WAVES OF INFLUENCE

Pacific Maritime Networks
Connecting Mexico, Central America,
and Northwestern South America

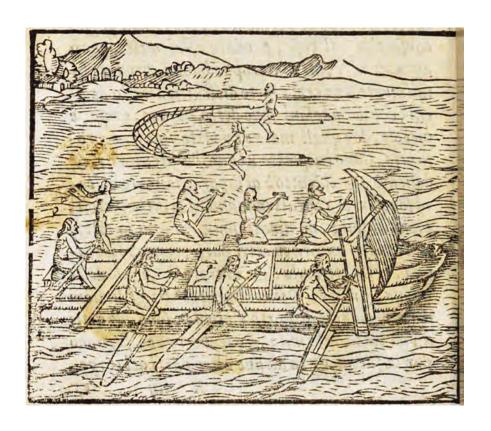
DUMBARTON OAKS PRE-COLUMBIAN SYMPOSIA AND COLLOQUIA



Series Editors
Colin McEwan and Frauke Sachse

Waves of Influence

Pacific Maritime Networks
Connecting Mexico, Central America,
and Northwestern South America



Christopher S. Beekman and Colin McEwan editors

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JACKET PHOTOGRAPHS: Balsa sailing raft off of Pimentel, Perú, May 20, 1894. Photograph by Hans Hinrich Brüning

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FRONTISPIECE: A sailing raft. Reproduced from Girolamo Benzoni, La Historia del mondo nuovo (Venice, 1972), bk. 3, 165.

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We dedicate this volume to our colleague and friend

Colin McEwan (1951–2020)

His research contributed to our understanding of local and large-scale Indigenous perspectives on sacred landscapes. But his dedication to promoting Pre-Columbian studies was still greater, and he sought to bring colleagues from across the Americas into fruitful collaboration. We miss his keen humor, his tremendous will in the face of adversity, and his energetic pursuit of knowledge.



Colin McEwan, Stob Breac, Scotland, 2016. Photograph by George Aitken.

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PEOPLE IN THE ANCIENT AMERICAS KNEW THEIR landscapes, they explored their horizons, they traveled far. Analyzing and reconstructing human mobility across the Americas since the time of early human expansion remains a great challenge. With every piece of evidence for long-distance contact that emerges, more questions arise. How were people connected? What were the driving forces for making and maintaining contact? And how far back does the knowledge about routes and directions go? Early humans dispersed into the Americas along a Pacific route. And although the coastal migration theory remains debated, we know that Pleistocene sea travel existed and was a technological possibility. It would be provocative to try and trace later knowledge about routes and seacrafts back into the continent's deep past. But the high number of language isolates along the Pacific Rim at least suggests that the western coast never ceased to be an axis of communication and maritime mobility.

This volume revisits the question of Pacific coastal contacts through time, focusing specifically on the evidence for maritime travel in the area between western Mexico and northern Peru. The chapters collected here were first presented during a symposium that was held at Dumbarton Oaks on October 11-12, 2019. Christopher Beekman and former director of Pre-Columbian Studies Colin McEwan brought together scholars from a range of different disciplines and regional specializations to reappraise evidence for coastal contacts in the light of new data. The contributors explore the existence of this coastal interaction sphere by looking at the markers that signal such social networks and by discussing the technical possibilities of maritime mobility. The evidence compiled in the present volume ranges from early historical reports about the use of rafts and canoes along the Pacific coast to scientific simulations of climatic impact on long-distance voyaging. Authors examine the role of transport by sea in the trade of specific goods,

such as cacao and spondylus, and they discuss how material objects can signal contact, both in the form of actual physical exchange or by dispersal of knowledge and conceptualizations. Where answers are still being sought, the contributions provide thought-provoking impulses for future research.

By concentrating on dynamic and overlapping networks that integrate West Mexico, Central America, and northwest South America, the present volume challenges the traditional focus on the main cultural areas of Mesoamerica and the Andes. Advocating for a more holistic approach to the study of the ancient Americas, the editors show that these categories may have been obscuring and marginalizing past cultural realities. During his tenure at Dumbarton Oaks, Colin McEwan made it his task to bring the research on these societies located between the large cultural areas into the center of attention. The present compilation is, therefore, one of a series of recent Dumbarton Oaks publications on Central America and complements the two volumes cataloguing Pre-Columbian art from Central America and Colombia edited by Colin McEwan and John W. Hoopes.

It comes with the greatest pain to say that Colin McEwan would never get to hold any of these three books that manifest this scholarly legacy at Dumbarton Oaks. Illness prevented him from attending the symposium, and our hopes for a lasting recovery were shattered on March 28, 2020. Waves of Influence represents the spirit of Colin McEwan as a scholar who was always open to innovative thoughts and determined to explore new shores. He kept working on this volume until the month he passed. And we will be forever grateful for this sacrifice. My thanks go to Chris Beekman for his phenomenal support in sailing this ship through to publication.

