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Adaptive strategies or ideological innovations? Interpreting sociopolitical developments in the Jequetepeque Valley of Peru during the Late Moche Period

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Abstract

Environmental perturbations and social unrest are thought to have led to the reconstitution of traditional belief systems and hierarchical political relations on Peru's North Coast during the Late Moche Period (550–800 AD). Ideological transformations are thus commonly interpreted as adaptive or reactive responses to social, political, and ecological disruptions. Nevertheless, religious practices directly shaped the formation of alternative power structures and ecological systems on the North Coast during the Late Moche Period. This is especially evident in Late Moche Jequetepeque, which witnessed the proliferation of non-elite ceremonial sites and small-scale agricultural facilities throughout the rural hinterland of the valley. Moche-inspired ritual performances orchestrated in the countryside created distinctive new forms of political order which structured economic activities and ecological behavior. In this article, the Jequetepeque case study is mobilized to reassess normative interpretations of the role of religious ideology in cultural adaptation and sociopolitical realignment.

Keywords: Andes; Moche; Adaptation; Ritual; Politics; Ideology; Environmental stress; Agriculture; Architecture; Fertility

Introduction

Adaptation to diverse environments has constituted a longstanding and fruitful subject of anthropological inquiry, especially as relates to the sociopolitical ramifications of cumulative adaptive strategies. Cultural ecological and evolutionary archaeologists, inspired by the work of Julian Steward, Leslie White, and Marvin Harris, among others, hold *adaptation* to be the most important construct to explain social process (Binford, 1962, 1965, 1968; Carneiro, 1970; Flannery, 1968, 1972; Rappaport, 1967, 1971; Wilson, 1992, 1999). Theoretical formulations of this kind privilege economic pressures, technological innovation, and ecological constraints in interpreting the development of particular social arrangements. Analysis is commonly grounded in understanding how societies were effectively organized to meet ecological challenges, maximize energy flows, and maintain optimal operation as organic wholes within particular ecosystems.

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During the last three decades, however, archaeologists have strongly criticized the underlying functionalism of such paradigms (though such New Archaeology viewpoints continue to thrive in the discipline). Recent emphasis on the political, symbolic, and ideological dimensions of human behavior prioritizes notions of *power* in deciphering prehistoric social organization, a concept which has supplanted adaptation as the principal semantic signifier of agent-mediated historical change (Brumfiel, 1992; McGuire, 1992; Miller and Tilley, 1984; Miller et al., 1989; Paynter and McGuire, 1991; Wylie, 1992). These perspectives rightly critique functionalist interpretations that social transformation derives exclusively from long-term economic adjustments or from adaptive (maladaptive) responses to demographic pressures and environmental perturbations. Archaeological research foregrounding political interaction recognizes that intensified power asymmetries were not simply the inevitable outcome of material conditions or ecological adaptation (Blanton, 1998). Moreover, such interpretive frameworks situate social inequalities in their proper historical context so as to better understand their impact on the development of particular cultural institutions.

Nevertheless, "power" employed as a catch-all signifier of human action often has been simplistically conflated with other theoretical constructs, including practice and even adaptation itself. In fact, Sahlins (1993, pp. 73–74, 2004, pp. 145–147) charges that the recent anthropological obsession with power represents nothing more than a reconstituted functionalism. His indictment is not entirely unfounded given the implicit theoretical ontology of many "power-oriented" archaeologists that human actors strive to *maximize* their wealth, influence, and social status—actions (subsumed under the rubric of power) which universally determine history regardless of cultural differences (see also Graeber, 2001, pp. 27–30). That is, a formalist economic subtext, implying a universal human-nature based on the will to power and maximization of self-interest, often unwittingly informs varied theoretical orientations on the organization and transformation of society. Terms including "negotiation," "agency," and even "resistance" have replaced adaptation (a form of power often understood as effective ecological intervention) in word and context but often not in substantive theoretical meaning.

Indeed, parallels between cultural ecological and Marxian inspired perspectives are particularly evident in their often similar treatment of religion as a super-structural belief system that arises *a posteriori* to redress environmental disruptions or political struggles in specific societies. In considering his definition of ideology, Hobsbawn (1982) even labels Marx the first "structural-functionalist" (see Morris, 1987,p. 40). Although this view is questionable (Marx's emphasis on conflict, dialectical processes, and historical materialism obviously place him far from Durkheimian thought), the Marxian notion that ideology "functioned" to maintain social cohesion while legitimating the interests of the dominant class demonstrates interesting theoretical commonalities with functionalist postulates. The prevalence of this view continues despite the increasingly common perception among archaeologists that religious ideology represents more than a reflexive by-product of economic, political, or ecological forces (Brumfiel, 1992; Conrad and Demarest, 1984; Demarest and Conrad, 1992; Joyce et al., 2001; Miller and Tilley, 1984; McGuire, 1992; Moore, 1996a).

The Late Moche Period (550–800 AD) on the North Coast of Peru offers an ideal case study to examine the complex interrelationship of environmental, political, and religious factors which drove the remarkable transformations defining the era. Ecological disruptions are thought to have led to the demise of the urbanized Moche state system based at Cerro Blanco (Huaca del Sol and Huaca de la Luna) at the end of the Middle Moche Period (Moche IV—300–550 AD) and to the dramatic reconstitution of Moche religious and political culture at the onset of the Late Moche Period (Moche V—550–800 AD). Mobilizing data from the Jequetepeque Valley, I argue that ideological innovations in the region cannot be interpreted simply as adaptive responses that legitimized *a priori* ecological change or politico-economic developments. Instead, religious practices directly shaped the formation of alternative power structures on the North Coast during the early Middle Horizon (ca. 600 AD). Late Moche Jequetepeque witnessed the proliferation of non-elite ceremonial sites that structured distinctive new forms of political order which deviated from the centralized polities of neighboring valleys. In fact, a one-to-one correlation linking primary environmental events with singular forms of political restructuring on the North Coast is not supported by the Jequetepeque data. While partly influenced by pan-regional ecological and social change, inno-

vative ritual practices in Jequetepeque were integral to the political reorganization of the valley during the Middle Horizon. These ideological strategies subsequently shaped valley-specific ecological adjustments and agricultural reclamation projects in Late Moche Jequetepeque. Although an analytical distinction should be maintained between ecological adaptation and political power, the Jequetepeque data reveal that their complex interconnections are often irreducible to a clear-cut cause and effect relationship.

Ritual, ideology, and sociopolitical transformation

A discussion of ritual's fundamental relationship to ideology and social change is warranted in light of my thesis that ritual practices structured political reconstitution and ecological intervention in Late Moche Jequetepeque. The popular argument in contemporary anthropology that ritual performance is instrumental to the negotiation of power relations and the ideological production of "imagined communities" shares obvious affinities with Durkheimian theory (Anderson, 1991 Bell, 1992, 1997; Morris, 1987). Indeed, few would deny that common ritual observances often define the boundaries of polities (Kertzer, 1988, pp. 19, 38; Weber, 1965). Durkheim's functionalism is rightly criticized for its exclusive emphasis on the integrative capacities of ritual and for the implication that religion celebrated (sacralized) and reproduced social structure. Although in certain instances it effectively functions to foster solidarity, ritual serves equally as a powerful medium of division, differentiation, and contestation (Kertzer, 1988,p. 75; Leach, 1954). The principal flaw of Durkheim's approach and later structural-functionalism in general was neglecting the essential ideological functions of religion and its critical role in mediating political and economic power (Morris, 1987, p. 139). Nevertheless, his underlying assumption that identity is often concretized through ritual spectacle is for the most part valid, highlighting the inherent ideological properties of religious experience in cementing (or contesting) social affiliations and shaping political consciousness (Bell, 1992; Comaroff, 1985).

Of course, one might object that an examination of power relations (identity politics) through an analysis of ritual practice reintroduces a new functionalism subservient to questions of ideological control and political machinations (Sahlins, 1993—see introduction above). Such an approach might even seem reminiscent of Durkheim's theoretical rendering of religion as a handmaiden to social structure and community identification. In other words, ritual practice is examined not in its own right (or in its proper cultural setting), but to uncover the political motivations and ideological aspirations of various actors. This is a serious caveat, and I do not intend to imply that the diverse experience of ritual is reducible simply to political agency. Nevertheless, religious ceremony encompasses implicit political dispositions and is a prime engine of ideological production (Dietler, 1999; Kertzer, 1988, p. 141). Ritual is complicit in the construction of normative socio-cosmic orders and is thus intimately connected to the creation of political subjects and the delineation of differentiated sociopolitical communities (Bloch, 1989; Cohen, 1981; Comaroff and Comaroff, 1991; Sahlins, 1985; Swenson, 2003). In fact, ritual's inextricable relationship to power is in large part a consequence of its function as an efficacious act; it is fundamentally conceived to "empower" participants in transformative rites that provide access to divine influence—the ultimate measure of difference and source of authority (Bloch, 1989; Rappaport, 1999, pp. 46, 50; Renfrew, 1994, pp. 48–49; Swenson, 2003; Valeri, 1985).

Therefore, in this article, I treat religious practices and ideological strategies as interchangeable for the purpose of emphasizing ritual's direct role in constructing political subjects, a process constituting the ideological in its most elementary form (Eagleton, 1991; Smith, 2001). Ritual materializes and codifies ideology, which in turn structures the field of political negotiation and contestation (Comaroff and Comaroff, 1991). Ideology, defined here as material and symbolic practices implicated in the creation of political subjectivity (subsuming worldview, assertive social positioning, conscious negotiation of economic dependencies, etc.), is commonly crystallized through ritual performance and observances. Indeed, both ideology and ritual have been recognized as "indexical practices" that are instrumental in defining social "positionality" and thus by extension political attitudes and motivations (Comaroff, 1985; Silverstein, 1998; Valeri, 1985).

Traditionally, ritual has been interpreted as ideology in terms of negative sanctions. In the normative Marxist framing of the problem, religion is a critical element of the ideological armature of false consciousness, promoting the status quo, mystifying inequalities, and sanctifying tradition (and thus

reaction) (Bloch, 1989). However, as anthropologists have recently demonstrated, it is precisely the inherent power in the believed sanctity, timelessness, and supernatural qualities of religious experience that renders ritual a formidable vehicle of both domination and subversion (Bradley, 1991; Kelly and Kaplan, 1990, p. 140). Hobsbawn (1983) claims that ritual is complicit in the ''invention of tradition,'' by which novel and possibly subversive social practices are invested with legitimacy through their effective ritualization and hence traditionalization. Indeed, such processes relate to the propagation of hinterland ceremonial practices in the Jequetepeque Valley, wherein Moche religious traditions were divested from the exclusive realm of elite practitioners by rural communities (see below). Manipulation of rite (often novel but deemed to be a return to pure and timeless practice) asserts identity, articulates political agendas, and generally acts to signify and empower in broader processes of sociopolitical change (Smith, 1982).

In fact, the political dimensions of ritual and its role in social process have been the focus of considerable analysis in recent anthropology (Bloch, 1989, 1992; Comaroff and Comaroff, 1993; Kelly and Kaplan, 1990). For instance, it has been long recognized that ritual dramaturgy acts more than an instrument of indoctrination (intoxication). The intense multi-sensory experience ritualism entails enhances social consciousness, promotes revelatory states, and induces fervent emotional reactions—phenomena that encourage critical scrutiny and alteration of normative cultural practices (Bateson, 1986; Bakhtin, 1984; Dirks, 1994; Turner, 1967, 1982; Smith, 1987). Ethnographic and historical research further demonstrates that ritual practice directly impacts historical process and reconfigures complex social relationships. Turner's (1967) ethnographic work demonstrates that ritual is fluid, creative, and even liberating, while Bourdieu (1977) envisions religious ceremony as a tool for cultural innovation and social transgression. In a similar manner, the Comaroff and Comaroff (1993) explore how ritual praxis is the site of experimentation and ''subversive poetics.'' Indeed, social scientists have investigated numerous examples of political transformation catalyzed by religious movements (the rapid spread of Islam in the seventh and eight centuries providing an obvious example). The cargo cults of New Guinea (Worsely, 1968) and African millenarian uprisings against British colonialism provide evidence of religion's critical role in subaltern empowerment and social reconstitution (Comaroff and Comaroff, 1991, 1993; Lincoln, 2003). In colonial Peru, the *Taki Onkoy* rebellion, a millenarian cult explicitly religious in nature, represented the most formidable indigenous revolt against Spanish colonial exploitation during the sixteenth century (Stern, 1982).

