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J. Scott Raymond and Richard L. Burger, Editors

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Conclusions: Cultures of the Ecuadorian Formative in Their Andean Context

RICHARD L. BURGER

YALE UNIVERSITY

In this concluding chapter, I step back from the detailed consideration of the particulars of the Ecuadorian Formative and contemplate its broad outline within a larger Andean context. Presented originally as the concluding comments of the 1996 Dumbarton Oaks conference, I have elected to retain the general character of these remarks, updating them where necessary to take into account the progress that has been made since they were presented.

SOME TERMINOLOGICAL CONCERNS

This review best begins with the framing of concept of an Ecuadorian Formative. In his contribution to this volume, Jorge Marcos looks closely at the history of the evolutionary concept of Formative as it has been applied in Ecuador. It can be added here that if one employs the well-known Willey and Phillips (1958: 144) definition of Formative as the presence of agriculture or any other subsistence economy of comparable effectiveness, and by the successful integration of such an economy into well-established sedentary village life, then the cultures of the Late Preceramic in Peru, and perhaps even some of the pre-Valdivia cultures in Ecuador would have to be considered as Formative. Nevertheless, many authors who favor evolutionary terminology have continued to refer to these cultures as Archaic. The crucial feature most investigators seem to be utilizing to determine the beginning of the Formative is the introduction of pottery, apparently on the assumption that it provides a reliable index of well-established agriculture and sedentism despite ethnographic and archaeological research that suggests that the relationship among ceramics, agriculture, and sedentism is far more complex than once thought. In reality, the Formative, as it is applied to the cultures of Ecuador and Peru, is a chronological rather than an evolutionary term.

Moreover, the concept of an Ecuadorian Formative is something of a misnomer, since Ecuador did not exist in the distant past and only became a nation in 1830. Before that time, the area was unified politically with what we now know as Colombia and Venezuela, and in the centuries preceding that the Ecuadorian area was joined administratively with portions of Peru, Chile, and Argentina as part of Tawantinsuyu. A skeptic might ask whether it is fundamentally misleading to take a set of pre-Hispanic cultures more than two millennia old and organize them within a political frame initiated only a century and a half ago. Even an archaeologist unresponsive to the critiques of post-processualists might fear that our meager authority as neutral scholars is being manipulated to legitimize the modern Ecuadorian nation state by linking to it with a putative ancient phenomenon called the *Ecuadorian Formative*.

Would it not be more appropriate to set these modern political concerns aside and refer only to an *Andean Formative*? After all, the Andes are a phenomenon several million years old and have no obvious self-interest or political agenda. As a geological formation rather than a historical invention or cultural construction, they are, in some sense, above suspicion. By speaking of an Andean Formative, the modern and somewhat arbitrary boundaries of contemporary nations could be put aside in the hope that a more scientific and meaningful picture might emerge. This is by no means a new idea, and several of the more recently initiated specialized journals, including the *Gaceta Arqueológica Andina*, *Revista Andina*, *Bulletin de l'Institut Français d'Etudes Andines*, and *Andean Past*, are devoted to Andean rather than Peruvian or Ecuadorian archaeology. Similarly, in an effort to eschew the inherent nationalist bias in treatments of Peruvian or Ecuadorian archaeology, two of my Peruvian colleagues, Luis Lumbreras (1981) and Rogger Ravines (1982), have written syntheses on Andean prehistory, and two others from the United States, Karen Bruhns (1994) and David Wilson (1999), have recently taken this trend even further by offering a continental overview. While any effort to achieve a more comprehensive vision is laudable, it is also difficult, and in these volumes and journals the Formative cultures from Ecuador and Peru often seem to be treated apart from each other—as separate as two meatballs in a plate of spaghetti.

Moreover, employing the alternative of an Andean Formative, as opposed to an Ecuadorian or Peruvian Formative, is not as neutral and unassailable as it appears. The idea that one can meaningfully group pre-Hispanic developments within an Andean frame derives from a particular view of cultural history as well as from South American geography. John Murra (1975) and others have discussed at length a common Andean culture, which has expressions from Ecuador to Chile and Peru to Colombia; discussions of “Andean” agriculture

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and cosmology as well have been widespread and gained considerable acceptance. However, before we accept this idea of *lo andino*, which lies at the heart of the argument in favor of reconceptualizing previous work within the framework of Andean archaeology, we should subject it to the same skeptical consideration as already applied to the paradigms of distinct Peruvian and Ecuadorian archaeologies. By joining Peru and Ecuador within a single framework, are we not merely projecting back into time a naïve ethnographically based model of undifferentiated Quechua culture? Is not the basis for many of the shared cultural traits viewed as typically Andean the result of late 15th- and early 16th-century Inka hegemony over both areas, the spread of Quechua as a *lingua franca* after the Inka defeat, or more recent responses to the expansion of the nation state? Moreover, if we decide to forge ahead with a unified Andean archaeology, are we not consciously or unconsciously being used to legitimize the pan-Andean agenda that has been favored by a subset of Latin American politicians since the time of Simón Bolívar?