This fine volume is the outcome of a concerted effort for which many need to be thanked. In addition

to the editors and contributors, I am grateful to two anonymous reviewers and the senior fellows in Pre-Columbian Studies for their valuable comments and suggestions and to the exceptional publications team—including Kathy Sparkes, director of publications, and Sara Taylor, managing editor—who steered the publication process with rigor and care.

I hope that this volume will help to fuel the scholarly debate about Pacific coastal contacts and maritime mobility and lead to new research on how the ancient Americas were connected by land and by sea.

Frauke Sachse Program Director, Pre-Columbian Studies

Landfalls, Sunbursts, and the Capacha Problem

A Case for Pacific Coastal Interaction in Early Formative–Period Mesoamerica

GUY DAVID HEPP -

IN THIS CHAPTER, I EXPLORE HOW RELATIONSHIPS OF interaction and influence may relate to the earliest pottery of the Pacific coast of the Americas. Offering comparisons of Early Formative coastal Oaxacan ceramics with early wares from Colima and Ecuador, I focus my argument on the "sunburst," a particular decorative element that several authors have discussed previously (Hepp 2019a; Kelly 1974, 1980; Mountjoy 1994, 2012). In addition to stylistic similarities, I present the results of a small sourcing study of coastal Oaxacan pottery along with a few other lines of evidence, including formal vessel comparisons, effigy vessels, and human dental modification. I suggest that the "sunburst" motif, while appearing on locally produced ceramics, evinces early long-distance Pacific coastal interaction. I also address some potential weaknesses of this argument and doubts that beg further study. This chapter joins a long list of other research on South American, Central American, and Mesoamerican ceramic origins (e.g., Brush 1965; Clark and Gosser 1995; Ford 1969; García Cook and Merino Carrión 2005; Hoopes 1994b; Meggers and Evans 1969; Tabarev et al. 2016). In short, I argue that some version of the coastal network of interaction that the Spanish witnessed in the sixteenth century between Indigenous communities from as far apart as South America and West Mexico (Dewan and Hosler 2008) may have been in place by at least as early as 2000 BCE.1

The archaeological study of long-distance interaction has, much like major political parties in the United States, been subject to a swinging pendulum of popularity. Following a period of relative hiatus, during which "diffusionism" was discounted as an overly simplistic way to understand how cultures interact and influence one another, an emphasis on long-distance interaction is

reemerging in some quarters, albeit with reconsiderations of the evidence, improved dating methods, and more excavated contexts (Moberg 2013:139-142; Trigger 2006:217). For example, in the 1960s and 1970s, it was common to hear arguments such as those by James Ford (1969), who suggested that ceramics in the Americas could be traced back to a homeland in South America, or Betty Meggers and colleagues (Estrada, Meggers, and Evans 1962; Meggers 1975), who suggested that one might look further afield, even to Japan. For some critics of diffusionism (e.g., Kubler 1962:11-12), the question was of greater import than simply identifying the spread of technological innovation rather, it was a stand against a sort of twentieth-century resurrection of the Mound Builder debate and the potentially racist implication that New World social developments owed something more to the Old World "beyond the original paleolithic fund of knowledge" brought from Asia in the late Pleistocene. For the most part, however, serious questions of diffusionism in the late twentieth century focused on developments within the Americas rather than unsubstantiated claims for continued contact with the Old World. By the 1990s, John Hoopes (1994a) had joined others (Grove 1976; McEwan and Dickson 1978) in questioning the logic of a single source of New World pottery and emphasized instead evidence for independent innovations. While Hoopes (1994a:1-2) was primarily interested in "heterogeneity among the earliest [ceramic] complexes" in the Americas as evidence detracting from diffusionist models, he and others, such as Stuart Fiedel (1992), questioned how archaeologists deal with formal similarity when it does appear. From this perspective, such semblances were often a matter of independent and parallel development rather than contact.