Religious practice clearly represents more than secondary reflections of primary environmental adaptations and sociopolitical restructuring. Instead it is directly entangled in such processes. Indeed, archaeologists should treat ritual as more than a passive measure of primary ecological or political developments. Focusing on how ritual action functioned to define, empower, divide, and transform constitutes the more relevant subject of analysis in investigating the interrelationship of ideological and environmental change. This particular perspective informs the following discussion of the ecological disruptions characterizing the Late Moche Period on the North Coast of Peru.

Moche human ecology and political culture

Coastal Peru is one of the driest regions of the world, characterized by sandy pampas, rocky coastal hills, and fertile river valleys. These oasis-like river systems are fed by mountain rains originating in the adjacent Andean mountain chain to the east, and their irrigation allowed for intensive agricultural production. Indeed, irrigation of the wide desert plains of the North Coast (the Andean foothills rise further to the east in the north than in the narrower and more circumscribed central and southern valleys) supported among the highest population densities and complex social orders in pre-Columbian South America. The Von Humboldt current off the Pacific coast also sustains one of the richest fisheries in the world. Expansion of both the maritime economy and irrigation agriculture permitted the florescence of hierarchical political systems, craft-specialization, complex exchange networks, monumental construction, and elaborate religious and artistic traditions as early as the second millennium BC (Burger, 1992; Fung Pineda, 1988; Moseley, 1985; Pozorski and Pozorski, 1992). As described in the next section, periodic environmental perturbations, such as droughts or El Niño induced flooding, occasionally disrupted the high economic productivity of the North Coast and triggered social collapse or reorganization (Moseley, 1992; Dillehay and Kolata, 2004a,b; Shimada et al., 1991).

Recent research suggests that Moche material culture indexes a particular ideological and political complex rather than a distinct ethnic group (Bawden, 1996). This complex emerged during the first century AD from innovative social practices of the preceding (and later contemporaneous) Gallinazo peoples. These changes appear to have originated in urban Gallinazo settlements in the Moche and Chicama Valleys (Fig. 1). The ideological program was rapidly adopted by elites of differing ethnic groups (Salinar, Gallinazo, Vicus and perhaps others) throughout the North Coast in the first centuries AD (Bawden, 1996; Donnan, 2001; Kaulicke, 1991; Shimada, 1994). As argued below, lower class communities also embraced facets of Moche culture (Attarian, 2003; Russell and Jackson, 2001).

Moche civilization was characterized by formalized political hierarchies, urbanization, intensive irrigation agriculture, and territorial expansion (Bawden, 1996; Benson, 1972; Billman, 2002; Chapdelaine, 2000, 2001, 2002; Larco Hoyle, 1938, 1939; Lumbreras, 1974; Moseley, 1992; Shimada, 1994; Topic, 1982; Uceda and Mujica, 1994, 2003; Uceda et al., 1997, 1998, 2000; Willey, 1953; Wilson, 1988). At its apogee, a southern Moche state based at the spectacular city of Cerro Blanco in the southern Moche Valley incorporated Chicama to the north and at least six river valleys to the south (from Virú to Huarmey) (Bawden, 1996; Billman, 2002) (Fig. 1). Archaeological analysis of the massive adobe pyramids of Huaca de la Luna and Huaca del Sol, and of differentiated domestic zones within the city, has revealed marked social stratification and economic specialization, as well as the presence of a formidable population (20,000 people). Cerro Blanco served as the premier Moche center during the Moche III and IV Periods (300–550 AD) (Chapdelaine, 2000, 2001; Moseley, 1992; Topic, 1982; Uceda et al., 1997, 1998, 2000). Satellite ceremonial centers, modeled after Huaca de la Luna, were founded in the lower portions of neighboring valleys, such as Pañamarca in Nepeña and Cao Viejo in Chicama, attesting to the territorial expanse and political influence of Cerro Blanco (Conklin and Moseley, 1988; Franco et al., 1994; Galvez Mora and Briceño Rosario, 2001; Wilson, 1988). Moreover, the conquest of the neighboring Virú Valley during the Moche III Period (300 AD) resulted in dramatic transformation in settlement patterns and the managed reorganization of agricultural production (Bawden, 1996; Willey, 1953).

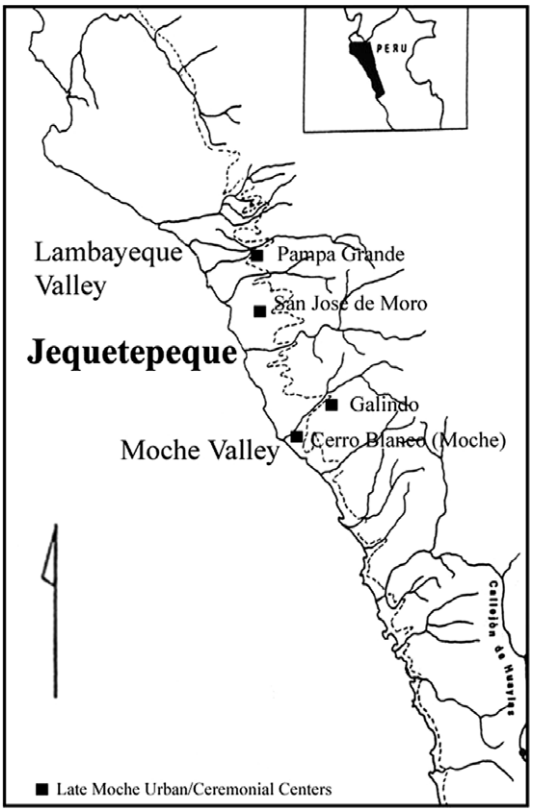

Fig. 1. Map of the North Coast of Peru illustrating the location of the Jequetepeque Valley and important Moche sites (map adapted from Bawden (1996), Fig. 1.1).

Iconographic and archaeological data indicate that Moche political relations were defined theocratically and expressed in standardized programs of ceremony linked to ritual warfare and human sacrifice (Bawden, 1996; Alva and Donnan, 1993; Swenson, 2003). The excavations of sumptuous elite tombs at Sipán in Lambayeque and San José de Moro in Jequetepeque demonstrate that set iconographic themes, such as the famed Sacrifice Ceremony (depicted on temple wall murals, fine ceramics, and metal ornaments), were not simply mythic stories or abstract cosmogonic narratives but were actively performed by Moche lords (Alva and Donnan, 1993; Castillo, 2003; Donnan and Castillo, 1994, 2001). These performances entailed ritualized battle between elites, the capture and arraignment of prisoners, and the complex presentation of human offerings to deity-impersonators (the likely leaders and priests of the Moche polities). Temples such as Huaca de la Luna and Huaca Cao Viejo were veritable theaters of violence, as evidenced by painted murals glorifying warfare, predation, blood

sacrifice, and fertility (Bawden, 1996; Swenson, 2003; Uceda et al., 1994, 1997). The discovery of sacrificed warriors at Cerro Blanco and Cao Viejo further suggests that ritual homicide was integral to the execution and legitimization of elite political power. The harnessing of the generative vitality of sacrificial acts, deemed critical for agricultural fertility and socio-cosmic reproduction, underscored Moche religious ideology and likely influenced the perception and manipulation of the natural environment (Swenson, 2003). Significantly, the religious construction of authority enabled Moche elites to exercise considerable control over surplus labor, craft production, regional hydrology, and agricultural production (Bawden, 1996; Hastings and Moseley, 1975; Moseley, 1992; Shimada, 1994).

The region north of the Chicama Valley, beyond the broad desert of the Cupisnique quebrada, has been designated the northern Moche sphere to differentiate it from the "southern Moche state" (Castillo and Donnan, 1994) (Fig. 1). This area, beginning at the Jequetepeque Valley in the south and extending north to the Sechura desert, is believed to have been comprised of numerous competing polities ("royal dynasties"—Donnan, 1990) which controlled specific valleys or even smaller portions within these regions during the Early, Middle, and Late Periods (Fig. 1).[1] These political entities, however, participated in Moche political and religious ideology and were characterized by comparable social hierarchy. Indeed, the extraordinary tombs discovered at Sipán demonstrate the paramount political position of lords in the Lambayeque region, who were evidently not under the control of elites based at Cerro Blanco to the south. The political and cultural divide distinguishing north and south is supported by differential emphasis on metallurgical and ceramic prestige objects, variations in artistic style, and differences in architectural construction between the two regions (Castillo and Donnan, 1994; Kosok, 1965; Kroeber, 1930). In fact, certain regions and even sub-districts within the same valley appear to have participated contemporaneously in distinct Moche stylistic traditions, once thought to have designated separate time periods applicable to the entire North Coast (Bawden, 1996; Castillo and Donnan, 1994; Chapdelaine, 2000, 2001; Shimada, 1994).

[1] Shimada (1994) argues, however, for a unified though evanescent Moche state comprising portions of all river valleys during Phase IV.

Environmental perturbations and the Late Moche transformation

Environmental perturbations and social unrest have been interpreted as the principal causes behind the pervasive transformations defining the Late Moche Period. Geoarchaeological data indicate that a combination of environmental factors—mainly severe droughts, El Niño induced floods, and sand invasion—led to the collapse of the Middle Moche southern state and triggered settlement and agricultural contraction throughout much of the North Coast (Bawden, 1996; Donnan and Cock, 1997; Eling, 1987; Moseley, 1992; Moseley and Deeds, 1982; Shimada, 1994). These developments included rapid re-urbanization in the valley necks of the Moche and Lambayeque Valleys, represented by the cities of Galindo and Pampa Grande, respectively (Bawden, 1996; Shimada, 1994). Analysis of the Quelccaya Ice Cap, situated on the north edge of the Titicaca Basin in the Peruvian department of Puno, provides the most convincing data that long-term droughts accompanied the emergence of the Late Moche Period (Shimada, 1994; Shimada et al., 1991). The ice cap data reveal that three severe droughts affected the Andes in the sixth century AD. The years of notable subnormal precipitation include: 506–512 AD; 524–540 AD; and an especially devastating 32-year drought between 562–594 AD (Shimada, 1994, pp. 124–126; Shimada et al., 1991). Such droughts would have led to the contraction of irrigation systems and the abandonment of marginal field systems and distal canal networks (Shimada, 1994, p. 123). Aeolian sand encroachment resulting in settlement attrition may have been another consequence of long-term desiccation (Shimada, 1994, p. 122). The location of the Late Moche urban centers of Galindo and Pampa Grande demonstrates a concern with controlling water intakes (the major trunk canals irrigating the valleys are located in the valley necks), and the ascendancy of these new settlements in the Late Moche Period was likely influenced by the protracted droughts (Shimada, 1994, p. 119).

Tectonic uplift and ENSO (El Niño Southern Oscillation) events are also thought to have exacerbated changing ecological conditions during the early Middle Horizon (the era coinciding with the beginning of the Late Moche Period) (Dillehay and Kolata, 2004a,b; Moseley and Deeds, 1982). The inundation of sand at Cerro Blanco may have led to partial abandonment of the city on the eve

of the Late Moche Period (Moseley, 1978; Moseley and Deeds, 1982, pp. 37–38). Massive deposits of sand on the south bank of the Moche Valley overlay Phase IV archaeological contexts, and it has been proposed that seismic activity and tectonic uplift triggered the mass migration of sand dunes in the region. This movement of sand was further related to the abandonment of agricultural fields and canals on the south bank, an event which would have disrupted farming. In fact, in the Moche Valley, cultivation contracted and shifted to the northern pampas and to the alluvial bottoms near Galindo (Moseley and Deeds, 1982). The sand invasion of the Moche capital would presumably have led to the gradual abandonment of the city, and recent evidence suggests that occupation at Cerro Blanco declined but still continued into the Late Moche Period (Chapdelaine, 2000, 2001; Uceda et al., 1994). Sand inundation appears to have disrupted cultivation on the south bank of the Jequetepeque Valley around the same time (Dillehay and Kolata, 2004a,b; Eling, 1987; Hecker and Hecker, 1991a).