Whatever one's perspective, it is likely that the pressures to view Peruvian and Ecuadorian prehistory within a single Andean framework will only continue to increase as a result of the 1999 peace treaty between Peru and Ecuador. Significantly, the two countries chose to mine the archaeological record in their search for a symbol of the new accord (Museo Arqueológico Rafael Larco Herrera 1999). The selection of the spondylus (i.e., the spiny oyster, *Spondylus* sp., or *mullu*) shell as this symbol of peace dramatized the long-standing links between the two countries. The models of spondylus transport as part of long-distance exchange networks during pre-Hispanic times resonated with the late 20th-century neoliberal dream of a new era of expanded trade and cooperation between Ecuador and Peru.

POLITICAL CONSIDERATIONS

Why is it so difficult to present a coherent and integrated picture of an Andean prehistory or, in this case, an Andean Formative? To some degree, it reflects the impact of contemporary politics on scholarship. The laws and bureaucracy governing archaeology in the modern nations of Peru and Ecuador are distinct and at times at odds with one another. Over the last half-century, the military tensions and, on occasion, armed conflicts between the two countries have acted to discourage investigators regardless of nationality from working in both nations. There are exceptions to this rule. Pioneers of Andean archaeology, like Max Uhle, Jacinto Jijón y Camaño, Wendell Bennett, and Edward Lanning come to mind. More recently, contemporary scholars Karen Stothert, Patricia Netherly, Terence Grieder, and Jean Guffroy have investigated

sites in both Ecuador and Peru. However, those investigators who have tried to carry out research in both Peru and Ecuador are exceptional; most have chosen to specialize in either one or the other. As a result of political and academic pressures, few archaeological careers incorporate field or laboratory experience in both countries, and most scholars tend to be much more knowledgeable about one or the other.

To make matters worse, since Uhle's time, archaeologists in each country have developed their own local frameworks and terminology, making the literature resistant to the efforts of well-meaning pan-Andeanists. For example, it may come as a surprise to some that what is known as the *Late* Formative in Ecuador is roughly contemporary with what is sometimes referred to as the *Middle* Formative just a few kilometers away across the border in Peru.

In addition to the factors mentioned above, security concerns in the crucial frontier area between modern Peru and Ecuador have hampered archaeological investigation. This is not merely a problem in theory; less than a year before the Dumbarton Oaks conference that inspired this volume, the two countries were actively fighting in the Cordillera del Condor along the disputed border. More than one archaeological project has been canceled because of sudden flare-ups between the two countries, and granting agencies have traditionally been skeptical about whether such studies are feasible. Military authorities are often suspicious about whether archaeologists can be "trusted" in sensitive zones and whether their projects might be covers for intelligence operations. Justified or not, an artificial buffer zone of ignorance has separated the two nations. Fortunately, this situation has begun to improve with recent work on Formative sites near the border, including investigations by Netherly (Netherly, Holm, Marcos, and Marca n. d.) and Staller (1994) in El Oro, Guffroy (1987, 1994) in Loja and Piura, Shady (1987) and Olivera (1999) in the Utcubamba drainage, and Morales (1992) in the Río Chambira.

Archaeologists have long been aware of the obstacles to archaeological knowledge and interpretation created by modern political boundaries. At several meetings, including a 1971 meeting in Salinas (Marcos and Norton 1982), archaeologists working in Ecuador and Peru have met to share ideas on overcoming these artificial barriers. Frequently, these efforts have been supported by organizations based outside the Andes, such as the Ford Foundation, the Institut Français d'Etudes Andines, the United Nations Educational, Scientific, and Cultural Organization (UNESCO), and others (e. g., Lumbreras 1979a,b).

There are no simple solutions to the concerns touched upon here, but awareness of their existence and the way they affect archaeological research and theory in both subtle and not so subtle ways is a necessary first step in consid-

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ering the heuristic devices we use to understand the Formative cultures that existed in the prehistoric Andes.

FIELDS OF INTERACTION AND THE ECUADORIAN FORMATIVE

An implicit or explicit theme in this volume is that throughout Ecuador's Early, Middle, and Late Formative, a pattern of cultural interrelatedness often has been expressed through stylistic similarity and the exchange of goods. This pattern extended over the coast, highlands, and perhaps into the poorly known eastern lowlands of Ecuador. For example, in the Late Formative, Chorrera-related cultures are found along most of the Ecuadorian coast, and the coeval highland groups at small sites like Cotocollao in the north and Pirincay in the south were linked by exchange with these coastal centers. Although politically independent and culturally distinguishable from each other, the groups appear to have been much more closely linked with each other than with the contemporary Initial Period and Early Horizon cultures found in Peru. In Warren DeBoer's words (see p. 323), "The rather drab neckless *olla* assemblages of early second millennium B.C. Peru seem to be in a separate world" from the more elaborate coeval Valdivia from Ecuador. The cultural contrast is particularly sharp between the late Chorrera manifestation and the Chavín horizon cultures to the south, but it is also true for the earlier Initial Period cultures (Burger 1984; Hocquenghem 1991). Despite the considerable amount of fieldwork and looting at Formative sites in Ecuador over the last 15 years, the conclusion that Chavín iconography does not occur in Ecuadorian sites remains valid (Burger 1984: 39–42; 1992).

