias locales del valle del Chillón durante el período prehispánico. *Revista Andina* 5 (2): 407–456.
- Dillehay, Tom D., Herbert H. Eling, Jr., and Jack Rossen
- 1989 Informe técnico sobre la campaña de 1989 en el valle de Zaña. Report submitted to the Instituto Nacional de Cultura, Lima.
- Dillehay, Tom D., and Alan L. Kolata
- 1997 Informe sobre la investigación arqueológica del Proyecto Pacasmayo en el valle de Jequetepeque. Report submitted to the Instituto Nacional de Cultura, Lima.
- Dillehay, Tom D., and Patricia J. Netherly
- 1977 Informe de investigación arqueológica en el valle de Zaña. Report submitted to the Instituto Nacional de Cultura, Lima.
- 1979 Informe de investigación arqueológica en el valle de Zaña. Report submitted to the Instituto Nacional de Cultura, Lima.
- 1984 Informe de investigación arqueológica en el valle de Zaña. Report submitted to the Instituto Nacional de Cultura, Lima.
- Dillehay, Tom D., and Jack Rossen
- 1989a Informe de investigación arqueológica en el valle de Zaña. Report submitted to the Instituto Nacional de Cultura, Lima.
- 1989b Informe técnico de la campaña de 1989 en el valle de Jequetepeque. Report submitted to the Instituto Nacional de Cultura, Lima.
- 1992 Informe de investigación arqueológica en el valle de Zaña. Report submitted to the Instituto Nacional de Cultura, Lima.
- Dillehay, Tom D., J. Warner, J. Iriarte, and Alan L. Kolata
- 1998 Informe sobre la investigación arqueológica del Proyecto Pacasmayo en el valle de Jequetepeque. Report submitted to the Instituto Nacional de Cultura, Lima.
- Donnan, Christopher B.
- 1973 *Moche Occupation of the Santa Valley, Peru*. University of California Publications in Anthropology 8. Berkeley and Los Angeles.
- 1976 *Moche Art and Iconography*. UCLA Latin American Center, Latin American Studies 33. Los Angeles.
- 1995 Moche Funerary Practice. In *Tombs for the Living: Andean Mortuary Practices* [A Symposium at Dumbarton Oaks 12th and 13th October 1991], ed. Tom D. Dillehay, 111–159. Washington.
- 1997 Introduction. In *The Pacatnamu Papers, Volume 2: The Moche Occupation*, ed. Christopher B. Donnan and Guillermo A. Cock, 9–16. Fowler Museum of Cultural History, University of California, Los Angeles.

- Donnan, Christopher B., and Guillermo A. Cock
 1986 (Editors) *The Pacatnamu Papers, Volume 1*. Museum of Cultural History, University of California, Los Angeles.
- 1997 (Editors) *The Pacatnamu Papers, Volume 2: The Moche Occupation*. Fowler Museum of Cultural History, University of California, Los Angeles.
- Donnan, Christopher B., and Carol J. Mackey
 1978 *Ancient Burial Patterns of the Moche Valley, Peru*. Austin, Tex.
- Eling, Herbert H., Jr.
 1978 Interpretaciones preliminares del sistema de riego antigua de Talambo en el valle de Jequetepeque, Perú. In *El hombre y la cultura Andina* [Actas y Trabajos, III Congreso Peruano, 31 de enero–5 de febrero 1977], ed. Ramiro Matos Mendieta, 2: 401–419. Lima.
- 1981 Prehispanic Irrigation Patterns: Monadnocks of the Pampa de Mojucape, Jequetepeque Valley, Perú. Paper presented at the 4th Andean Archaeological Colloquium, University of California, Los Angeles.
- 1987 The Role of Irrigation Networks in Emerging Societal Complexity During Late Prehispanic Times, Jequetepeque Valley, North Coast Peru. Ph.D. dissertation, Department of Anthropology, University of Texas at Austin.
- 1989 Informe técnico de la campaña de 1989 en el valle de Jequetepeque. Report submitted to the Instituto Nacional de Cultura, Lima.
- Eling, Herbert H., Jr., Tom D. Dillehay, and Jack Rossen
 1990 Informe sobre investigaciones arqueológicas en el valle bajo de Jequetepeque. Report submitted to the Instituto Nacional de Cultura, Lima.
- Godelier, Maurice
 1978 Infrastructures, Societies, and History. *Current Anthropology* 19 (4): 763–771.
- Gumerman, George IV
 1991 Subsistence and Complex Societies: Diet Between Diverse Socio-Economic Groups at Pacatnamú, Peru. Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- 1994 Feeding Specialists: The Effect of Specialization on Subsistence Variation. In *Paleonutrition: The Diet and Health of Prehistoric Americans*, ed. Kristin D. Sobolik, 80–97. Southern Illinois University at Carbondale, Center for Archaeological Investigations, Occasional Paper 22. Carbondale.