El Niño floods may also have precipitated the fall of the southern Moche state and the reorganization of the northern polities (Bourget, 1997; McClelland, 1990; Moseley and Deeds, 1982). Low ice accumulation in the Quelccaya ice core suggests that severe ENSO episodes occurred in 511–512 AD, 546 AD, and 576 AD (Shimada, 1994, pp. 130; Shimada et al., 1991). One to two meters of consolidated water-laid silt, superimposed on aeolian deposited sand, was left at Cerro Blanco during a flash-flood that occurred in the sixth century. This flood eroded the main pyramids and architectural platforms in the urban district of the city, and it seems to have occurred before the adoption of diagnostic Phase V ceramics (Moseley and Deeds, 1982, pp. 38; but see Chapdelaine, 2001). The abandonment of the temples at Huaca El Brujo in the Chicama Valley and the Nima/Valverde Complex in Piura at the end of the Middle Period also seems related to intense flooding (Franco et al., 1994; Kaulicke, 1993). Whether these floods contributed to the decline of Cerro Blanco or occurred after the fall of the southern state is a matter of continued debate (Bawden, 1996, p. 267; Chapdelaine, 2000; Shimada, 1994). Similar evidence for large-scale flooding has also been documented throughout Jequetepeque during the first centuries of the Late Moche Period (Dillehay and Kolata, 1997, 2004a,b; Dillehay et al., 1998).

Marked changes in settlement patterns, burial practices, religious iconography, monumental architecture, and ceramic styles all highlight the dramatic break between the Moche IV and Moche V Periods (ca. 550–600 AD) (the sub-phases dividing the Middle and Late Moche Periods) on the North Coast. These material signatures are usually interpreted as social reactions to the aforementioned environmental disturbances (thus corroborating the paleoecological record). North Coast archaeologists have argued that institutionalized religious ideology was reformulated to reinforce social responses to initial ecological disruptions.

For instance, Garth Bawden (1996) proposes that social revolt, triggered in part by ecological calamities, induced the demise of the southern state and the ensuing changes in Moche political structure. In his view, the drought and El Niño rains—which presumably choked canals and field systems, uprooted populations, ruined houses and temples, and led to general social and economic dislocation—were interpreted by Moche subjects as signaling the ultimate failure of elites to ensure cosmological equilibrium. That is, lordly status and wealth were contingent on religious authority and the ability to perpetuate social, natural, and cosmic order through sacrificial intercession. Protracted environmental disruptions were signs that elites were no longer effective intermediaries with divine ancestors, and it was considered morally imperative to depose the ruling class and jettison its discredited ideologies. This interpretation is supported by the emergence of a form of religious iconoclasm at the Late Moche city of Galindo wherein traditional modes of narrative art (such as the Sacrifice Ceremony associated with the defunct southern state based at Cerro Blanco) and the established pantheon of deities were rejected by elites and commoners alike. The adoption of radically new politico-religious institutions at Galindo represented an elite reaction to the ecological problems of the preceding era. As Bawden (1982, 1994, 1996, 2001) convincingly argues, these institutional changes are reflected in the pronounced diminishment of pyramid mounds, the construction of enclosed compounds (*cercaduras*), and intensified socio-spatial segregation represented by the architectural separation of classes within the site. The adoption of abstract ceramic art and changes in burial practices at Galindo also point to the overhaul of Moche religious and political practices in the Moche Valley.

Bawden (1996, pp. 271–275) contends that climatic perturbations were significant but nonetheless secondary causes of the Late Moche "revolution." In his view, the lack of administrative innovation, such as the formation of a standing army or bureaucratic institutions to control conquered and diverse regions south of Moche, rendered the ruling apparatus inflexible. The ideological and material aggrandizement of the elite evident in Phase IV outstripped administrative readjustment, sowed the seeds of social unrest, and led to the ultimate downfall of the southern state (Bawden, 1996). In the end, environmental stress simply accelerated the process. According to Bawden, Galindo elites reacted to ecological and social disruptions inaugurating the Late Period by promoting religious ideologies that distanced the ruling class from the cosmological responsibilities which legitimated the theocratic system of the collapsed southern state.

Castillo (2001, 2003) identifies similar trends at the ceremonial center of San José de Moro in Jequetepeque during the Late Moche Period. He claims that the appearance of foreign Wari and Neveria ceramics in elite burial assemblages exposes the insecurity of the ruling class, who adopted foreign ideological systems to shore up precarious power threatened by the social and environmental instability. Castillo further contends that this process was characterized by elite attempts to amplify and further differentiate their authority as a means to insulate class privilege. He notes that prized Wari fine wares (beyond possible crude imitations) were rarely if ever distributed to lesser elites in the Jequetepeque Valley. Thus he implies that stricter sumptuary controls and status distinction were promulgated at San José de Moro. Moreover, Castillo (2001) interprets the disappearance of mortal figures in Late Moche art and the turn to exclusive portrayals of supernaturals as indicating the apotheosis of Moche lords at San José de Moro. In other words, elites strove to augment their authority by renouncing their former role as divine intermediaries and by claiming to be incarnations of the divinities themselves. Adopting a "mandate of heaven" interpretive framework (similarly espoused by Bawden), Castillo argues that leaders in the southern Moche state were deposed given their failure to placate the gods, as manifested in the environmental calamities plaguing the early Middle Horizon. As a consequence, elites instituted direct forms of divine rule to avoid the political liabilities inherent in the intermediary construction of authority.

Similarly, iconographic replacement in the northern North Coast during the Late Moche Period has also been interpreted as evidence of ideological adjustments to protracted climatic abnormalities (Bawden, 1996, p. 277). Several new and interconnected themes involving the established cast of Moche divinities first appeared on fineline ceramics during the Late Moche Period in the northern North Coast (Donnan and McClelland, 1999). They include the Revolt of the Objects (Quilter, 1990, 1997), the Burial Theme (Donnan and McClelland, 1979), and the Tule Boat Theme (McClelland, 1990). Scholars have interpreted these new iconographic narratives as indicating mythic rationalization of hardships endured during the final decades of the Middle Moche Period (Bawden, 1996, pp. 282-283). For instance, McClelland (1990) contends that new iconographic themes in the Moche V period reflect shifts in religious beliefs which accompanied changing subsistence strategies and adaptation to environmental perturbations. She argues that the newfound emphasis on maritime themes, such as common depictions of the Tule Boat in the Late Moche Period and the popularity of spondylus shell offerings, is indicative of the psychological and economic impact of devastating El Niño floods. ENSO-precipitated environmental change is first noted in increasing sea temperatures which causes the mass extermination of marine life and its replacement by tropical species of fish. McClelland suggests, therefore, that the Moche reoriented religious devotion toward the sea, acknowledging its direct role in environmental prognostication. Shimada (1994, p. 257) notes, however, that the thematic privileging of marine symbolism may just as likely have signaled the desire to promote rainfall during intense periods of drought.

Evidently, religious innovation in the Late Moche Period is viewed primarily as redressive and compensatory. Nevertheless, the adoption of new ideological practices was equally constitutive of shifting ecological and political strategies, as the discussion in the next section demonstrates. Indeed, foregrounding the causative *primacy* of environmental forces in explaining Late Moche cultural transformations elides the diverse social, ecological, and ritual innovations that underscored the reinvention of Moche political order. Ultimately, such issues are of greater relevance in interpreting prehistoric social process and its relation to human–environment interactions (Brumfiel, 1992; Roscoe, 1993).

Ecological adaptation and decentralized subsistence agriculture in Late Moche Jequetepeque

As described above, the sudden collapse of the southern state, entailing the rejection of traditional Moche ideology south of Jequetepeque, marked the Middle to Late Period transition. Moreover, rapid re-urbanization in the valley necks of Moche and Lambayeque represents the hallmark of Phase V settlement reorganization. Centralized control of fertile agricultural fields and canal intakes as well as heightened social tension characterized this precipitous urbanization process (Bawden, 1996; Shimada, 1994, p. 119). Agricultural production and settlement also contracted in the lower portions of Lambayeque and in the central valleys of Moche, Chicama, and Virú (Bawden, 1996, p. 263; Shimada, 1994, p. 128).

However, the lower Jequetepeque region deviates significantly from this pattern of settlement attrition and political centralization. Research conducted by Tom Dillehay and Alan Kolata has revealed an unprecedented growth of rural settlement, the expansion of labor-intensive canal systems, and the widespread use of small-scale and opportunistic agricultural constructions during the Late Moche Period (Dillehay, 2001; Dillehay and Kolata, 1997, 2004a, pp. 4328–4329, 2004b; Dillehay et al., 1998, 1999, 2001; Eling, 1987; see also Castillo and Donnan, 1994). The numerous residential hamlets in the hinterland are often found in close association with modest agricultural facilities and water-management systems (Figs. 2 and 3). In fact, dispersed agricultural and hydraulic infrastructures proliferated for the first time in Jequetepeque during the Late Moche Period (Dillehay, 2001; Dillehay and Kolata, 1997, 2004a,b; Dillehay et al., 1998, 1999, 2001). These features often consist of stone check dams or levees which diverted water into diminutive field systems or tiered cultivation terraces. Survey also registered a large number of agricultural terraces built in ravines, arroyos, and hill slopes throughout the lower valley and especially on its expansive north side (Dillehay and Kolata, 1997, 2004a,b; Dillehay et al., 1998, 1999, 2001). They usually form linear or semi-circular landings supported by stone walls that follow the contours of washes or hill-side quebradas (Fig. 2). They were built to pool excess rain water and also functioned as cultivation beds.

Many of these systems were designed for expedient short-term use, when ENSO-driven rains flooded the dry ravines and riverbeds of the region (in normal periods of desert aridity, they would have been ineffectual). These *temporales* (Kosok, 1965, p. 118) were used episodically and during periods of unusual rainfall and could have been maintained by a small number of farmers (Dillehay and Kolata, 2004a). Stacks of stones forming round piles or crude columns were often found on higher portions of the pampa adjacent to lower agricultural terraces constructed within arroyos. They likely served as beacons marking the location of abandoned terraces for future cultivation when conditions again permitted (Dillehay and Kolata, 1997; Swenson, 2004,p. 410). The data indicate that Late Moche populations were highly mobile, abandoning and re-founding settlements on a seasonal basis, as dictated by environmental conditions and social prescriptions (Dillehay, 2001; Dillehay and Kolata, 2004a,b). As Dillehay and Kolata argue, these dispersed, piecemeal agricultural installations reveal that subsistence production became decentralized and controlled by semi-autonomous rural communities during the Late Moche Period.[2]

Although it is exceedingly difficult to date canal systems, Late Moche populations also seem to have expanded regionally integrated irrigation systems and intensive agricultural production in the valley (particularly north of the river but in portions of the south as well) (Dillehay and Kolata, 2004a; Eling, 1987). These networks were likely managed by cooperating groups of rural lineages, and there is little evidence for their systematic administration by Moche elites residing at centers such as Cerro Chepen, San José de Moro, or Talambo (Dillehay and Kolata, 2004a,b).

[2] Dillehay and Kolata (2004a, p. 4328) write: "These flexible agricultural systems did not require large labor or technological inputs, and therefore could be rapidly reconstituted if affected by transient environmental impact events. The spatial ubiquity of these systems, particularly on the north side of the valley, implies that at certain times local populations were maximizing agricultural production by placing as much arable land in production as possible calibrated to available water resources. In Late Moche and Post-Moche times (AD 700–1000), periods of considerable political fragmentation, the practice of agricultural production in remote locations may also reflect conflict avoidance." They further note: "The Late Moche social landscape was characterized by intense intra-valley competition for access to suitable arable land and limited water resources, and by decentralized forms of agricultural management practices" (Dillehay and Kolata, 2004a, p. 4329).

Fig. 2. Photograph of a cluster of crescent-shaped stone foundations (upper register) and stone-lined agricultural terraces built in an *arroyo* of the Pampa Rio Seco, north bank of the Jequetepeque Valley. These modest domestic constructions and opportunistic agricultural facilities first proliferated in Jequetepeque during the Late Moche Period.