Separate Peruvian and Ecuadorian spheres of interaction can be demonstrated in many ways. The pattern of obsidian distribution is a particularly unambiguous one. Obsidian from the Mullumica and Quiscatola–Yanaurco sources east of Quito were exchanged during the Formative as far south as La Emerenciana in El Oro, just north of the Peruvian frontier, but it has yet to be found at archaeological sites within the borders of modern Peru (Burger et al. 1994; Burger, Asaro, and John Staller unpublished data). Conversely, Quispisisa type obsidian whose source was recently located near Sacsamarca in the south central highlands of Peru (Burger and Glascock 2000), was widely traded within the Chavín sphere of influence and appears as far north as Pacopampa, only 150 km from Peru's frontier. It has yet to be documented within the borders of modern Ecuador. Significantly, the inhabitants of Pacopampa acquired obsidian from the Peruvian Quispisisa source despite being significantly closer to the obsidian sources in northern Ecuador (Burger 1984).

The existence of two separate spheres of interaction or cultural fields, what

Bennett called separate cotraditions, has its roots at least as far back as Ecuador's Early Formative and, as Karen Stothert suggests in this volume, probably long before the Formative. The pottery-producing agricultural societies of the Valdivia culture that figure so prominently within these pages offer a sharp contrast to the prepottery cultures of the Peruvian coast, the so-called Cotton Preceramic that were their contemporaries. In the third millennium B. C., the late Preceramic highland cultures of central and northern Peru at sites like Galgada, Huaricoto, and Kotosh were closely linked with their coastal counterparts through exchange networks. They also shared a tradition of monumental architecture (Burger 1992), an observation that has been reinforced by the recent discovery of ceremonial hearths at Preceramic sites in Supe and Casma (S. Pozorski and T. Pozorski 1996; Shady 1998). However, these Peruvian Preceramic sites bear little relation to the cultural patterning known from the coeval Formative cultures of the Ecuadorian highlands or coast.

By recognizing the distinctive nature of the Ecuadorian Formative, I am not arguing that this phenomenon can be understood completely in isolation from the developments in Peru. On the contrary, there is ample evidence of contact between Formative Ecuadorian cultures and their contemporaries in Peru. Nor do we suggest that the nature of these contacts or even the extent of the distributions of these cultures was set in stone. In fact, existing evidence suggests the distribution and limits of cultures changed dramatically. For example, on the coast toward the end of the Early Formative, a variant of the Valdivia culture appears to extend into the northern extreme of what is now Peruvian territory. In another case, the analysis of pottery from Manachaqui Cave in the Peruvian montane forest above Gran Pajatén demonstrated that the later Initial Period pottery had strong links with the Yasuni, Upano, Chorrera, and Engoroy styles of Ecuador rather than its Peruvian counterparts. Located along an ancient road system, the Manachaqui Cave results imply interregional travel and communication in pre-Chavín times between the *ceja de selva* of what is now northern Peru and the Ecuadorian highlands and coast (Church 1996).

More commonly, as in the work of Guffroy (1994), the cultures occupying the modern border region from Piura to Tumbes do not appear to be exclusively linked to either Peruvian or Ecuadorian cultures; rather they appear to be distinctive while mutually sharing elements with both. These cultures, such as the Paita or Ñañañique, can be understood as frontier culture phenomena in which groups serve as mediators between distinctive cultural areas. The discovery by looters of a gold Chavín repoussé plaque in Upper Piura at the archaeological site Loma de Macanche, which lacks other Chavín features, serves to illustrate the mediating status of this frontier zone (Kaulicke 1998: 34).

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During the Formative, land routes leading from the headwaters of the Río Catamayo (a tributary of the Río Chira) into the Río Yapatera (a tributary of the Río Piura), and then across the Río Olmos and Río Motupe into the Lambayeque drainage connected the two regions (Hocquenghem, Idrovo, Kaulicke, and Gomis 1993: fig. 5). This inland route, along which Spondylus and other goods moved, avoided the problems posed by the extensive desert of Sechura, and continued to be utilized in much later times, although the expansion of Tawantinsuyu and the integration of Ecuador into this Andean empire made it feasible to use coastal Tumbes as a port of entry for these goods (Hocquenghem et al. 1993: fig. 2).