Discussions of interregional influence also relate to debates about the significance of style. Michelle Hegmon (1992:527), for instance, questioned how archaeologists often use material culture as a shorthand for ethnicity and identity. In essence, once stylistic similarity is identified, what does it actually mean about the communities involved? It tells us nothing about how foreign styles were reinterpreted by local people. A related concern is where we do not see similarities. Recently, Wesley Stoner and Christopher Pool (2015) drew on the work of Arjun Appadurai (1990) to explore the archaeology of disjuncture and the "fractal" nature of "relationships among flows of persons, technologies, finance, information, and ideology," resulting in "chaotic" material patterns rather than those predicted by formulaic systems models. They applied this framework to interpreting the differential incorporation of Teotihuacan's influence in the Tuxtla mountains that appears to have been part of "enhanced economic cohesiveness among groups in the macroregion" (Stoner and Pool 2015:403). Interest in a discontinuous pattern of influence emanating from Teotihuacan is not new. George Kubler (1962:38, 117) compared the art and architecture of the Central Mexican metropolis with that of the Maya region, finding the symbolism of Teotihuacan "agrarian," "impersonal," and indicating "peaceful and poetic worship of nature," in contradistinction to the eliteaggrandizing Maya histories. He emphasized these contrasts despite identifying influence from Teotihuacan in the Guatemalan highlands, for example at Kaminaljuyú, by the Early Classic period (Kubler 1962:209). These more historical approaches to how communities may accept or resist external influence call to mind ethnoarchaeological research in western Kenya, through which Ian Hodder (1977) found that interaction across borders did not result in material patterns predicted by traditional economic models because artifacts carry symbolic significance.

Applied to the origins of Mesoamerican ceramics, a disjuncture approach might ask: Are the stark differences between early West Mexican pottery of the Redon-Buff tradition, with its emphasis on jars, and the Barra and Locona pottery of the Soconusco, with its emphasis on *tecomates* (neckless, often semispherical jars), just as compelling as similarities found elsewhere? Rather than looking for evidence of interaction simply in terms of "what things look like other things," a historical approach emphasizes how diverse modes of interaction produce complex material patterns. To return to Hodder (1977) for elaboration, artifacts are not just arranged in a line of increasing divergence from their origin points, but rather

they *communicate* in historically contingent ways. One might find, for example, that materials most associated with identity differ most in borderlands. Alternatively, goods might be exchanged at an increased rate to facilitate coexistence where identity politics are most fraught.

This reference to artifacts communicating is not something I make lightly. In the ontology of Native American groups living in a world filled with animate objects, landscapes, forces of nature, spirits, and ancestors, artifacts are quite literally social agents (Ashmore 2009; Gosden and Marshall 1999; Hendon 2012; Keane 2006; Mills and Ferguson 2008; Olsen 2010; Pauketat 2012; Viveiros de Castro 2004). The agency of artifacts, art, and artistic styles has had its own development in anthropological thought. Alfred Gell (1998:96) suggested, for instance, that "works of art, images, icons, and the like have to be treated ... as person-like; that is, sources of, and targets for, social agency." Critiques of Gell's work (e.g., Layton 2003; Morphy 2009) have tended to fault him for emphasizing the agency of art at the expense of, or as independent from, human agency. One might counter that in the "symmetrical" view of the new materialisms literature (e.g., Olsen 2010; Webmoor and Witmore 2008; Witmore 2014), such a decentering of the human from relationships among material and human social actors is precisely the point. Though I am skeptical of more extreme forms of the new materialisms (after all, why not focus a little on humans in a field called anthropology), that discussion is beyond my focus here. Suffice it to say that archaeological theory seems to finally be catching up, in modest but important ways, with some Indigenous world views. Specifically, there is a growing understanding (e.g., Hodder 2012; Joyce 2012a; Joyce and Lopiparo 2005; Kosiba, Janusek, and Cummins 2019; Mills and Ferguson 2008; Zedeño 2009) that meaningful objects, materials, and people interact in a mutually constituting web of relationships sometimes termed "agency."

Recognizing the visual similarity between ceramic styles or specific motifs on decorated pottery is just a small step toward more interesting questions of historical relationships and meaning. For Hoopes (1994a), the burden of proof for demonstrating the diffusion of ceramic technologies lies with those proposing that pottery originates in one place, rather than with arguments of independent invention. From this perspective (Hoopes 1994a:5), the most parsimonious interpretation is one of independent development because pottery is a complex cultural product and because "ceramics tend to 'stay in place,'" while "changes in ceramic style… are more likely to represent

the movement of people or ideas than the movement of objects." While I tend to agree, particularly in terms of ceramics being a multifaceted cultural expression, a couple of caveats are worthwhile. As Jeffrey Blomster, Hector Neff, and Michael Glascock (2005) demonstrated, the importation of highly valued foreign pottery did occur in Formative-period Mesoamerica and Oaxaca specifically. Furthermore, ethnohistoric and ethnographic research is helping archaeologists in Mesoamerica and South America (e.g., Ramón Joffre 2011; Stark and Ossa 2010; see also Hirth et al. 2013) to understand the vectors of interregional influence. Examples of this include investigating the emergence of marketplaces and the roles of itinerant craftspeople, who need not necessarily travel with clay, but rather with knowledge, traditions, and skill sets. As Gabriel Ramón Joffre (2011:171) stated, the study of itinerant potters, or "swallow potters," forces us to "question the academic myth of the traditional community as a closed entity." Understanding the relationships between the movement of ideas, the movement of materials, and the movement of people is likely among the most complex of archaeological puzzles. These qualifications in mind, Hoopes's (1994a:41) conclusions that "the idea that clay could be baked to form permanent containers ... was probably widely known to Archaic societies" and that careful consideration of radiocarbon dates does not indicate a simple pattern of technological influence from South America, are well taken.