- Hebdige, Dick
 1979 *Subculture: The Meaning of Style*. London.
- Hecker, Giesela, and Wolfgang Hecker
 1982 *Pacatnamú: vorspanische Stadt in Nordperu*. Munich.
- 1985 *Pacatnamú y sus construcciones: Centro religioso prehispánico en la costa norte Peruana*. Frankfurt.
- 1991 *Die Huaca 16 in Pacatnamú: eine Ausgrabung an der nordperuanischen Küste*. Berlin.
- Isbell, William H., and Gordon F. McEwan
 1991 (Editors) *Huari Administrative Structure: Prehistoric Monumental Architecture and State Government* [Papers from a round table held at Dumbarton Oaks, 15–17, 1985]. Washington.
- Keatinge, Richard W.
 1977 Religious Forms and Secular Functions: The Expansion of State Bureaucracies as Reflected in Prehistoric Architecture on the Peruvian North Coast. *Annals of the New York Academy of Sciences* 293: 229–245.
- 1982 The Chimú Empire in a Regional Perspective: Cultural Antecedents and Continuities. In *Chan Chan: Andean Desert City*, ed. Michael E. Moseley and Kent C. Day, 197–224. School of American Research Advanced Seminar Series. Albuquerque, N.M.
- Keatinge, Richard W., and Geoffrey W. Conrad
 1983 Imperialist Expansion in Peruvian Prehistory: Chimú Administration of a Conquered Territory. *Journal of Field Archaeology* 10 (3): 255–283.
- Kolata, Alan L.
 1990 The Urban Concept of Chan Chan. In *The Northern Dynasties: Kingship and Statecraft in Chimir* [A Symposium at Dumbarton Oaks, 12th and 13th October 1985], ed. Michael E. Moseley and Alana Cordy-Collins, 107–144. Washington.
- 1991 The Technology and Organization of Agricultural Production in the Tiwanaku State. *Latin American Antiquity* 2 (2): 99–125.
- 1993 *The Tiwanaku: Portrait of an Andean Civilization*. Oxford and Cambridge, Mass.
- 1996 (Editor) *Tiwanaku and Its Hinterland: Archaeology and Paleoecology of an Andean Civilization. Volume 1: Agroecology*. Washington.
- Kolata, Alan L., and Tom D. Dillehay
 1998 Human and Environmental Interaction in the Lower Jequetepeque Valley. Proposal submitted to the National Science Foundation, Washington.

- Kosok, Paul
 1965 *Life, Land and Water in Ancient Peru*.
 New York.
- Landé, Carl H.
 1977 Introduction: The Dyadic Basis of Clientelism. In *Friends, Followers and Factions: a Reader in Political Clientelism*, xiii–xxxvii. Edited by Steffen W. Schmidt, Laura Guasti, Carl H. Landé, and James Scott. Berkeley, Calif.
- Moore, Jerry D.
 1991 Cultural Responses to Environmental Catastrophes: Post-El Niño Subsistence on the Prehistoric North Coast of Peru. *Latin American Antiquity* 2 (1): 27–47.
- Moseley, Michael E.
 1978 An Empirical Approach to Prehistoric Agrarian Collapse: The Case of the Moche Valley, Peru. In *Social and Technological Management in Dry Lands: Past and Present, Indigenous and Imposed*, ed. Nancie L. Gonzalez, 9–43. American Association for Advancement of Science, Selected Symposium 10. Boulder, Colo.
- 1982 Introduction: Human Exploitation and Organization on the North Andean Coast. In *Chan Chan: Andean Desert City*, ed. Michael E. Moseley and Kent C. Day, 1–24. School of American Research Advanced Seminar Series. Albuquerque, N.M.
- 1990 Structure and History in the Dynastic Lore of Chimor. In *The Northern Dynasties: Kingship and Statecraft in Chimor* [A Symposium at Dumbarton Oaks, 12th and 13th October 1985], ed. Michael E. Moseley and Alana Cordy-Collins, 1–41. Washington.
- Moseley, Michael E., Robert A. Feldman, and Charles R. Ortloff
 1981 Living With Crises: Human Perception of Process and Time. In *Biotic Crises in Ecological and Evolutionary Time* [Proceedings of the 3rd Annual Spring Systematics Symposium, 10 May 1980, Field Museum of Natural History, Chicago], ed. Matthew Nitecki, 231–267. New York.