Ideological innovation and rural ceremonialism in the Jequetepeque hinterland

The diverse agricultural techniques adopted by rural populations in Jequetepeque can be accurately characterized as adaptive and opportunistic, in that they effectively exploited climatic abnormalities including El Niño-driven rainfall (Dillehay and Kolata, 2004a,b). Significantly, the decentralization of agricultural production was accompanied by a

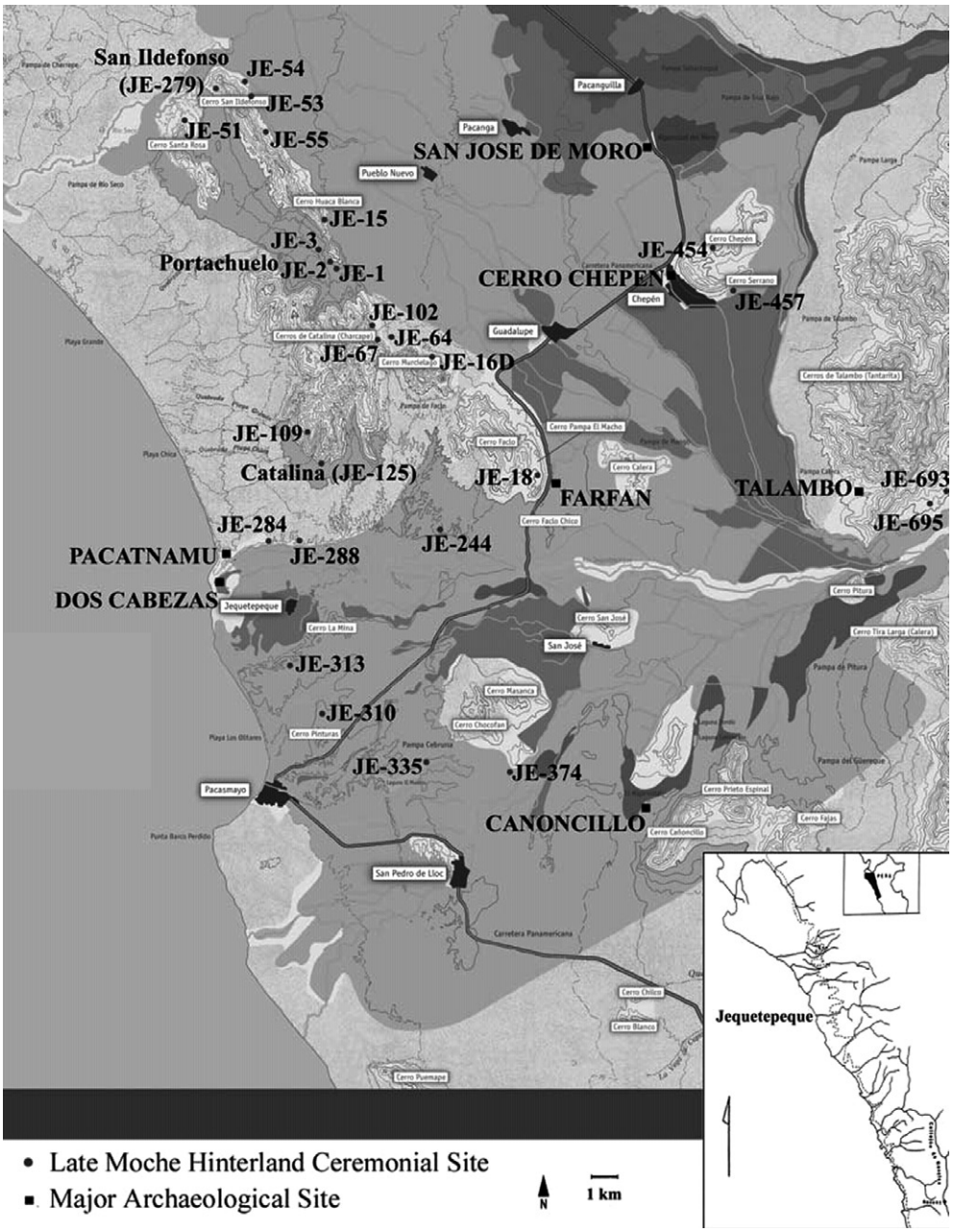

Fig. 3. Map of the Lower Jequetepeque Valley illustrating the location of ceremonial sites dating to the Late Moche Period.

comparable political ''opportunism'' in the region which recursively shaped ecological and economic practices. That is, human ecology and sociopolitical developments were reciprocally constituted. The Late Moche Period in Jequetepeque is distinguished by the emergence and proliferation of ceremonial sites in the hinterland of prominent centers, including San José de Moro and Cerro Chepén (Swenson, 2002, 2004, 2006, 2007). These sites were rare in earlier periods and are usually found in close proximity on coastal hills overlooking productive infrastructures such as canals and field systems (Fig. 3). The settlements are readily distinguished by their size but cannot be easily classified in terms of architectural quality or function (i.e., site distribution does not conform to traditional settlement-political hierarchies) (Swenson, 2006). Due to their clustered concentration, it has been difficult to

confidently link the numerous domestic settlements and agricultural installations with specific ceremonial sites. However, it seems likely that the latter served as nodes of religious congregation, economic cooperation, and supra-local political organization for dispersed farming populations who inhabited the larger ceremonial settlements episodically or semi-permanently. Future ceramic and radiometric analysis is needed to determine possible territorial boundaries and shifting social dependencies relating these ceremonial agglomerations with neighboring agricultural hamlets.

Terraced platform mounds with prominent ramps are the most common type of ceremonial architecture identified at Moche settlements in the Jequetepeque countryside (Fig. 4). Unlike the adobe ceremonial

Adapted from Makoswki 2000: 139

Adapted from Hocquenghem 1989: fig. 2C

Platform D-1 at San Ildefonso

Platform 2A-2 at Catalina

Fig. 4. A Moche molded vessel (adapted from Makowski (2000, p. 139)) and a fineline illustration (adapted from Hocquenghem (1989): Fig. 2C) portraying the Fanged Deity situated on a platform with ramp and dais. These structures depicted in Moche iconography are similar to platforms found in rural Jequetepeque (lower registers).

constructions of Moche urban centers, these platforms are built of stone and mounded earth (some of which were possibly plastered) (Swenson, 2004, 2006, p. 117, 2007). Despite their diminished size in comparison to urban pyramids, these ramped structures were suffused with authoritative religious and political symbolism (Bawden, 1982; Shimada, 1994). The dais-topped platforms fronted by open patios appear to be scaled-down versions of the massive pyramids that dominated earlier Moche cities, and structures of this kind are commonly portrayed as loci of ritual exchange on decorated Moche pottery (Bawden, 1982) (Fig. 4). Comparable ramped platforms, referred to as *tablados* by Bawden, were among the most important architectural forms at Galindo and Pampa Grande, the principal urban centers of the Moche V Period (Bawden, 1982; Shimada, 1994). However, they are restricted to the ceremonial core of these cities, within or at the juncture of elite precincts (Bawden, 1982, 1996, 2001; Shimada, 1994, 2001). In contrast, ramped structures in the Jequetepeque Valley were more accessible and widely distributed. Unlike the *tablados* of the centers, they are usually found independent of elite architectural contexts. In other words, the intense ritualization of the Jequetepeque landscape defied the centralized exclusivity of ceremonial space evident in neighboring valleys (Swenson, 2006, p. 122).

These multiple ceremonial settlements exhibit site-specific architectural variability, suggesting that ritual production became the prerogative of local communities and rural lineages. This is especially significant given that the architectonics of the platforms prescribed set modes of ritual performance and communication (''proxemics'') that differed notably at the inter-settlement level of comparison (thus greater uniformity in architectonics was documented within specific ceremonial sites) (see Moore, 1996a,b, for an excellent archaeological analysis of architectural proxemics). For instance, the numerous ramped platforms dispersed throughout the large and complex site of San Ildefonso (JE-279) at the north end of the valley reflect a basic regularity in style unique to the site, despite minor idiosyncrasies in size and form (Swenson, 2004, 2006, pp. 122–128, 2007). San Ildefonso occupied an area of more than 40 ha and was comprised of concentric stone ramparts, expansive domestic zones, contiguous compound structures, and multiple ritual platforms (17 in total) (Fig. 5). The ritual complexes are found throughout the site at differing elevations and behind all four perimeter walls.

The San Ildefonso platforms were usually limited to synchronized (visually unified), axial movement along a centrally placed ramp (Fig. 6). Individuals moved from lower patios to higher daises, and the experiential change in elevation, almost always proceeding east toward the hilltop, likely enhanced the choreography of ritualized acts. In fact, it appears that multiple, possibly confederated, rural communities maintained separate ''shrines'' within this impressive site, while simultaneously adhering to a relatively standardized program of ritual performance and exchange (Swenson, 2004, 2007). The plurality of ritual structures at San Ildefonso contrasts markedly with the spatial configuration of the contemporaneous cities of Pampa Grande and Galindo. Unlike the massive adobe pyramid of Huaca Fortaleza at Pampa Grande or the adobe *cercaduras* of Galindo, no one structure dominates San Ildefonso in terms of architectural prominence, scale, location, or complexity. Varying spatial ideologies, likely promoting contrasting political values, were promulgated at these three important Late Moche settlements (Swenson, 2006, 2007).

In fact, differing spatial programs are surprisingly manifest in rural Jequetepeque. At the large site of Catalina (JE-125), located on the south side of the Kanchape range (to the south of San Ildefonso), multiple ceremonial platforms were also built on the site's towering hillside. However, they cluster on the lower slopes, plainly separated by a large perimeter wall from the principal and expansive domestic zone occupying the lower pampa (Fig. 5). This settlement layout differs notably from San Ildefonso, where ramped platforms were found distributed throughout the site near residential areas, at all elevations, and behind every rampart. Radiometric analysis of charcoal samples procured from ceremonial structures of the two settlements points to their contemporaneity (approximately 600–750 AD), despite subtle differences in ceramic styles and architectural forms (Swenson, 2004, p. 699).

Moreover, the ritual platforms at Catalina consist of elongated landings which lack the linear integration of terraces and long ramps characteristic of San Ildefonso architecture (Fig. 7) (Swenson, 2006, pp. 128–132). Many of the terraces were designed for movement along lateral rather than perpendicular axes. At Catalina, ritual performance was predicated on obstructed sight lines and compartmentalized flow patterns. This limited regime of ''structured'' movement contrasts with the potential for visibly unified procession and presentation on

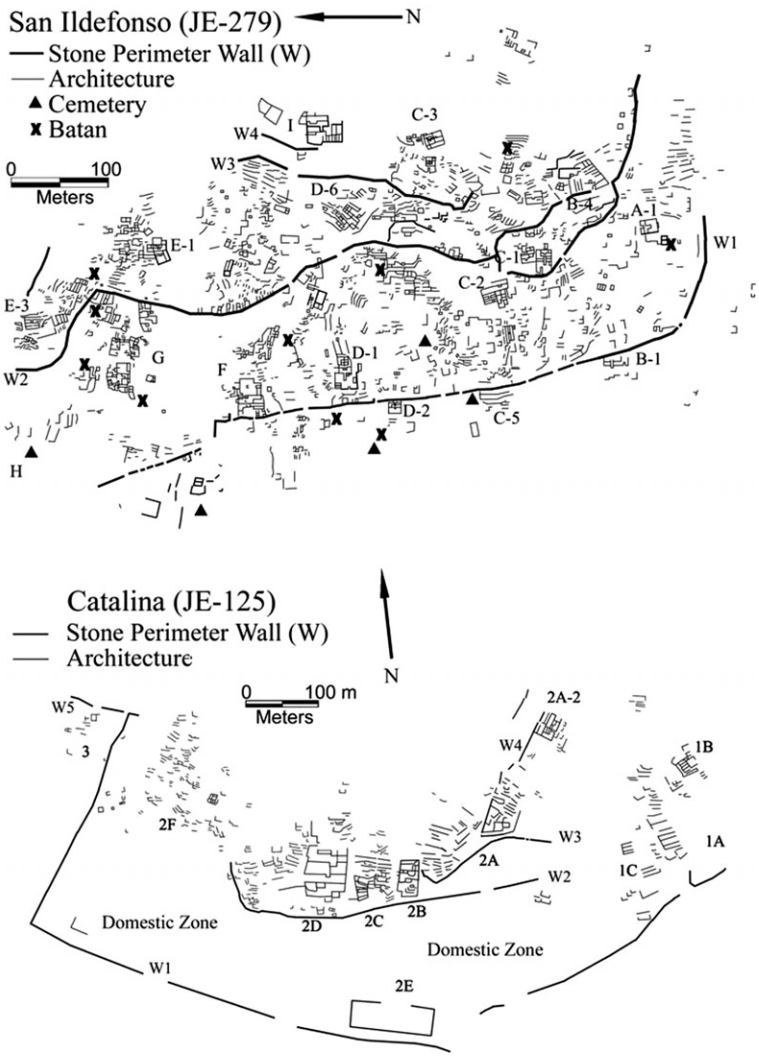

Fig. 5. Site maps of San Ildefonso and Cerro Catalina. Labeled sectors contain one or more ceremonial platforms.

the ceremonial platforms at San Ildefonso. A comparison of three-dimensional plans of structures from these two sites demonstrates that the architectural determination of ritual communication varied significantly between San Ildefonso and Catalina (Fig. 8).