In calling attention to distinctive cultural areas during the Formative, I am not denying the existence of the enormous variation within each area. As Zeidler and Isaacson, Raymond, and others in this volume emphasize, there was a pattern of uneven development in Formative Ecuador, and the historical trajectories of neighboring valleys were often quite different. Elsewhere I (Burger 1992) have suggested that this was equally true for the late Preceramic and Formative in Peru. Yet this observation of internal variability in no way undermines the utility differentiating between a distinctive Ecuadorian Formative from the coeval field of cultures to the south during the Formative. This latter observation leads us back to Donald Lathrap's conviction that the Ecuadorian Formative might best be understood as a variant of the Tropical Forest Culture. Since no contributors to this conference volume specifically criticize this view and Karen Stothert and Scott Raymond draw upon it for inspiration, I presume that most specialists agree with Lathrap's perspective. If we accept this contention, as several authors implicitly do, it would be worth considering the degree to which the differentiation between the Ecuadorian and Peruvian culture areas essentially conforms to cultural adaptations to two dissimilar climatic regimes—the moist tropical regime that characterized and continues to characterize much of Ecuador compared with the arid regime associated with the Humbolt Current, which characterizes much of coastal and highland Peru. It is the heavy rainfall in western Ecuador that permitted a Tropical Forest Culture pattern to flourish, and it can be argued that its absence in Peru would have made its expansion into that zone unfeasible. The “modern” climatic pattern already characterized the Ecuadorian Formative, but prior to 3000 B.C., the northern Peruvian coast as far south as Chimbote may have been wetter, warmer, and more like Ecuador than it is today (Sandweiss et al. 1996). After Valdivia 2a, the arid Humbolt-dominated climate regime extended near the current Peru–Ecuador border and thus during almost all of the Formative, the sharp environmental contrasts between the Ecuadorian and Peruvian zones resembled their current configuration.

GEOGRAPHIC FOUNDATIONS OF THE ECUADORIAN FORMATIVE

Let us briefly review some ramifications of Ecuador's climate because it helped shape Formative cultural features that distinguish it from the Peruvian Formative. The strong rainfall along the coast and western slopes supported large rivers throughout the year along most of the coast. This in turn permitted water transport to flourish within the valleys and linked these valley populations to the Pacific coast into a single transportation network. The rains also supported the tropical forest vegetation that included balsa wood and other trees that could be used to manufacture canoes and rafts. This early development of water transport played a role in the exploitation of deepwater fauna, as illustrated in this volume by Peter Stahl's reconstruction of harpoon-wielding fishermen bagging tuna and swordfish from their boats. Water transport also played a prominent role in promoting long-distance exchange along the Pacific coast, as Marcos (1978) has forcefully argued. While an analogous pattern of riverine trade is well-known within the eastern tropical forests of the Orinoco and Amazon drainages (Lathrap 1973), it has no parallel in coastal Peru where (a) the rivers are usually dry for part of the year and never navigable and (b) the arid climate could not support vegetation suitable for the production of wooden boats.

Reed boats, of course, were produced in antiquity along the Peruvian coast, but whether they were used for long voyages during the Formative remains unknown. Modern artisanal fishermen employ them only for short off-shore runs rather than for longer journeys because they become waterlogged. Thor Heyerdahl (1981: 15–16), on the basis of his observations in Iraq, has suggested that reeds will resist waterlogging if properly harvested, but we have no way of knowing whether they were in the Central Andes during Formative times. These challenges were eventually overcome by the importation of balsa wood for boats to the Peruvian coast and Lake Titicaca, but this occurred in the context of expansive states long after the Formative. It may be significant that the earliest evidence for off-shore voyages in ancient Ecuador coincide with the occupation of La Plata Island during the Middle Formative (i. e., Machalilla; Stothert this volume), while the earliest materials known from islands off the coast of Peru are from the Moche culture, more than 1,000 years later (Kubler 1948).

Thus, the current evidence suggests that during the Formative, the contrast between a dependence on water transport to the north and land transport to the south had important implications for understanding the distinctive character of pre-Hispanic Ecuador. Moreover, while transportation along Ecuador's rivers and oceanfront would have been straightforward and probably common

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according to Hocquenghem et al. (1993), roundtrip travel into the Humboldt Current would have been technically difficult, if not impossible. There is no consensus on this question, and other scholars believe that pre-Hispanic Andean watercraft could tack against the wind making southerly trips possible. Whether or not such long-distance maritime trips were undertaken between the two culture areas during the Formative, the currents would clearly have favored more frequent travel within the Ecuadorian region and, as a consequence, reinforced the integration of this zone.

Another ramification of Ecuador's relatively abundant rainfall was adequate conditions for farming without primary dependency on irrigation; this pattern, of course, is analogous to the situation in the tropical forests east of the Andes. While the aridity of the Santa Elena peninsula caused artificial holding ponds (*albarradas*) to be built during the Late Formative (Stothert 1995, this volume) and the unusually poor drainage at the mouth of the Guayas led to the construction of ridged field systems (Buys and Muse 1987), most zones in Ecuador did not require large-scale public works and their attendant maintenance. This was equally true for the Ecuadorian highlands, where small-scale irrigation seems to have been introduced only in post-Formative times as a way to promote nucleation and/or safeguard the maize crop.