- Moseley, Michael E., D. Satterlee, and James B. Richardson III
 1992 Flood Events, El Niño Events, and Tectonic Events. In *Paleo-ENSO Records: International Symposium: Extended Abstracts* [International Symposium on Former ENSO Phenomena in Western South America—Records of El Niño Events, Lima, 4–7 March 1992], ed. Luc Ortíb and José Macharé, 207–212. Lima.
- Moser, Christopher, L.
 1974 Ritual Decapitation in Moche Art. *Archaeology* 27 (1): 30–37.
- Netherly, Patricia J.
 1984 The Management of Late Andean Irrigation Systems on the North Coast of Peru. *American Antiquity* 49 (2): 227–254.
- Nials, Fred L., Eric E. Deeds, Michael E. Moseley, Shelia Pozorski, Thomas Pozorski, and Robert A. Feldman
 1979 El Niño: The Catastrophic Flooding of Coastal Peru. *Field Museum of Natural History Bulletin* 50 (7): 4–14 (Part I) and 50 (8): 4–10 (Part II).
- Ortloff, Charles R., Robert A. Feldman, and Michael E. Moseley
 1985 Hydraulic Engineering and Historical Aspects of the Pre-Columbian Intravalley Canal Systems of the Moche Valley, Peru. *Journal of Field Archaeology* 12 (?): 77–98.
- Philander, S. George
 1989 El Niño and La Niña. *American Scientist* 77 (5): 451–459.
- Quilter, Jeffrey
 1990 The Moche Revolt of the Objects. *Latin American Antiquity* 1 (1): 42–65.
- 1997 The Narrative Approach to Moche Iconography. *Latin American Antiquity* 8 (2): 113–133.
- Rapoport, Amos
 1982 *The Meaning of the Built Environment: A Nonverbal Communication Approach*. Beverly Hills, Calif.
- Ravines, Rogger
 1981 *Mapa arqueológico del valle del Jequetepeque*. Instituto Nacional de Cultura, Proyecto Especial de Irrigación Jequetepeque-Zaña, Lima.
- Rossignol, Jacqueline, and LuAnn Wandsnider
 1992 (Editors) *Space, Time, and Archaeological Landscapes*. New York.
- Sandweiss, Daniel, H., James B. Richardson III, Elizabeth J. Reitz, Harold B. Rollins, and Kirk A. Maasch
 1996 Geoarchaeological Evidence from Peru for a 5000 years B.P. onset of El Niño. *Science* 273: 1531–1533.
- Schaedel, Richard P.
 1951 Major Ceremonial and Population Centers in Northern Peru. In *The Civilizations of Ancient America: Selected Papers of the 29th International Congress of Americanists* [New York, 1949], ed. Sol Tax, 232–243. Chicago.
- 1966 Urban Growth and Ekistics on the Peruvian Coast. In *Proceedings of the 36th International Congress of Americanists*, 2: 531–539. Buenos Aires.
- 1972 The City and the Origin of the State in America. In *Actas y Memorias del 39 Congreso Internacional de Americanistas*, 2: 15–33. Lima.

- 1985 Coast-Highland Interrelationships and Ethnic Groups in Northern Peru, (500 B.C.–A.D. 1980). In *Andean Ecology and Civilization: An Interdisciplinary Perspective on Andean Ecological Complementarity*, ed. Shozo Masuda, Izumi Shimada, and Craig Morris, 443–473. Papers from Wenner-Gren Foundation for Anthropological Research Symposium 91. Tokyo.
- Shimada, Izumi
- 1978 Economy of a Prehistoric Urban Context: Commodity and Labor Flow at Moche V Pampa Grande, Peru. *American Antiquity* 43 (4): 569–592.
- 1985 Perception, Procurement, and Management of Resources: Archaeological Perspective. In *Andean Ecology and Civilization: an Interdisciplinary Perspective on Andean Ecological Complementarity*, ed. Shozo Masuda, Izumi Shimada, and Craig Morris, 357–399. Papers from Wenner-Gren Foundation for Anthropological Research Symposium 91. Tokyo.
- 1986 Batán Grande and Cosmological Unity in the Prehistoric Central Andes. In *Andean Archaeology: Papers in Memory of Clifford Evans*, ed. Ramiro Matos Mendieta, Solveig A. Turpin, and Herbert H. Eling, Jr, 163–188. University of California, Los Angeles, Institute of Archaeology Monograph 27. Berkeley and Los Angeles.