Other ceremonial constructions in the valley also exhibit patterned differences in form and the architectonics of ritual performance. JE-102, located on the east side of Cerro Catalina north of the river, is also characterized by a plurality of ritual constructions exhibiting site-specific architectural forms. Asymmetrical U-shaped platforms, absent elsewhere in the valley, predominate here (Fig. 9). However, unlike the configuration of many of the other settlements, Platform A conspicuously stands out in size, elaboration, and location (Fig. 9). Although constructed of stone and earth and smaller than urban pyramids, it is visible from all sectors of the site and holds a commanding position within the settlement. Platform A staged public spectacles involving a larger number of ritual participants than did the more confined and exclusive platforms common at other ceremonial sites in the countryside. Unlike San Ildefonso or Catalina, a *primes inter pares* relationship of authoritative space distinguishes the ceremonial topography of JE-102. Evidently, rural communities in Jequetepeque differently emphasized both private and public ritual spectacles and variably manipulated ideologies of social

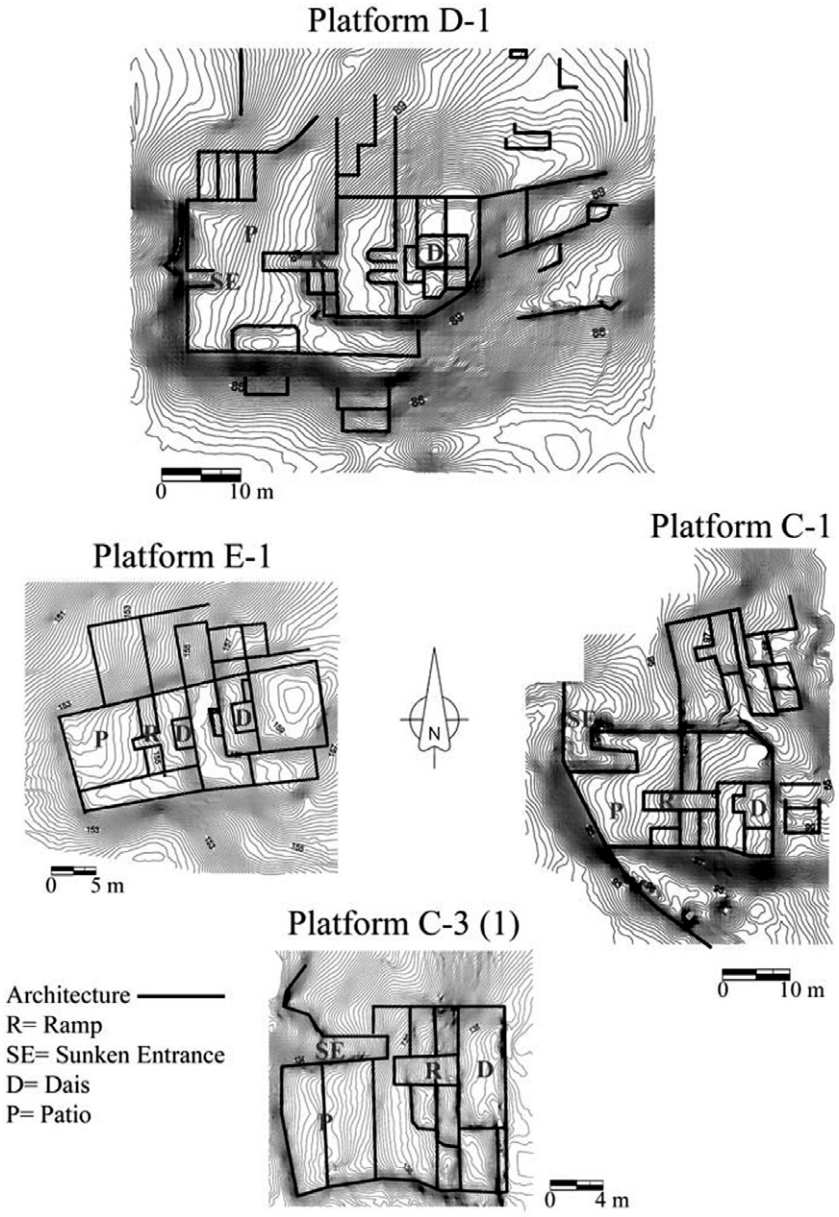

Fig. 6. Architectural plans of ceremonial platforms at San Ildefonso.

inclusion and exclusion (encompassing social separation and differentiation). The site-specific architectural differences in Jequetepeque underscore the local determination of ritual politics during the Late Moche Period (Swenson, 2004, 2006, 2007).

Despite inter-site variability in the religious architecture of rural Jequetepeque, it is worth stressing that the ceremonial platforms represent variations on a strictly *Moche* theme. In other words, hinterland groups co-opted urban spatial ideologies to legitimize newly established social power and to stake claims to productive infrastructures. Indeed, there was a generalized and popular push to promote Moche religious and political values notwithstanding the local interpretation and manipulation of this ideological complex. The "popularization" of Moche religious practices and sacred space contrasted with their more stringent monopolization by elites at Galindo and Pampa Grande (Swenson, 2006, 2007).

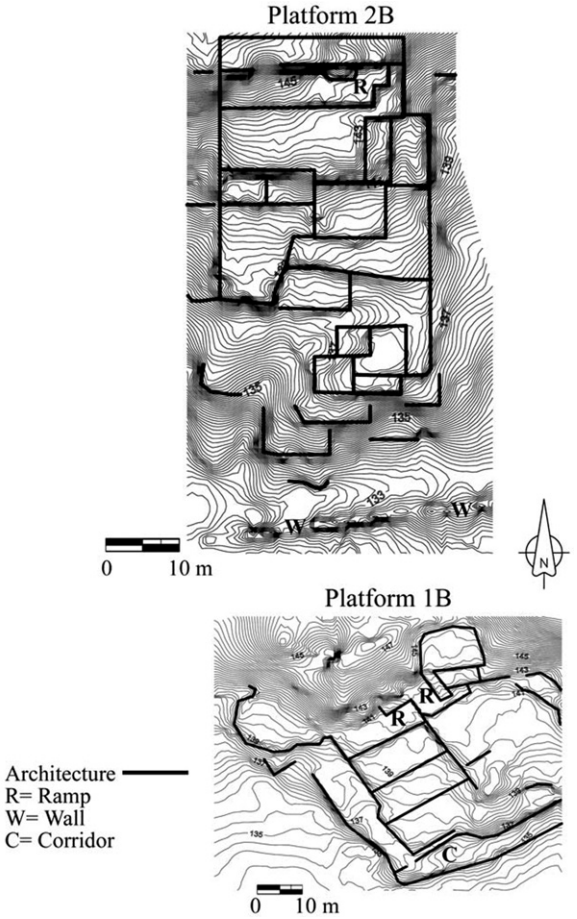

Fig. 7. Architectural plans of two platforms at Catalina.

In the Jequetepeque hinterland, iconographic, ceramic, and architectural remains reveal that feasting and the celebration of Moche religious precepts became widespread, even "deregulated" when compared to neighboring valleys (Swenson, 2004, 2006). Corn beer, or chicha, vessels were recovered in statistically higher proportions from rural ceremonial platforms than from domestic zones in many of the hinterland sites, and it appears that the orchestration of feasting rites constituted a major function of these multiple hinterland shrines. Interestingly, feasting was an integral component of elite ceremonialism in the southern Moche state and at Late Moche Period centers as well (Arsenault, 1992; Castillo, 2001; Shimada, 2001). The Jequetepeque jars often portray Moche divinities and lords, and they undoubtedly served as important media of symbolic and ritual communication (Fig. 10). Excavation further corroborates that feasting rites were staged on numerous individual platforms at different sites, notwithstanding their idiosyncratic forms (Swenson, 2004, 2006, pp. 132–135).[3] Thus the content of ceremony appears to have varied little between settlements despite divergent experimental frameworks structuring ritual performance. The evidence suggests that feasting rites mediated competitive and heterarchical political relations in the lower Jequetepeque Valley during the Late Moche Period (Dillehay, 2001; Swenson, 2004). This scenario contrasts notably with neighboring valleys, which experienced rapid urbanization, the elite monopolization of ceremonial space, and continued political centralization during the Moche V Phase.

Ritual and agricultural production in the Jequetepeque hinterland

Hinterland ritual appears to have been integral to the establishment of political ties related to the coordination of agricultural production. This inference is supported by the fact that many of the ceremonial sites are located adjacent to prehistoric canals or overlooking relic field systems (Fig. 11). Communities that maintained ritual architecture in the countryside may have resembled religious and hydraulic organizations staking claim to land and water through ceremonial feasting (Swenson, 2006). Ritual feasts on specialized constructions materialized access to resources and pooled the labor and productivity of participants. Such feasts seem to have been critical to the organization of production and to the local construction of political identity and economic dependency. Indeed, ethnohistoric accounts indicate that kin-based cults in the Andes commonly "legitimated the transmission of goods and usufruct rights along genealogical lines" (Lau, 2002, p. 281; see also Cobo, 1990 [1653]; Isbell, 1997). Feasts and ritual spectacles orchestrated at a number of the ceremonial sites in rural Jequetepeque may have coordinated intergroup canal maintenance, water scheduling, and "hydraulic interdependency" among communities that drew water from the same trunk lines or feeder channels (see Lansing, 1991 for a description of comparable decentralized but ritually coordinated irrigation practices in Bali). Such relationships were

[3] Hearths were often identified in excavated patios or high terraces of the ceremonial complexes in the countryside. They contained the remains of a large variety of comestibles, including llama bones, maize, Andean fruits, beans, and marine shell (Swenson, 2004, 2006).

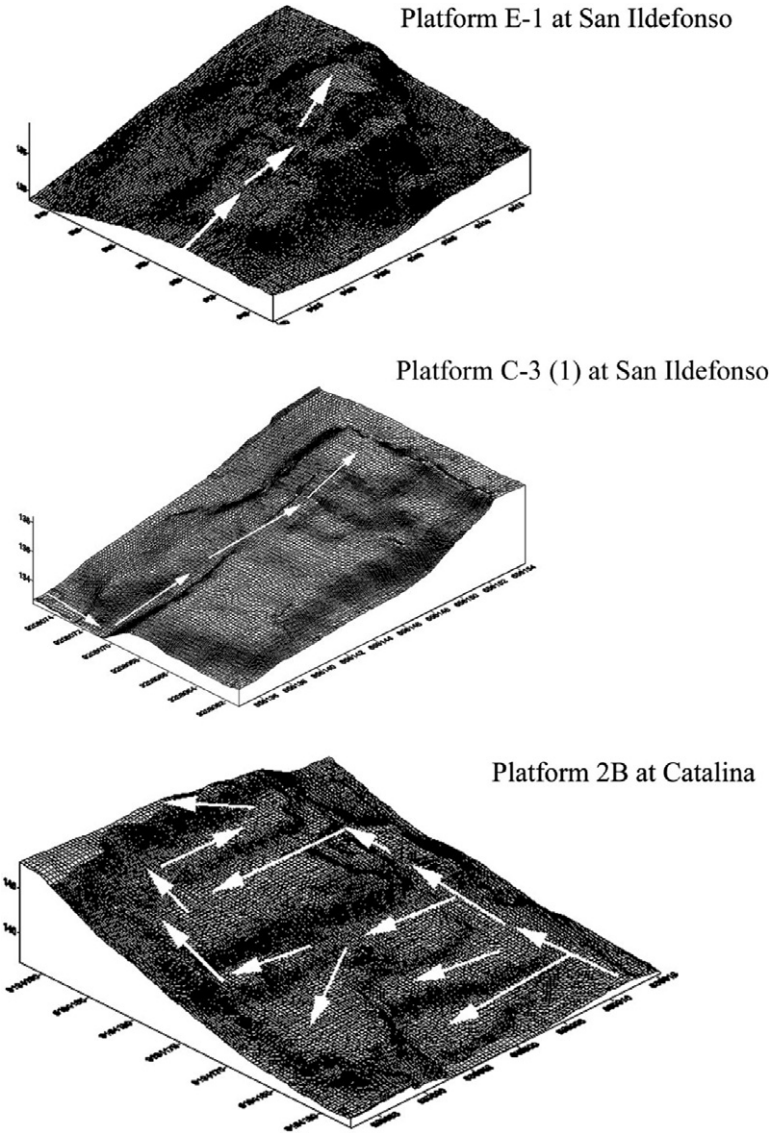

Fig. 8. Three-dimensional plans of Platforms E-1 and C-3 at San Ildefonso compared with a similar plan of Platform 2B at Catalina. Arrows illustrate architectural differences in access patterns and ritual communication in the Jequetepeque hinterland.

undoubtedly distinguished not only by cooperation but by conflict and competition as well. The numerous fortifications in Jequetepeque dating to the Late Moche Period support this inference (Dillehay, 2001). Lesser chiefs performed prestigious Moche rites and sponsored "commensal tournaments" at specific ceremonial loci in an effort to solicit the following and labor contributions of different communities in the valley. Such ceremonies may also have legitimized group rights to nearby agricultural features used for short-term and opportunistic cultivation in times of El Niño rains.