Early Pottery of the Pacific Coast

Previously, I have argued that the Early Formative-period site of La Consentida in coastal Oaxaca presents stylistic and sourcing evidence for complex interaction networks (Hepp 2019a). La Consentida was an Early Formative village with AMS radiocarbon dates from several secure contexts demonstrating an occupation between 2020 and 1510 BCE (Hepp 2015, 2019c).2 These dates establish the site as early in terms of the history of pottery (dubbed the Tlacuache assemblage) in Mesoamerica, but not so early in terms of New World pottery (see Roosevelt et al. 1991; Tabarev et al. 2016). Evidence for long-distance interaction at the site includes "sunburst" designs (Figure 4.1a) identified on a probable decorated bottle fragment from a redeposited midden. The sunburst is rare at La Consentida. It appears on at least seven ceramic fragments from a variety of contexts (including domestic areas, redeposited fill, and fill around burials). The fragment shown in Figure 4.1a is the most complete example (see also Hepp 2019a:fig. 2.11). These decorations are similar to those

on West Mexican Capacha phase (ca. 1500–1000 BCE) vessels (Figure 4.1c–e) (Kelly 1980; Mountjoy 1994). Other pottery embellishments are more generally reminiscent of the bold geometric decorations of Opeño pottery (Oliveros Morales 1974; Oliveros Morales and Los Ríos 1993; Williams 2007; Williams et al. 2005; see also Mountjoy 2006, 2012). These sunbursts differ from those found on Ocós (Coe 1961:fig. 52) or Calzadas Carved (Cheetham 2010:fig. 10) pottery of Olmec origin. Based on these findings, I have suggested (Hepp 2016) that earlier proposals such as those by Isabel Kelly (1974, 1980) and Ford (1969) of an early Pacific coastal interaction network should be revisited, and I do so here.

Neutron activation analysis (NAA) has proven useful for the examination of ceramic production and exchange networks (e.g., Bishop 2014; Bishop, Harbottle, and Sayre 1982; De Atley, Blackmann, and Olin 1982; Neff et al. 2006). NAA sourcing recently completed at the University of Missouri Research Reactor (MURR) on a small sample of twenty ceramic fragments from La Consentida informs the discussion of the sunburst motif, and pottery production in general, at the site (Figure 4.2) (Goodwin and Ferguson 2020). These results suggest that the best-preserved sunburst vessel from La Consentida (shown as Sample oo1 in Figure 4.2) was locally produced and that ceramics from three different middens at the site show significant overlap with control samples from later sites in the region (Joyce et al. 2006). One outlier sample (shown as Sample 015 in Figure 4.2) from an apparently undecorated utilitarian vessel at La Consentida produced a similar compositional signature to control samples from the Early Formative site of Etlatongo in the Mixteca Alta of Oaxaca (Blomster, Neff, and Glascock 2005; Goodwin and Ferguson 2020). This affinity with pottery from outside the region warrants further investigation but may be coincidental. Most significant, and as I will discuss further, the local production of the sunburst design underscores the significance of local communities participating in relationships of long-distance interaction.

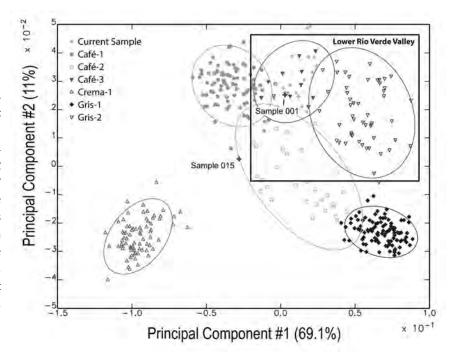
Evidence for probable down-the-line exchange is present in obsidian XRF sourcing data (Figure 4.3a), demonstrating importation from six sources in Central Mexico and the Tuxtla mountains (Hepp 2019a; Joyce et al. 1995), as well as in greenstone likely imported from Central America. Other highland contacts are evidenced by formal similarities between La Consentida's Tlacuachephase (1950–1500 BCE) utilitarian wares (especially globular jars and gourd-like semispherical bowls) and those of the Purrón-phase (1900–1680 BCE) Tehuacán Valley



Figure 4.1 Pottery with the "sunburst" decoration: a) the best-preserved example from La Consentida; b) other examples from La Consentida; c) redrawn after Mountjoy 1994:40; d) redrawn after Mountjoy 1994:41; and e) redrawn after Schmidt Schoenberg 2006:29.