Contrast this situation with that in Peru where coastal agriculture is almost impossible without irrigation and where experience with irrigation had already been developed in the third millennium B.C. at centers like Caral, El Paraiso, and La Galgada (Grieder, Bueno, Smith, and Malina 1988; Quilter et al. 1991; Shady 1998). By Initial Period times, coeval with late Valdivia and Machalilla, the population in most coastal valleys of Peru were largely dependent on irrigation agriculture, and hydraulic systems had been introduced into many highland areas as well. Thus, the agricultural system in the Peruvian area was one in which communal labor for construction and maintenance was central. Ultimately it tied families to their lands because of the enormous investment required in their infrastructure. In the Central Andes, irrigation and terracing lay at the heart of their subsistence strategy; in the Ecuadorian area, they were apparently more of an afterthought or something reserved for special cases.

It is well-known that the differences between the Humboldt and the Equatorial Counter Current not only impact the precipitation patterns but they also affect the yield of marine resources. The Humboldt has a far greater biomass and consequently better fishing, shellfish gathering, and hunting of sea mammals and birds. Edward Lanning, Michael Moseley, and others have argued that the unusual abundance of marine resources facilitated the success of Late Preceramic

coastal cultures whose success at fishing and collecting limited their dependence on supplemental agriculture. Nevertheless, the importance of Preceramic cultivation has probably been underestimated because of a focus on shoreline sites. Indeed, the work at Caral in the mid-Supe and La Galgada in mid-Santa suggested that many of the centers were agriculturally oriented long before the introduction of pottery. Despite this, the riches of the Humbolt Current made it feasible to delay a shift to dependence on agriculture in many areas, in contrast to what had occurred to the north in the Ecuadorian area. In any case, although many of the same crops were probably being grown in both areas (Pearsall this volume), the difference between the coastal cultures of Peru and Ecuador during the third millennium B. C. was dramatic. By the time the peoples of the Peruvian coast became fully committed to agriculture as their primary subsistence strategy, the people of coastal Ecuador had already been farmers for many centuries. Clearly they were well down a different path. Similarly, the cultivation of maize as the most important food crop seems to have occurred in Ecuador many centuries before this shift took place in the Central Andes (Pearsall this volume).

In the contrasts between Tropical Forest and Andean farmers, on the basis of ethnographic data, Steward and Faron (1959) signaled substantial differences in population density. While the precision of their figures is dubious, the contrast may be germane when considering the demographic ramifications of the two agricultural systems. One of the features that I found noteworthy in the description of the Early Formative settlement systems described here for coastal Ecuador is the comparatively small size of the documented populations. While information is far from adequate even in Peru, a substantial population is implied by the numerous contemporary Initial Period centers that have been documented in almost every valley of the central and north coast; when compared with the data on Preceramic sites, this suggests a significant increase of population with the expansion of irrigation farming in the lower valleys. The existing data seem to point to much less dense populations among Formative Ecuadorian groups than those in Peru. This contrast continues and even deepens during the final millennium B.C., during which large centers with populations numbering in the thousands are found in several locations in Peru, while the numerous coeval settlements in Ecuador apparently remained comparatively modest in size.

HIGHLANDS AND COAST IN THE ECUADORIAN FORMATIVE

In considering the chapters herein, I was struck by another major distinction between the Ecuadorian and Peruvian areas during the Formative—a dif-

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ference in the relative importance of the highlands compared with the coast. In the Central Andes throughout prehistory, the economic and demographic “center of gravity” was in the highlands; in Ecuador, as was evident here in the chapters by Bruhns and Zeidler and Isaacson, the highlands appear to have been lightly occupied throughout the Formative (see also Arelleno 2000). In some areas, there is little evidence of any occupation before the Late Formative, and even the best known Late Formative sites—Cotocollao in the north and Pirincay and Cerro Narrio in the south—appear to be little more than small villages with populations numbering only from a few hundred to, in the view of some, just a few dozen. While this pattern could be a product of preservation and sampling, the amount of investigation and the quantity of destructive development in major highland valleys should have yielded much more evidence of large Formative settlements, if such settlements existed.

As indicated, this pattern from highland Ecuador is in sharp contrast to Peru. In the latter, large populations already existed in many areas by the Late Preceamic, and numerous large centers are documented for the Initial Period and Early Horizon. By the mid-first millennium B.C., highland centers like Chavín de Huántar, Kuntur Wasi, and Pacopampa had large residential populations as well as numerous surrounding village sites (Burger 1992). Indeed, the demographic “heartland” in the Peruvian area was traditionally in intermontane valleys, and this was already the case during the Formative. With ample evidence of monumental constructions at many of these highland sites, it is clear that the developments of the Peruvian Formative was the result of interconnected and parallel processes in the coast, highlands, and eastern slopes. This pattern differs sharply from the situation documented for Ecuador in which the highland population appears relatively late and sparse (Bruhns this volume), thereby suggesting a less important and more asymmetric relationship than in Peru.