Of course, the co-option and "ruralization" of the Moche complex involved inevitable modifications in belief and practice. Although the presence of sling stones and fortification walls at several of the sites suggests that warfare (possibly involving ritual battle) shaped hinterland social and ritual engagements, excavation reveals that human sacrifice was not conducted at the numerous ceremonial outposts. No sacrificed human remains, *tumi* knives, or ceremonial goblets associated with traditional Moche ideological programs were recovered from excavated platforms (Swenson, 2007). This suggests that fundamental

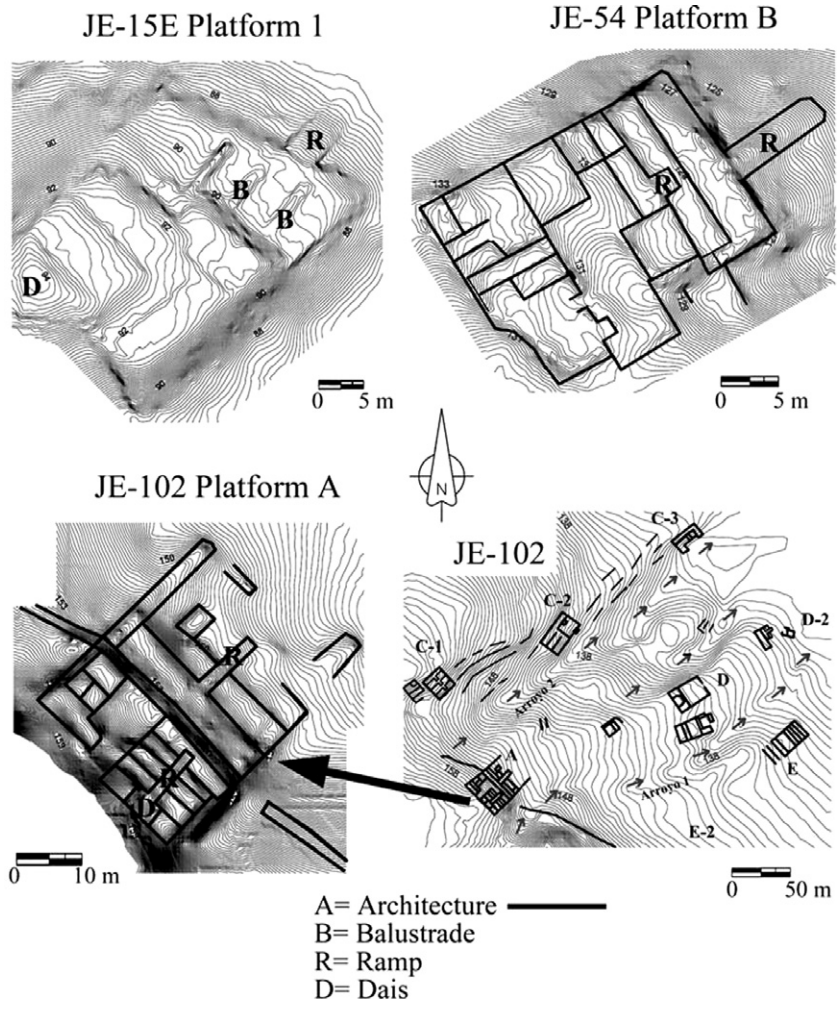

Fig. 9. Architectural plans of platforms at JE-15, JE-54, and JE-102.

practices defining Moche ritual politics were recast in the Jequetepeque countryside.[4] Nevertheless, the recovery of fineline ceramics and drinking vessels at hinterland sites depicting Moche divinities and elite figures demonstrates that certain rituals (especially feasting) were recontextualized as a means to both reinvent and elevate local political interests.

Indeed, it appears that ritual events staged on the Moche-derived structures dramatized essentially agricultural rites that regulated rural subsistence. These rites were more immanently and directly linked to agricultural production than were the sacrificial rituals performed by high lords in the cities and ceremonial centers of the Moche realm. Certainly, concerns with cosmological ordering and fertility (though likely more abstract at the level of elite performance) underscored generalized Moche religious practices on the North Coast (as it did for the Inka; Gose, 1993). Such emphasis on fecundity and rites of socio-cosmic reproduction

[4] Hinterland communities and chiefs may have offered vanquished prisoners of rural warfare to the priestess of San José de Moro (who conducted traditional sacrificial rites: Donnan and Castillo, 1994), perhaps to win the favor of the center and assert the prestige of particular hinterland polities. Therefore, feasting associated with warfare seems to have displaced sacrifice in the countryside as the preeminent ritual spectacle. The sling stones and massive defensive walls at several of the hinterland ceremonial sites (associated with ''real'' combat as opposed to the characteristically fragile wooden clubs and shields of the Moche elite; Bourget, 2001) suggest that Jequetepeque communities creatively adapted Moche ritual violence to legitimize ''pragmatic'' warfare and safeguard local political and economic interests (Swenson, 2007).

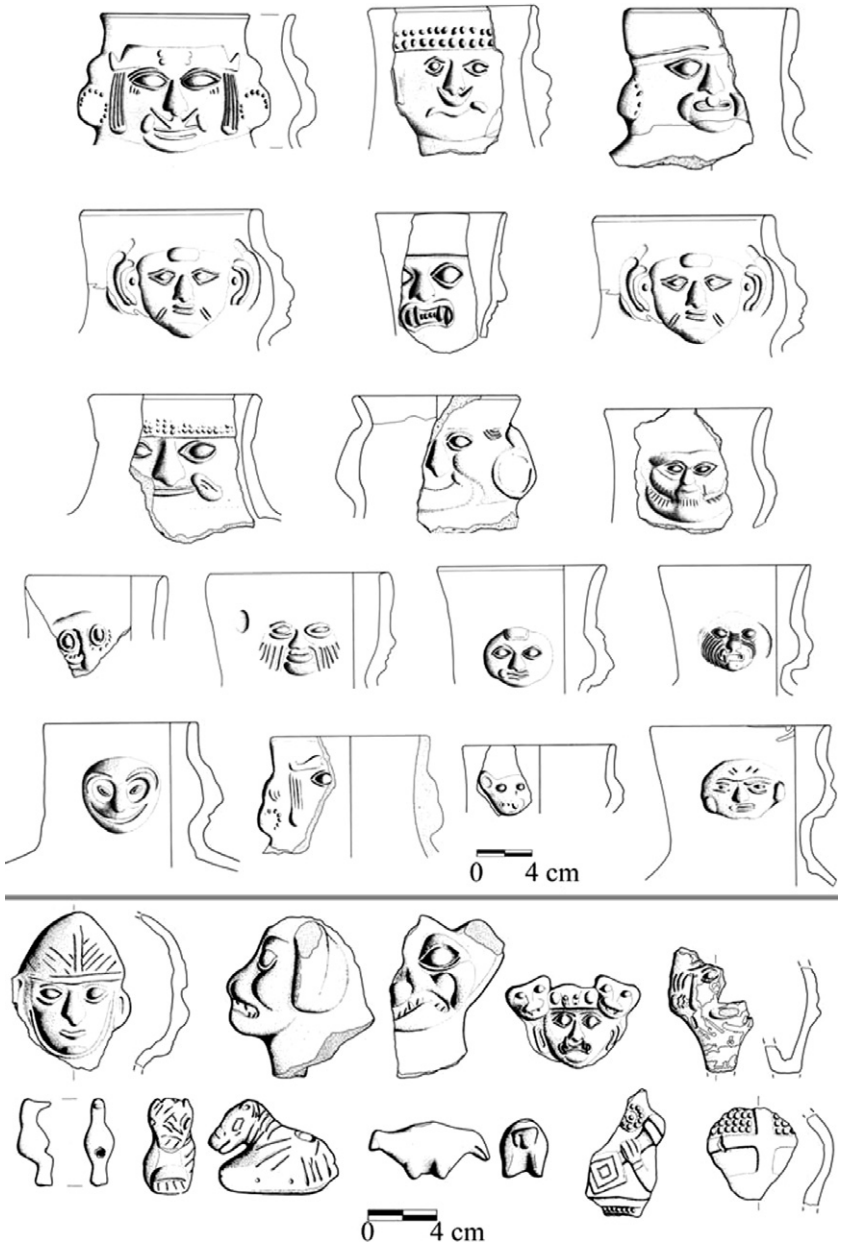

Fig. 10. Decorated face-neck jars (upper five rows), figurines and musical instruments (lower two rows) in Moche style collected from ceremonial sites of the Jequetepeque hinterland.

might explain the enduring appeal of the Moche ideological complex to lower-class farmers and fisherfolk in the Jequetepeque countryside.

The connections between ritual practice, agriculture, and fertility rites are numerous in Late Moche Jequetepeque. For instance, the platforms at Portachuelo de Charcape (JE-1/JE-2), found adjacent to the large canal of the Farfán Norte system, and the impressive *tablado* of Sector I at San Ildefonso, built under a spent spring (which was likely active in prehistoric times), may have been conceived of as "water shrines" (for purposes of comparison, see Sherbondy, 1992 for a discussion of the ritual and political significance of water sources among the Inka). The presence of spondylus shell (*spondylus princeps*) found deposited on several hinterland platforms suggests that agricultural fertility and ecological concerns were central to hinterland ceremonialism. At the time of the conquest, spondylus was highly valued and extensively traded as a

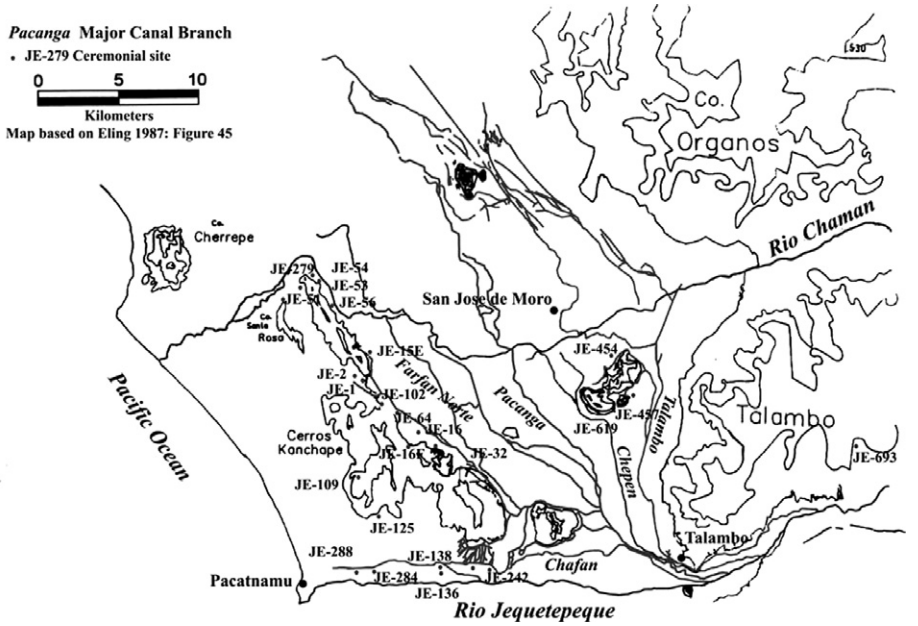

Fig. 11. Location of rural ceremonial sites in relationship to canal systems on the north bank of the Jequetepeque Valley (map adapted from Eling (1987), Fig. 45).

preeminent ritual object of agricultural ceremony. Spondylus offerings were revered for their magical power to draw fructifying water to planted fields (Gose, 1993; Pillsbury, 1996).

A brief description of the interesting ceremonial site of Portachuelo de Charcape (JE-1/JE-2) reveals that this settlement was intimately connected to the coordination of irrigation agriculture, fertility ritual, and, by extension, the mediation of human–environment relations. JE-1/ JE-2 is located on a rolling pampa of the Portachuelo de Charcape, 9 km to the south of San Ildefonso, at a critical juncture between the major coastal hills of Cerro Catalina and Cerro Huaca Blanca (Figs. 3 and 12). This pass likely formed an important avenue of traffic and communication in prehispanic times, connecting the coast to the eastern side of the valley, which is divided by the linear expanse of the Kanchape range.