Figure 4.2 ts for ceramic

NAA results for ceramic samples from La Consentida. Sample 001 is an undecorated fragment from a vessel bearing the best-preserved "sunburst" design (see Figure 4.1a). The bi-plot of principal components demonstrates a fit with reference groups from the region (Joyce et al. 2006). Ellipses indicate 90 percent confidence intervals.



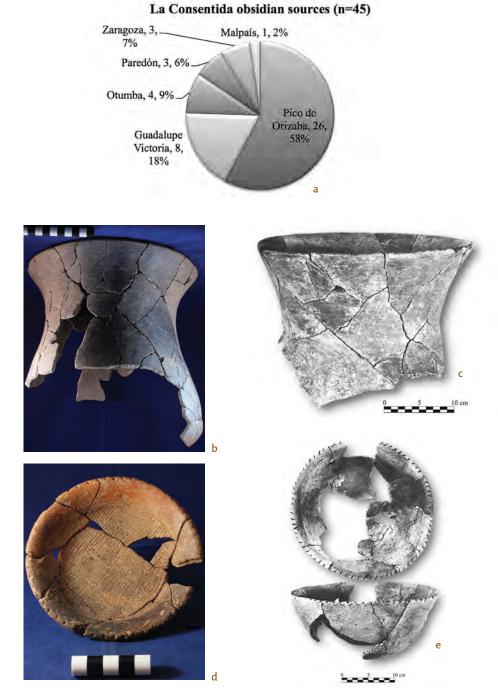


Figure 4.3 Evidence of La Consentida's contacts with the central and southern Mexican Highlands:
a) obsidian XRF sourcing results (Glascock 2011; Hepp 2019a; Joyce et al. 1995); b) a reconstructed globular jar from a midden at La Consentida; c) a Tierras Largas-phase Matadamas Red jar (Flannery and Marcus 1994:fig. 8.37); d) a grater bowl with "rim ticking" from a child burial at La Consentida; and e) a Tierras Largas Burnished Plain bowl (Flannery and Marcus 1994:fig. 8.9).

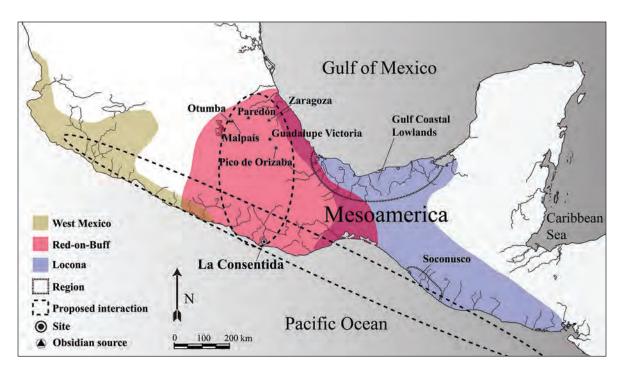


Figure 4.4 Map indicating La Consentida's proposed interaction networks. Map by Guy David Hepp.

and the highland Oaxacan Espiridión (1900–1650 BCE) and Tierras Largas (1650-1500 BCE) assemblages (Hepp 2019b). La Consentida, thus, presents something of a contradiction. Arguably conservative elements of material culture (such as utilitarian jars and bowls) suggest a shared set of practices with closer central and southern Mesoamerican highland groups (Figure 4.3b-e) (Flannery and Marcus 1994; MacNeish, Peterson, and Flannery 1970; Ramírez Urrea 1993). This relatively local trend appears to have coexisted alongside relationships involving more superficial styles used for public display on decorated pottery produced at home but sharing a decorative element with coastal communities such as those of Colima and Michoacán. My interpretation of these dueling interaction modalities is that they emphasize a third, and more important, influence: that of the local community itself. By choosing to maintain some traditions while also, and perhaps more self-consciously, applying visual cues of a coastal network, the community put technology and style to use for its own purposes.

La Consentida, which was positioned near an open bay during its occupation (Goman, Joyce, and Mueller 2013) but was also tied into highland interaction networks, appears to represent a littoral crossroads between discrete networks using dissimilar pottery (Figure 4.4). This case study of overlapping, even contradictory interaction confirms the need to seek both the origins of external influence and the local practices and needs through which it was filtered. In broad terms, La Consentida's community participated in the Red-on-Buff ceramic tradition, possibly related to the distribution of Otomanguean-speaking peoples (in contradistinction to the Locona-style pottery possibly associated with Mixe-Zoquean speakers) (Clark 1991; Josserand, Winter, and Hopkins 1984; Winter and Sánchez Santiago 2014).