Two critical environmental factors are relevant to the constrained Formative developments in the Ecuadorian highlands: (a) the prominence of volcanic activity and (b) the initial absence of wild and domesticated camelids. In this volume Zeidler and Isaacson convey the seriousness of some 20 eruptions that occurred in Ecuador since the Pleistocene and of at least 2 major eruptions in northern Ecuador during the Formative, one during late Valdivia times and the second during Late Formative (i.e., Chorrera) times. In both cases, the bottomland agriculture in the intermontane valleys was vulnerable to the resulting ashfall and other consequences of the eruptions. It appears that lengthy periods of abandonment followed each cataclysmic event in a sizable region in the north. These unpredictable catastrophes must have occasioned considerable chaos, producing disruption and in some cases massive migration. For example,

Zeidler and Isaacson argue that the flourishing of the Chorrera culture on Ecuador's north coast was linked to the migration of highland peoples departing from areas impacted by a major eruption. It seems reasonable to hypothesize that these natural events had a chilling effect on the development of autochthonous highland cultures capable of supporting dense populations, despite the wide range of cultigens like potatoes and *oca* that they had at their disposal. Unlike the famous El Niño events that are the bane of the northern Peruvian coast, the eruptions in highland Ecuador had impacts that lasted for generations, as opposed to the year or two necessary to recover from even the most severe El Niño event. This situation, of course, is not unique to Ecuador; an analog may be found in the impact of volcanic activity on highland Maya development when compared with the less vulnerable Maya lowlands (Dull, Southon, and Sheets 2001; Sheets 1983).

While the entire Andes are volcanic in origin, there are no active volcanoes in central or northern Peru, nor have there been in the relatively recent past. Consequently, the development of Peruvian cultures in most areas was not affected by the violent eruptions such as those that occurred in highland Ecuador. It is interesting, however, to consider the case of Arequipa in southern Peru where there is considerable volcanic activity. While Arequipa is one of the most productive and prosperous centers in contemporary highland Peru, its role in Peruvian prehistory remains poorly understood. Arequipa's absence from recent syntheses of Peruvian archaeology contrasts with its prominence in the socioeconomic and political world of the modern Peruvian nation. Archaeologist José Chavez (1993: 158–161) has argued that Arequipa's prehistory can only be understood within the context of the volcanic eruptions in its past. In contrast, the highlands of central and northern Peru were spared these disruptions during the Formative and in later times.

Secondly, as mentioned above, at the time of first settlement the moist *páramo* grasslands of Ecuador did not support wild camelids (i. e., vicuñas and guanacos [e. g., Lynch 1989]). Furthermore, while domesticated llamas are able to survive on these northern grasslands, they do not appear to have been introduced in significant numbers until after the Formative (Stahl this volume). If George Miller and others are correct in this assessment (Miller and Gill 1990: 49; cf., Miller and Burger 1995), the *páramo*, one of the Ecuadorian highlands' largest and richest habitats, would have been underexploited by its inhabitants during most of the Formative. Furthermore, the absence of llamas would have constrained land transport of bulk goods, a particularly important consideration in those areas where, as in the case of the Ecuadorian highlands, navigable rivers are absent. In contrast, llamas were already domesticated in the high Peruvian grasslands of

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Junin by 6000 BP (Wheeler 2000), and by the end of the Initial Period they seemed to have been in wide use for transport even to the coast. By the beginning of the Early Horizon in Peru, domesticated camelids were being raised throughout the highland area, and llama caravans increased in scale and scope. Llama meat and camelid wool gained in popularity and became major features in the highland economy and were key items of exchange with the coast during the Chavín Horizon. The absence of camelids and camelid products from the Ecuadorian highlands during the Formative could only have made the *páramo* zone and the highlands in general less attractive to potential settlers and further constrained the growth of populations who chose to live there.

CULTURAL CONTACTS AND CULTURAL CONTRASTS

The foregoing remarks suggest that we can identify separable Ecuadorian and Peruvian cultural areas during the Formative and that the cultures in these two areas differed from each other in a host of fundamental ways. Many of these differences can be traced to differing conditions and resources and resulting adaptive strategies, but there also is a cultural dimension to these differences.

In delineating differing areas, we are not denying or minimizing the existence and importance of contact between the Ecuadorian and Peruvian areas. Several of the contributions in this volume touch upon the contact that existed between the Formative cultures of what is now southern Ecuador and northern Peru. These can be traced back into the mid-Holocene when the climate of the Peruvian north coast may have resembled that of modern Ecuador (Sandweiss 1996; Stothert and Quilter 1991), but they continued during the Formative after climatic conditions had achieved their modern configuration. During the Formative, the relations between northern Peru and southern Ecuador varied in character and in intensity, but the prehistory of these regions were unambiguously linked. As Betty Meggers (Meggers, Evans, and Estrada 1965: 169) first observed and Ed Lanning (1967: 76–77) and Lathrap (1974: 119–124) subsequently expanded upon, two pyroengraved gourds from Huaca Prieta were decorated with exotic designs of the Valdivia style. Their presence strongly suggests that the peoples of this Late Preceramic site in northern Peru were connected by some exchange mechanism to the Early Formative culture of Ecuador's south coast (see Bischof 2000 for an alternative interpretation).