A notable feature of the site is the presence of a massive canal (Eling's FFN—Farfan Norte and the Heckers' canal IV) that turns west through the pass and continues for more than 300 m to the northwest (Figs. 12 and 13). This portion of the FFN canal represented the northern extension of a complex irrigation system which transported water from the Jequetepeque River 17 km to the south, irrigating fields on the east and west sides of the coastal hills (Eling, 1987, pp. 317–321; Dillehay and Kolata, 1997; Hecker and Hecker, 1985, 1991a, p. 93; Ubbelohde-Doering, 1967, p. 16) (Fig. 11). The canal segment which cuts through JE-1 was excavated into the granite bedrock to a depth of 2–3 m and measures more than 1 m in width at its widest points (Fig. 13). This impressive construction required a formidable investment of labor and engineering skill (as did many of the canals of the North Coast), and the section bisecting Portachuelo is one of the more impressive examples found in the valley.

Portachuelo de Charcape contains four major ceremonial structures, three of which consist of unusual U-shaped platforms with ramps and central daises (JE-1A, 1B, and JE-2A) (Fig. 14). Evidence of intense domestic activity, including multiple hearths and large quantities of surface remains, reveals that people inhabited the site permanently or episodically. Recent excavations by Luis Jaime Castillo and his team at Portachuelo de Charcape demonstrated that Sector A, a broad bluff immediately west of the main platforms, was the locus of an elaborate residence for elite figures, presumably, lower-level *curacas* (chiefs) (Johnson, 2004).

The three U-shaped platforms of Portachuelo are very similar to small ramped structures depicted in Moche fineline iconography, which typically shows elite figures being presented with goblets, offerings, and prisoners (see Fig. 4). They are also reminiscent of the smaller *tablados* documented by Bawden

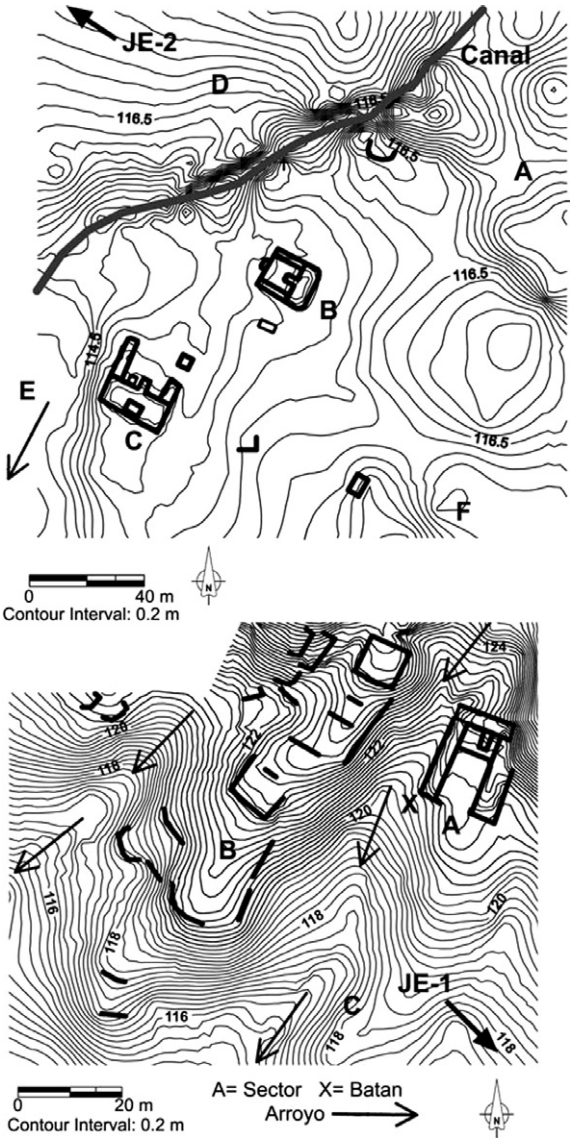

Fig. 12. Map of the JE-1 and JE-2 components of Portachuelo de Charcape. Note the U-shaped configuration of the three principal ramped platforms (1B, 1C, and 2A).

(1982) at Galindo. In fact, JE-1C closely resembles a clay model of a religious structured buried in a tomb at San José de Moro (located 10 km to the northeast) (Swenson, 2006, p. 121) (see Fig. 14). The configuration of these edifices suggests that they served to stage rites of presentation and supervision. The principal terrace with dais connected by the ramp likely served as a landing where respected figures presided over ritual, distributed *chicha*, consecrated offerings, and formally received individuals and groups who came to pay respect and confer honor. The peculiar U shape of the structures (distinguished by ornamental arms that frame small plazas) is unique to the site, pointing to the decentralized and local control of ritual production in the valley (see above).

The four principal ceremonial mounds of JE-1/JE-2 were probably involved in fertility rites associated with the canal and the surrounding peaks of the coastal cerros. The discovery of spondylus shell on the basal platform of Structure 1B and a ritual cache of 26 notched stones (fishing nets weights) on the south wall of the canal, 65 m northeast of structure 1C, supports this view (Fig. 13). In fact, a considerable amount of spondylus shell was encountered in collection transects throughout the site (Swenson, 2004). Spondylus, harvested from the tropical waters off the coast of Ecuador, was among the most preeminent of sacred objects in the Andes and is found almost exclusively in ritual contexts (Cordy-Collins, 1999, p. 17). It was symbolically associated with water, fertility, female procreation, and regeneration and served as an important offertory medium, among other ritual uses (Cordy-Collins, 1999; Pillsbury, 1996). The 26 notched weights were cached within the south wall of the canal and consist of carefully pecked stones of varying colors and shapes. These stones were used primarily as sinkers for fishing nets (Hecker and Hecker, 1991b, pp. 96–107). They are commonly found at many of the hinterland sites in Jequetepeque, including Catalina and San Ildefonso, often placed on the terraces of ceremonial platforms (Swenson, 2004).

On one level, the ritual cache clearly signifies an attempt to conflate the productive powers of irrigation with the productive potential of the sea. The canal was both a means and symbol of fertility, and the incorporation of the net weights in its construction was likely intended to ''transfer'' the generative power of agriculture to the maritime economy, ensuring the sea's continued abundance (and vice-versa).[5] Evidently the canal and notched

[5] ENSO events disrupt both agricultural production and the maritime economy. Devastating rains which flood crops and destroy canals are accompanied (and essentially caused) by the westward movement of the Humboldt current, which displaces cold-water species of fish and anchovies. Therefore, the ocean and land were seen as intrinsically interconnected in the Andes. In fact, the Inka viewed the ocean as the ultimate source of fructifying water, which was channeled cyclically to the land in the form of rain (Sherbondy, 1992). The close association of spondylus, a maritime organism, with agriculture and fresh water provides additional evidence of the symbolic conflation of farming and fishing.

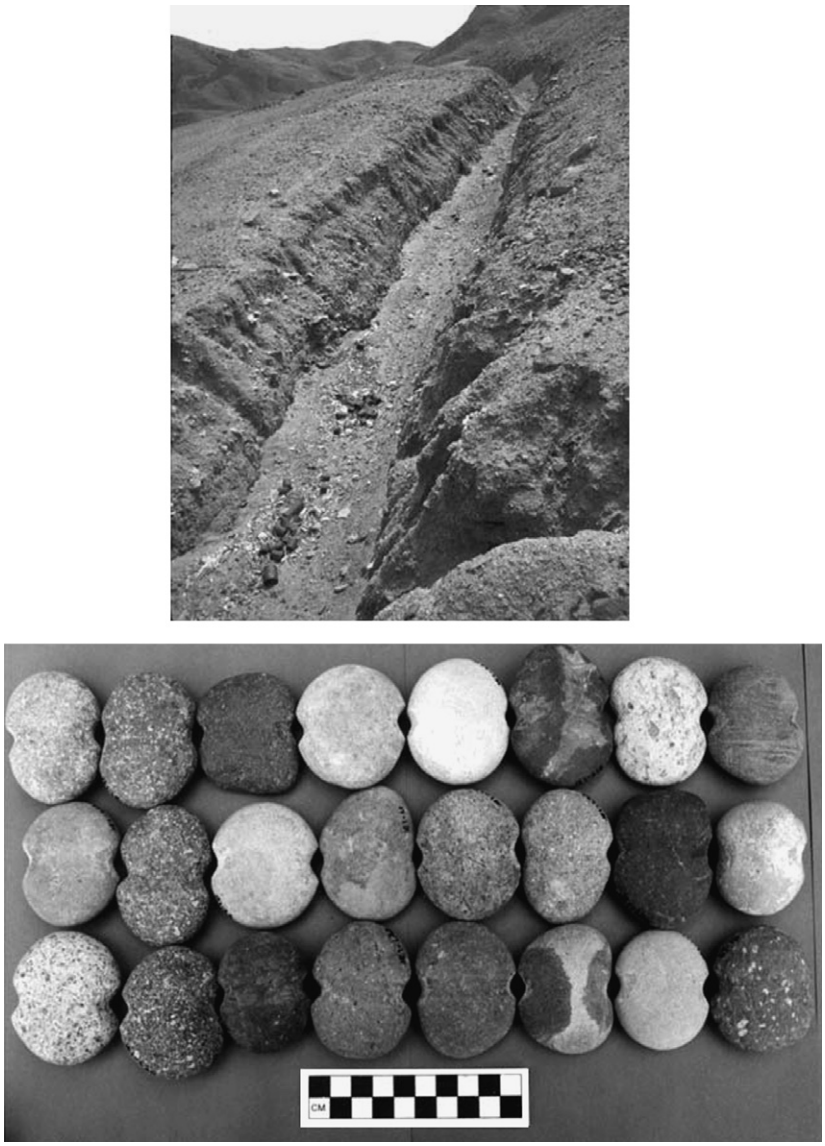

Fig. 13. Photograph of the large canal bisecting Portachuelo de Charcape and the cache of notched fishing weights (lower register) discovered in the interior wall of the same canal.

stones conveyed the symbolic significance of water twofold, accentuating its fundamental importance to agriculture and fishing, the pillars of the North Coast economy.

In light of this evidence, it is tempting to interpret the U-shaped structures as sacred lightning-rods that reigned in and "socialized" the fecund power of the surrounding cerros. Ethnohistoric and ethnographic records indicate that mountain peaks were traditional spaces of water, fertility, and divinity in the Andes (Bastien, 1978; Gose, 1994; Salomon and Urioste, 1991; Uceda, 2001). In fact, U-shaped architecture has a long history in ancient Peru, and scholars have inferred fertility symbolism from the massive U-shaped pyramids constructed during the Initial Period and Early Horizon (1800–200 BC) (Burger, 1992; Isbell, 1977; Lathrap, 1982; Moseley, 1992). The three different platforms at Portachuelo seem to have commemorated an individual peak, architecturally channeling and uniting their sacred potency within the confines of the site. Excavation suggests that the arms are primarily ornamental, functioning more to orient than to provide a surface for

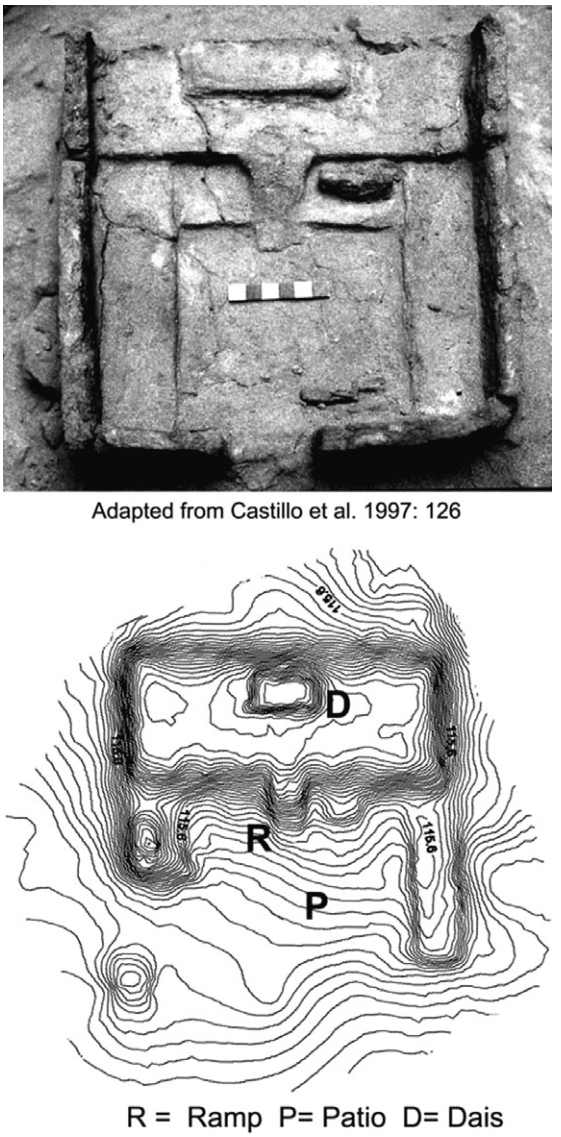

Fig. 14. Ceramic model of a platform recovered from a burial at San José de Moro (upper register) (adapted from Castillo et al. (1997), Fig. 11), and an architectural map (lower register) of a similarly configured structure at Portachuelo de Charcape located several kilometers to the south.

staged performances. Each of the three U-shaped platforms points in a different direction toward a specific peak. JE-1C faces the south end of Cerro Huaca Blanca; JE-1B follows the north-south axis of Cerro Huaca Blanca and points in the direction of the distant Cerro Santa Rosa; and JE-2A faces the eastern side of Cerro Catalina. Of course, this attractive hypothesis is difficult to prove and relies ultimately on analogy with ethnohistoric and ethnographic models.