West Mexico

Elaborating on the general comments I have laid out previously has proven difficult without a chance to see West Mexican ceramics in person, which I was able to do in Colima in 2018. Among the Capacha ceramics (Figure 4.5), some of the less elaborate vessels bear a general similarity to the globular jars of the Tlacuache and Tierras Largas phases. Since these assemblages are all considered exemplars of the Red-on-Buff tradition (Hepp 2019a; Winter 1992:27–28), this should come as no surprise. Utilitarian Capacha vessels are not as well-known as the more photogenic, decorated, and sometimes looted examples most frequently exhibited and published. More elaborate Capacha vessels include *bules*, comprising two globular, gourd-like, pinch-pot chambers stacked and connected by coiled necks. Variation exists in the number



Figure 4.5 Capacha vessels in storage at the INAH facility in Colima, Mexico. Photographs by Guy David Hepp.

and execution of sunburst designs, along with the zoning decoration that accompanies them. The pastes of these wares tend to be medium, and some coarser examples are present. As with other early Red-on-Buff ceramics, the brownish to reddish pastes are consistent with oxidation from firing in a relatively open-air setting rather than in a formal kiln, where oxygen is limited. This style of open-air firing is still practiced among coastal Mixtec and Amuzgo peoples along the southern Mesoamerican coast (Ahern 2010), as well as in the Oaxaca highlands, as exemplified by the beautiful barro rojo pottery of the Zapotec town of San Marcos Tlapazola. Firing clouds on some Capacha examples indicate contact with fuel during firing. These ceramics were likely fired at a low temperature, similar to those from La Consentida and corresponding with early Mesoamerican pottery that tends to be friable and

easily eroded (Hepp 2019b:254). In terms of surface treatment and decorative technique, Capacha wares are often slipped and burnished. Designs tend to be incised or even engraved or excised. Some impressed decoration is also present, which is the most common practice with Tlacuache ceramics from La Consentida. Some Capacha wares bear more surface finishing than Tlacuache pottery. Capacha jar and *bule* interiors are often smoothed, a step frequently skipped at La Consentida.

In terms of the evidence for Capacha vessel use, a few details are noteworthy. Larger examples in the assemblage suggest communal activities. Some vessels, such as *bules*, bear designs on the top globule but not on the bottom, suggesting that they may have been placed in baskets, set into the ground, or otherwise partly hidden from view. The vessels exhibit little evidence of having been placed

over cooking fires, but their use for serving is not out of the question. Intriguingly, some examples were nicely formed only to have their decoration apparently applied in haste. This would be consistent with some of the decorations being perfunctory. Their recovery in funerary contexts may be informative here. A hastily applied, perhaps rote, decoration reserved for burial offerings could be a clue to the meaning of the sunburst in the Capacha tradition. In certain instances, the design may have been a prerequisite to the inclusion of a vessel in a tomb or with a burial. If so, that would suggest ceramic firing took place conterminously with mortuary ritual, since the decorations were applied pre-firing. While a review of Mesoamerican mortuary archaeology is not possible here, Formativeperiod burials do exhibit material regularity according to variables such as age, sex, and social status while also retaining individualisms as a result of the unique social networks of the people interred and the social memory carried on by the surviving community (e.g., Cervantes Pérez, Mijangos García, and Andrade Cuautle 2017; Joyce 2001). Sunburst designs would seem to be an example of such regularity among early West Mexican burials. In combination with their frequent discovery in mortuary settings, this could suggest that the designs were applied in part as a statement of burial ritual itself. This is an issue to which I will return shortly.

Ecuador

In my previous work on La Consentida's networks of interaction (e.g., Hepp 2019a:64), I have made cautious references to suggestions by others (e.g., Flannery and Marcus 1994:47; Ford 1969:166; Kelly 1980:37) that some of Mesoamerica's earliest pottery, including that of the Red-on-Buff tradition, might trace its origins back to South America and lower Central America. A visit to Ecuador in 2018 allowed me to see the earliest Valdivia (4400–1450 BCE) pottery, as well as that of the Machalilla (1450-900 BCE) and Chorrera (900-100 BCE) phases (Zeidler 2008), and to explore this possibility further (Figure 4.6). Valdivian wares share basic formal similarities with Red-on-Buff ceramics in the prevalence of globular jars, often with composite silhouettes. Smaller collared jars are also present among Valdivian ceramics (Lathrap, Collier, and Chandra 1975: figs. 2, 12, 22), as they are in the Tlacuache assemblage (Hepp 2019b:fig. A2.6). With its emphasis on jars and bowls (Lathrap, Collier, and Chandra 1975; Pearsall et al. 2020), Valdivia appears much more like Red-on-Buff (e.g., the Capacha, Opeño, Tierras Largas, Purrón, and Tlacuache assemblages)