No less ambiguous and far more common is the presence of spondylus and strombus shell at Late Preceramic, Initial Period, and Early Horizon sites on the Peruvian coast and adjacent highlands. Easy to recognize even by malacologically challenged archaeologists, few fragments of spondylus shell fragments in Peruvian sites remain unreported in the archaeological literature (Paulsen 1974). In

addition to imported exotic raw or manufactured items, contact between the two areas during the Formative is also attested to by the transmission of ideas that served to inspire the production of local copies of alien artifactual forms. A well-known example of this is the adoption of Machililla- and Chorrera-style flat and cylindrical ceramic stamps, probably used for skin decoration, by the Cupisnique culture of Peru's Initial Period (Lathrap et al. 1975: 51). An even better known example was the late adoption of the stirrup-spouted bottle by the Cupisnique and other Peruvian cultures; according to John Staller's (2000) work in El Oro, such vessels were already being produced in southern Ecuador by late Valdivia times. Other evidence of contact between the Formative cultures of Peru and Ecuador can be seen in the roughly coeval representation of iconographic themes too idiosyncratic to have appeared independently. For example, the roughly coeval depiction of sculpted contortionists on both Chorrera and classic Cupisnique ceramics is hard to dismiss as a coincidence (Elera 1994: 239; Lathrap Collier, and Chandra 1975: 60).

While the evidence for these connections is difficult to dismiss, it is unclear how profound the influence of these contacts proved to be. It may be significant, for example, that while the ceramic stamps of the Ecuadorian Formative were emulated, the iconography on the Cupisnique versions of the stamps was distinctively local. While the anachronistic stirrup-spouted bottle of late Valdivia and Machililla inspired a long tradition of such vessels in Peru, their popularity in Peru did not occur until after 800 B.C. by which time they had fallen out of fashion among Ecuadorian cultures and had been replaced by single-necked bottles with strap handles.

Much has been made of the spondylus trade, whether by sea, as Marcos has proposed, or by land, as Hocquenghem has suggested, or both, yet the exchange of an easily identifiable exotic does not necessarily link cultures in any but the most superficial way. If intermediaries from the intervening frontier region served as mediators, the contact may have only limited impact beyond the transitional zone. For example, throughout the Middle Ages substantial quantities of ivory and gold from West Africa were supplied to Western Europe by Muslim trading groups centered in North Africa. These exotic materials were commonly used to adorn religious art and the clothing of the European elite; nevertheless, the impact of sub-Saharan culture on Europe, or even European awareness of the peoples producing these materials, was meager.

In the case of the highly valued spondylus shell, a reasonable analog to ivory in the Old World, there is ample evidence that during most of the Ecuadorian Formative small quantities of spondylus was transported southward to groups on the Peruvian coast and highlands, but the available evidence does not sug-

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gest that the symbolic meanings associated with the spiny oyster transferred crossculturally. In fact, there is some evidence to the contrary. The dyadic relationship of the spondylus with the strombus, representing female–male opposition, appears prominently in both the Chavín and Cupisnique cultures of Peru, whereas it is unknown among the Formative cultures of Ecuador (Stothert this volume). One of the most common ceremonial uses of the spondylus in Formative Ecuador was for the fabrication of shell masks; but these objects, presumably utilized in religious rituals in the highlands and on the coast, have never been recovered at Peruvian archaeological sites, and they appear to have been absent among the cultures of the Peruvian Formative.

The strombus shell, another mollusk from Ecuadorian waters sought after in Formative Peru, was especially valued in Chavín times as a shell trumpet, and strombus shell trumpets elaborately engraved with Chavín religious imagery have been recovered in situ on the summit of the temple at Kuntur Wasi (Kato 1994: 215). Yet while the strombus is native to Ecuador, trumpets made from this material do not appear to have held a comparably important place in ritual life among the cultures of the Ecuadorian Formative. The apparent failure to export the original symbolic associations of the spondylus, like the failure of the Chavín religious ideology to spread to the Ecuadorian cultures, suggests that the differences between the cultures of the Ecuadorian Formative and the coeval cultures within Peru were not significantly diminished by the contacts between them, nor were these differences solely based on subsistence, demography, and other aspects of human adaptation.

From an archaeological perspective, perhaps the most conspicuous difference between the formative cultures of Ecuador and their contemporaries in Peru is the general absence of large-scale public architecture. As was illustrated in the 1983 Dumbarton Oaks conference on monumental architecture in the Andes (Donnan 1985), massive constructions were featured at Peruvian sites beginning in the Late Preceramic, and this trend continued through the Initial Period and into the Early Horizon. While some of the Formative cultures of Ecuador may have had ceremonial centers featuring public architecture, little is known of these constructions. We do know that some late Valdivia sites such as La Emerenciana have gained attention partly because of the documentation of its platform constructions (Staller 1994). Yet the largest of these is a mere 1.5 m in height. Even the still undocumented public complexes Stothert discusses in this volume represent a rather small investment of labor when compared with its Initial Period Peruvian counterparts, which often rise between 15 to 30 m above the surrounding landscape. In coastal valleys such as Rimac, Chancay, Lurín, and Casma, there are several coeval massive pyramid complexes within a

single valley. Public constructions of comparable scale have been documented in the highlands for the Early Horizon (Burger 1992). Measured in millions of person-days, the labor investment in these constructions bespeaks a culture in which communal labor for public purposes lies at the heart of societal concerns. Judging from the available evidence, the prominence of communal labor in the Central Andes was the result of the basic organization and ideology of quotidian life.