In any event, it is clear that JE-1/JE-2 was an important ceremonial locus, most likely involved in fertility rituals associated with the canal and the veneration of *huacas*, perhaps embodied by the coastal hills. A larger quantity of face-neck jars and fineline ceramics was found at JE-1 than at any other hinterland site, underscoring its tremendous ritual significance. In fact, decorated wares are more frequently encountered on the surface here than in many of the large centers, including Pacatnamú and San José de Moro. Although the anomalous U shape might indicate that ritual practices at JE-1 differed in purpose from religious production at contemporaneous hinterland ceremonial sites, the ceramic and architectural data nonetheless suggest certain parallels in the structure, communicative restraints, and spatial organization of ceremony. Rites of presentation and supervision (and to a lesser extent, procession) prevailed, and the high quantity of serving jars point to the importance of feasting events involving *chicha* production and consumption. A large array of Moche utilitarian sherds were found here, and it is likely that JE-1 was the site of supra-local congress; different communities may have assembled here in festivals to commemorate inter-group worship and cooperation, perhaps involving repairs to the hydraulic system. Such events might have been crucial to competitive negotiations over rights and responsibilities to fields, water, and canal use. The considerable number of fineline sherds and face-neck jars indicates that lesser lords or prestigious lineages exchanged symbolically charged items and sponsored feasts in spectacles of conspicuous consumption. This may have been instrumental in cementing agreements between allies or securing politico-economic advantage over rivals. In contrast to JE-1, the utilitarian ceramics of many of the sites built on the neighboring hills contain a more limited repertoire of types, perhaps suggesting that more sectarian and group-exclusive practices occurred at these settlements (see Swenson, 2004).

Interpretations and conclusion

Anthropologists have long held that the analysis of ritual is essential for deciphering the intricacies and transformations of cultural institutions. Systems theory analysts, for instance, have concocted elaborate flow-chart models of culture to interpret the mechanical and functional interconnections of discrete components of social process (Flannery,

1972; Wilson, 1992). Societies function and change through a complex series of feedback responses between these components; initial and primary adjustments to the environment affect religious attitudes among other ranked categories, and such transformations in turn impact ecological, social, and economic structures in the perpetual move toward "system equilibrium." In such perspectives, however, the material conditions and ecological adaptations are ranked first, usually determining the substance of religious belief and structure of ritual practice. Hence, the examination of religious belief and ritual acts is deemed necessary to unlock a culture's perception of and successful adaptation to the natural environment (Drennan, 1976; Harris, 1985; Rappaport, 1971). This mechanical and compartmentalized rendering of the social has been rightly criticized along with the extreme functionalism of such perspectives which emphasize homeostatic operations. In a comparable manner to systems analysis and other structural-functionalist theories (despite obvious differences in theoretical orientation), traditional Marxian approaches also tend to hierarchically rank economic, social, and ideological forces; material production is considered primary or infrastructural, directly determining both religious ideologies and political arrangements (Roscoe, 1993, p. 113). Such "barrel model" constructions of culture explain the common relegation of religious life to the sphere of epiphenomenal compensation, reaction, or legitimization.

Indeed, scholars are increasingly critical of functionalist explanations, wherein ritual is conceived as a conservative, compensatory force that serves to mitigate social tension, mystify inequalities, or rectify ecological imbalance destabilizing the structural integrity of a cultural system (Bell, 1992; Morris, 1987). Certainly the argument that the ideational represents a reflective derivation of material and social realities (whether in a benign functional sense or a more cynical Marxian perspective) is commonly rejected by anthropologists and archaeologists influenced by Structural Marxist and Practice Theory interpretations (Bourdieu, 1977; Conrad and Demarest, 1984; Godelier, 1978; Ortner, 1984; Roscoe, 1993; Sahlins, 1985).

In fact, the notion that ritual acts to integrate social order, consolidate politico-economic privilege, or optimize adjustment to environmental conditions underscores Durkheim's enduring legacy in differing approaches to the study of religion. Of course, these assumptions impart an active and dynamic role to ritual experience, and Durkheim's tremendous contribution to sociological studies of religion cannot be underestimated. His argument that ritual promotes social solidarity not so much through articulating shared beliefs but rather through the seduction of collective ceremonial experience implicitly acknowledges the fundamental political aspects of ritual practice (Durkheim, 1965; Kertzer, 1988, p. 76). If ritual provides the "glue" that holds society together—in Durkheim's view, through the celebration (worship) and legitimization of social relations—one can immediately grasp how it ultimately "empowers" agents to manipulate environmental and social conditions. Such empowerment, however, cannot be reduced to functional postulates (the principal weakness in Durkheim's formulations), for one must consider conflicting interests, historical contingencies, and cultural differences in the ideological construction of identity, social alterity, philosophical worldview, and human–environmental dependencies (Asad, 1993; Bloch, 1989; Cohen, 1981; Comaroff and Comaroff, 1991; Kertzer, 1988; Sahlins, 1985; Swenson, 2003; Weber, 1965, pp. 59, 107).

Ritual is instrumental in creating political subjectivity and promotes differing understandings of the natural, social, and divine worlds (Kertzer, 1988; Smith, 2001). The acknowledgment that religion constructs political consciousness is not far removed from Durkheim's understanding of the ritual integration of society; the main difference, however, is the more explicit recognition of the potential for creative agency and the ideological implications of religious experience. As is readily apparent in the contemporary world, ritual can serve as a powerful medium of either social unity or divisive struggle (Bell, 1997, pp. 76–81; Comaroff, 1985; Kertzer, 1988, p. 75; Leach, 1954; Smith, 1987). In fact, as an analytical category, ritual often provides more the "key to contestation" than the "key to culture" in a normative sense (*contra* Geertz, 1973; see Bell, 1992, p. 7).

Anthropologists' emphasis on the propensity of ritual to "differentiate" has been acknowledged for some time (Bell, 1992; Bloch, 1989; Gluckman, 1963; Leach, 1954; Rappaport, 1999), but recent formulations of this kind are particularly insightful in placing the ideological aspects of ritual in the foreground of analysis. Ritual is thus often understood as a "signifying practice" that defines, authorizes, and empowers (Comaroff and Comaroff, 1993; Kelly and Kaplan, 1990). Such processes were

clearly in play in the Jequetepeque Valley: the ritual celebrations performed on the numerous religious structures in the hinterland competitively created political subjects while delineating shifting social boundaries and economic resources. The case study demonstrates the futility of hierarchically disentangling the material and ideational (Kolata, 2003, p. 471). Moreover, it reveals that no singular determining factor, whether environmental (adaptive), political, or religious, propelled the sociopolitical transformations of the Late Moche Period.

In considering the Jequetepeque data, one can confidently conclude that hinterland ceremonialism actively structured ecological behavior and economic practices in Late Moche times. In fact, the evidence suggests that the assertion of local religious expression was linked to the greater autonomy of rural populations in coordinating production in the valley (Dillehay and Kolata, 2004a). The appropriation of Moche ceremonial space indicates that local groups attempted to consolidate economic and political interests by manipulating widely respected religious tenets (Swenson, 2004). Since ritual served as a "technology of production" (Kolata, 2003, p. 464) in coordinating the social organization of farming in rural Jequetepeque, feasting and the decentralized celebration of Moche religion clearly represented more than secondary responses to initial economic and ecological adjustments; in a certain sense, the ideological strategies made the latter possible.

Although partly an effect of pan-regional environmental change, the reinvention and popularization of Moche religion in Jequetepeque were directly implicated in the political reorganization of the valley during the Middle Horizon. These ideological practices reconfigured sociopolitical affiliations and facilitated the regulation of widespread and diverse agricultural projects. Therefore, the striking "over-engineering" of the ritual landscape in the Jequetepeque Valley cannot be interpreted as an after-effect of adaptations to environmental perturbations. Instead, it is emblematic of the important role played by religious ideology in the social, political, and ecological reconstitution of the region during the Late Moche Period.

To conclude, a reviewer of the article raises an interesting point in questioning how the religious landscape in Jequetepeque would have been differently configured if ritual practices and ideological strategies were indeed reactive or adaptive to changing ecological conditions (as opposed to ideology playing a direct mediating role). Although it is difficult to construct such hypothetical scenarios, the query raises important theoretical issues for archaeological studies of social process.

To begin with, if one accepts the functionalist premise that religious ideology redressively adapts to initial shifts in material and ecological conditions, then one would expect more uniform sociopolitical reconstitution throughout the Moche world. The droughts, El Niño rains, and dune encroachments affected much of the coast, and Jequetepeque was not spared this environmental upheaval (Dillehay and Kolata, 2004a; Shimada et al., 1991). Indeed, the argument that politico-religious ideologies dynamically shaped ecological strategies is demonstrated by striking divergence in the reconfiguration of Late Moche power relations and economic structures within specific northern valleys. To restate the inter-regional comparison, the Moche and Lambayeque Valleys, unlike Jequetepeque, experienced rapid re-urbanization and pronounced political centralization. In Moche, religious and political programs were reformulated to such an extreme that traditional ideologies were largely rejected (Bawden, 1996). In Lambayeque, greater religious continuity is witnessed at Pampa Grande, but this massive city also deviated remarkably from the preceding Middle Period in terms of economic and political order (see discussion above) (Shimada, 1994). In Jequetepeque, the situation could not have differed more plainly; rural settlements expanded, intra-regional warfare intensified, and multiple ceremonial loci proliferated for the first time, indicating a popular appropriation and recontexualization of Moche value systems. Moreover, the great variety of farming practices within Jequetepeque suggests that other factors (political, religious, etc.), beyond environmental imperatives, influenced cultural responses to climatic shifts (Dillehay and Kolata, 2004a). If human–environment relations exclusively dictated ideological, political, and economic practices, then one would be hard-pressed to account for this formidable diversity in the constitution of power relations and religious institutions. Of course, even if Jequetepeque did experience rural collapse, rapid urbanization, political centralization, and the expansion of large canal systems at the expense of decentralized agricultural technologies (thus conforming more closely to developments in neighboring valleys), a strictly functionalist interpretation would still be unsatisfactory. The intensification of

social conflict and inequality throughout much of the North Coast suggests that political factors played an equal or more important role than climate change in the reorganization of Moche polities.

As the Moche data prove, people do not react in a knee-jerk fashion to environmental perturbations, following a singular "practical rationality" to maximize adaptation (a fundamental functionalist premise) (Sahlins, 1995). The diversified responses in the Late Moche Period reveal that important cultural forces mediated the social and environmental interface (as they clearly do today). More importantly, the Jequetepeque case study demonstrates the extraordinary complexity of sociopolitical and ecological change as well as the great difficulties of reducing an explanation of historical process to simple cause and effect relationships. In fact, an important position of the article is to reject such causal dichotomies and encourage archaeologists to develop more sophisticated models of social transformation. This point is not to be taken lightly, especially given the present state of the global environment. The specter of environmental ruination cannot be construed in traditionally functionalist terms; economic, political, and even religious interests are irrevocably altering the world's ecology. Of course, ideological worldviews also mediated human–environment relations in the past, as suggested by the Jequetepeque data and by more dramatic examples, such as the famed collapse of megalithic society on Easter Island during the Seventeenth century (Bahn and Flenley, 1992). In short, I refute the notion that religious ideology was in any way more determinative than material or ecological conditions in explaining the complex and widespread transformations characterizing the Late Moche Period. Indeed, the evidence shows that religious and environmental factors were equally significant.

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