than like Barra and Locona pottery from the Soconusco, which consists of about 90 percent tecomates (Clark and Blake 1994:25). Later Valdivia ceramics include "double pots," which are technologically similar to the Capacha bules in that they are formed of two connected pinch pots (Lathrap, Collier, and Chandra 1975:53). Of particular interest for this discussion are Valdivia Incised or "networked" wares (Figure 4.6e), which have a radiating pattern of linear elements from a central rounded nubbin or raised and impressed dot and appear similar to the best-preserved sunburst example from La Consentida (see Figure 4.1a). Originally reported by Betty Meggers, Clifford Evans, and Emilio Estrada (1965:pl. 77; see also Lathrap, Collier, and Chandra 1975:74), James Zeidler (personal communication 2019) places them in Valdivia Phase VI (2100-1950 BCE), just before the coastal Oaxacan Tlacuache phase. Valdivia phases VI-VIII have been associated with increasing reliance on agriculture, emerging social hierarchies, and longdistance interactions (Pearsall et al. 2020; Staller 2001), which are similar to the socioeconomic trends of Early and Middle Formative Mesoamerica. I have seen no evidence of grater bowls among Valdivia ceramics, but exterior incision in geometric patterns calls to mind the woven basketry or *petate*-inspired interior incisions of Tlacuache grater bowls (Hepp 2019b:153, 179, 247). In terms of context and use-life comparisons with Redon-Buff pottery, Valdivian vessels are relatively common and come from a wide variety of contexts. Valdivian figurines appear intentionally broken, similar to those from the Mesoamerican Formative period, which may indicate intentional "retirement" of agentive objects (Hepp 2019b:138; Joyce 2009:416; Smith 1932).

Machalilla-phase ceramics from Ecuador are more decorated than those of Valdivia and include painted polychromes (Figure 4.7). Later Valdivia, Classic Machalilla, Machalilla-Chorrera, and La Ponga ceramics include stirrup-spout bottles (Lathrap, Collier, and Chandra 1975:84; Staller 2001:fig. 13) reminiscent of both Capacha and Tlatilco examples (Piña Chan 1958; Zarrillo and Blake, this volume). As I will discuss in more detail, these ceramics are more similar to western Mesoamerican Red-on-Buff pottery than they are to the Soconusco Barra/Locona tradition. The later Chorrera-phase pottery of Ecuador includes phytomorphic, gourd-like vessels, not unlike "kidney bowls" seen among Purrón, Espiridión, and Tierras Largas wares (Flannery and Marcus 1994; García Cook and Merino Carrión 2005; MacNeish, Peterson, and Flannery 1970).

In a general sense, there are similarities in the bold geometric decorations of Chorrera and those of Opeño and Tlacuache from Mesoamerica. Notably, this appears not to be a highland style, but rather one tying together coastal groups occupying distant regions of the Pacific coast. Finally, sunburst-like designs occur on the sides of some globular Valdivia-phase jars (Figure 4.6d–e) and on Machalilla and Chorrera vessels (Lathrap, Collier, and Chandra 1975:figs. 55–56, 316, 318).

To summarize, the sunburst decoration inhabits the same portion of relatively similar decorated medium and coarse brownware vessels of Pacific coastal groups by the Mesoamerican Early Formative period (2000–1000 BCE). Furthermore, as the sequence of Valdivia VI "networked" Tlacuache and Capacha vessels demonstrates, there appears to be a chronological distribution of this design emanating northward from South

America. The limited sourcing data available for these sunburst vessels (including the results I have presented here) tend to indicate their local production in communities along that coastal route. Perhaps even more clearly, these generally jar-emphasizing assemblages stand in sharp contrast to tecomate-emphasizing Barra/ Locona pottery (Clark and Blake 1994). This is not to say that Red-on-Buff ceramics totally lack tecomates. These neckless jars make up about 1 percent of the Tlacuache assemblage. Instead, the Red-on-Buff vessel form ratio is more similar to that of coastal Ecuador than that of the Soconusco (Hepp 2019a:fig. 2.3). Considering this evidence, I propose that an early interaction network along the Pacific coast paralleled and perhaps presaged the better-documented coastal interaction of the Mesoamerican Classic, Postclassic, and colonial periods, some of which involved balsa rafts and resulted in the



Figure 4.6 Valdivia vessels: a—c) globular collared jars in the collection of the Museo Antropológico de Arte Contemporáneo, Guayaquil, Ecuador; d) a Decorated Valdivia jar (Marcos 1988: fig. 181); and e) Valdivia Incised vessel fragments with radiating incisions similar to the example from La Consentida (see Figure 4.1a) (Meggers, Evans, and Estrada 1965: pl. 77).



Figure 4.7 Chorrera vessels with "sunburst" designs from the Museo Antropológico de Arte Contemporáneo, Guayaquil, Ecuador. Photographs by Guy David Hepp.

transport of metallurgy (Anawalt 1992, 1998; Callaghan 2003; Currie 1995; Dewan and Hosler 2008; Hosler 1988).