As recently confirmed at Caral in the Supe valley, this Central Andean pattern of massive public constructions appears by 2600 B. C. (calibrated) along the Peruvian coast and is consequently coeval with Valdivia (Shady, Haas, and Creamer 2001). Monumental architecture and the implicit reliance on corporate labor consequently predates the establishment of states with coercive authority or even stratified polities in the Central Andes. At roughly the same time, the characteristic Tropical Forest village pattern of large multifamily houses surrounding a central plaza had appeared at Real Alto in the Guayas drainage (Raymond this volume). The contrast between these two long-standing patterns suggests fundamentally different ideologies of social relations and the relationship between the individual family and the community, just as it reflects different notions of the appropriate way in which societies communicate with the supernatural.

When I first began to prepare this text, I kept remembering one of Don Lathrap's revisionist statements in his review of Kent Flannery's *Early Mesoamerican Village*. Flannery (1976) argued that with the appearance of "primary village farming communities," Mesoamerica first became definable as a culture area, distinct from the desert food gatherers to the north and the tropical forest peoples to the south. Lathrap (1977: 1321) disagreed and argued that with the appearance of Mesoamerican farming communities, there was an "essentially uniform culture" that extended all the way from Mesoamerica to northern Peru; the uniform agricultural basis for this entire area was Tropical Forest Culture. In this view, the Formative cultures of the fourth, third, and second millennium B.C. in northern Peru and Ecuador had yet to be distinguished in a fundamental way, and it was only with the rise of Chavín after 1000 B.C. that the Central Andes started to differentiate from this uniform agricultural substratum and finally embarked on its individual path toward civilization.

Over two decades have passed since Lathrap offered this statement, and I do not believe that the emerging pattern of evidence has supported his claim, at least in regard to Ecuador and Peru. While Formative peoples of Ecuador and Peru were in contact with each other and shared some characteristics, including their cultigens, there were considerable differences between the cultures of

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these areas from the beginning of the Ecuadorian Formative, if not earlier, in terms of economic systems, agricultural technology, religious patterns and sociopolitical organization. After reviewing the chapters in this volume and considering the existing literature, I must argue that with the appearance of “primary village farming communities,” the Central Andes and Northern Andes, which includes Ecuador, embarked on different and distinctive pathways.

Nonetheless, Lathrap’s identification of Chavín as a crucial watershed dividing the pathways taken by those of the Central Andes and those of the Northern Andes, including Ecuador, remains a valuable insight, since subsequent research has confirmed that it was during this time (i.e., the first millennium B.C.) that political hierarchies and highly stratified societies emerged in northern and central Peru. Meanwhile, the existing evidence on the coeval Late Formative cultures of Ecuador has led Stothert (this volume) to conclude that the Formative peoples of Ecuador lacked a political hierarchy focused on a dominant group of elites. Instead power was more widely and evenly distributed.

Given this fundamental contrast in sociopolitical organization, it is not surprising that the coeval Chorrera and Chavín art style appear to have moved in diametrically opposed directions. Chavín iconography, drawing upon the fierce and forbidding imagery of the Cupisnique and Manchay styles, features ever more complex composites of human and other predatory animals, most notably unnatural combinations of jaguars, caymans, serpents, hawks, and crested eagles. As the Chavín style evolves, it becomes more esoteric and involuted, while still reproducing the monstrous combinations of carnivorous animals that was its hallmark. Chavín iconography suggests a set of beliefs and practices linked to a sphere outside the realm of daily experience that is both dangerous and powerful. The Chorrera art style, in contrast, eschews hybrid and fantastic shapes. Instead it offers depictions of creatures or plants that exist in nature and does so with a degree of accuracy that allows the viewer to recognize the species as well as the genus of the representation (Cummins this volume). The visual representation of natural forms in Chorrera art suggest a cosmology that focuses on the set of relations observable in this world as a key to understanding the cosmos and the human role within it.

By the end of the Formative, the peoples of pre-Hispanic Ecuador and Peru shared many basic features, such as a sedentary life that was based on a stable system of intensive agriculture, and both were physically linked through long-standing exchange networks across the permeable frontier that separated them. Despite these similarities and linkages, the world of the Ecuadorian Formative appears to have been profoundly different from that of Central Andes in terms of its economic organization, its sociopolitical structure, and the ideological frameworks that made life comprehensible and meaningful.

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