- 1990 Cultural Continuities and Discontinuities on the Northern North Coast of Peru, Middle-Late Horizons. In *The Northern Dynasties: Kingship and Statecraft in Chimor* [A Symposium at Dumbarton Oaks, 12th and 13th October 1985], ed. Michael E. Moseley and Alana Cordy-Collins, 297–392. Washington.
- 1994a *Pampa Grande and the Mochica Culture*. Austin, Tex.
- 1994b Los modelos de la organización sociopolítica de la cultura Moche: Nuevos datos y perspectiva. In *Moche: Propuestas y perspectivas* [Actas del primer coloquio sobre la cultura Moche, Trujillo, 12 al 16 de abril de 1993], ed. Santiago Uceda and Elías Mujica, 359–387. Travaux de l’Institut Français d’Etudes Andines 79. Trujillo and Lima.
- Shimada, Izumi, Crystal B. Schaaf, Lonnie G. Thompson, and Ellen Mosley-Thompson
- 1991 Cultural Impacts of Severe Droughts in the Prehistoric Andes: Application of a 1,500-Year Ice Core Precipitation Record. *World Archaeology* 22 (3): 247–270.
- Tainter, Joseph
- 1988 *The Collapse of Complex Societies*. Cambridge.
- Therborn, Göran
- 1980 *The Ideology of Power and the Power of Ideology*. London.
- Thompson, John B.
- 1990 *Ideology and Modern Culture: Critical Social Theory in the Era of Mass Communication*. Stanford, Calif.
- Thompson, Lonnie G., and Ellen Mosley-Thompson
- 1989 One-Half Millennia of Tropical Climate Variability as Recorded in the Stratigraphy of the Quelccaya Ice Cap, Peru. In *Aspects of Climate Variability in the Pacific and the Western Americas*, ed. David H. Peterson, 15–31. American Geophysical Union, Geophysical Monograph 55. Washington.
- Topic, John R.
- 1982 Lower-Class Social and Economic Organization at Chan Chan. In *Chan Chan: Andean Desert City*, ed. Michael E. Moseley and Kent C. Day, 145–175. School of American Research Advanced Seminar Series. Albuquerque, N.M.
- 1990 Craft Production in the Kingdom of Chimor. In *The Northern Dynasties: Kingship and Statecraft in Chimor* [A Symposium at Dumbarton Oaks, 12th and 13th October 1985], ed. Michael E. Moseley and Alana Cordy-Collins, 145–176. Washington.
- 1991 The Middle Horizon in Northern Peru. In *Huari Administrative Structure: Prehistoric Monumental Architecture and State Government*, ed. William H. Isbell and Gordon F. McEwan, 233–246. Washington.
- Topic, John R., and Theresa Lange Topic
- 1997 La guerra Mochica. *Revista Arqueológica SIAN* 4: 10–12. [Trujillo].
- Ubbelohde-Doering, Heinrich
- 1983 *Vorspanische Gräber von Pacatnamú, Nordperu. Materialien zur allgemeinen und vergleichenden Archäologie* 26. Munich.
- Uceda, Santiago, and José Canziani
- 1993 Evidencias de grandes precipitaciones en diversas etapas constructivas de la Huaca de la Luna, costa norte del Perú. In *Registros del fenómeno El Niño y de eventos Enso en América del Sur*, ed. José Macharé and Luc Ortílieb, 313–343. *Bulletin de l’Institut Français d’Etudes Andines* 22 (1).
- Uceda, Santiago, Ricardo Morales, José Canziani, and María Montoya
- 1994 Investigaciones sobre la arquitectura y relieves polícromos en la Huaca de la Luna, valle de Moche. In *Moche: Propuestas y perspectivas* [Actas del primer coloquio sobre la cultura Moche, Trujillo, 12 al 16 de abril de 1993], ed. Santiago Uceda and Elías Mujica, 251–303. Travaux de l’Institut Français d’Etudes Andines 79. Trujillo and Lima.

- Uceda, Santiago, and Elías Mujica, eds.
- 1994 (Editors) *Moche: Propuestas y perspectivas* [Actas del primer coloquio sobre la cultura Moche, Trujillo, 12 al 16 de abril de 1993]. Travaux de l'Institut Français d'Etudes Andines 79. Trujillo and Lima.
- Wilson, David J.
- 1988 *Prehispanic Settlement Patterns in the Lower Santa Valley, Peru: A Regional Perspective on the Origins and Development of Complex North Coast Society*. Smithsonian Series in Archaeological Inquiry. Washington.
- Yoffee, Norman, and George L. Cowgill
- 1988 (Editors) *The Collapse of Ancient States and Civilizations*. Tucson, Ariz.