Discussion and Future Directions

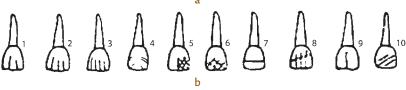
Sunburst-like designs also appear in the prehispanic pottery of Costa Rica, though in some cases they are more angular and lack a central impressed circle, in comparison to the other examples I have discussed (Snarskis 1982:25). This circumstance calls into question what other kinds of shared beliefs may have led to the distribution of sunburst designs. Perhaps these linear radiating elements depict something other than a sunburst, such as a quadripartite reference to the sacred cardinal directions, which is a well-established symbolic and cosmological precept of Native American world views from Canada to northern South America (Beekman 2003; Black Elk and Neihardt 2000; Carmack et al. 2016:99–101; Hage 2003; Mester 1990:244–245, 248–249; Pugh 2001; Stross 1994; Taube

2010). One avenue for examining this further might be linguistic anthropology. As Matthias Urban (2009) found with words for "sun" and "moon" in the circum-Pacific macroregion, shared linguistic terms for fundamental concepts could indicate a deep history of common belief. For that matter, the labeling of any of these designs as "sunbursts" is to be considered with caution. We might not be looking at a four-thousand-year-old tradition of depicting the sun, but rather at local expressions of an even more ancient and shared idea such as the sacred cardinal directions.

The widespread emphasis in Native American world views on the cardinal directions is compelling but does not discount, I think, the evidence for coastal contacts including Ecuador, Oaxaca, and West Mexico by the Mesoamerican Early Formative period (see Zarrillo and Blake; Zeidler and Beltrán Medina, this volume). First, there is the technical execution of the sunbursts themselves. In addition to simple similarity in the form of



Figure 4.8
A dental modification comparison:
a) teeth from an Early Formativeperiod highland Oaxacan cemetery
(Cervantes Pérez, Mijangos García,
and Andrade Cuautle 2017:fig. 4);
and b) "Type D" variants from
Mesoamerican dental modification
taxonomy (Romero Molina
1986:fig. 1).



the design produced by ancient potters of these regions, some technological evidence also supports the interpretation of an early Pacific coastal interaction network. For example, the decorations from these different regions frequently have an impressed central circle, regardless of whether the radiating elements were impressed, incised, or excised. This is not a minor coincidence. The impression of a large central dot rather than its incision or excision must be performed carefully, when the clay is leather hard just before firing, to avoid breaking the clay's delicate skin. Potters would have thoughtfully chosen both their tools and their timing for this task. Further, the sunburst occupies consistent placement on the sides of globular vessels. As Isabelle Vella Gregory (2018) has recently argued, evidence for learned motor skills and consistent toolkit choices, identified through attribute analysis, can be an important line of evidence for shared crafting practices. Other lines of evidence also suggest that dates for Pacific coastal interaction deserve to be pushed back. As numerous researchers have pointed out (Kelly 1974; Meggers and Evans 1962; Shimada 1999:430-431; Willey 1955; see also Hoopes 1994a:34-35), stirrup-spout vessels in Central Mexico appear similar to South American examples. This is a technical similarity akin to the presence of double jars or bules in multiple regions. Other nonceramic evidence also exists for the contact I am proposing. For example, dental modification from a highland cemetery in Tierras

Largas-phase Oaxaca (Cervantes Pérez, Mijangos García, and Andrade Cuautle 2017), which generally corresponds to Javier Romero Molina's (1986:350) type D5 or D6, is remarkably similar to that on looted Jama-Coaque Phase (100 BCE-800 CE) human remains in storage at the Museo Antropológico y de Arte Contemporáneo (MAAC) in Guayaquil (Figure 4.8) (see also Zeidler and Beltrán Medina, this volume, Figure 8.19f).

Another line of evidence may come from effigy vessels. Costa Rican effigy jars include anthropomorphic examples with teeth exposed in a grimace, much like the "frowning" countenance of a probable effigy vessel from La Consentida (Figure 4.9a), as well as a figurine head recovered at the site (Snarskis 1982; see also Lange 1988). I have suggested previously (Hepp 2019b:145-146) that La Consentida's example may represent death, with the lips pulled back from the teeth of a putrefying corpse. Given the relatively late date of some of the Costa Rican examples (200-800 CE) (Figure 4.9b-c), these may represent a generally similar type of artifact rather than evidence for direct contact per se. Some early effigy vessels have been identified in highland Oaxaca (Flannery and Marcus 1994:fig. 12.103), though the Costa Rican examples are the most similar I have seen to the artifact from La Consentida.

As I mentioned previously, one promising avenue of anthropological research for this discussion may come from the study of itinerant potters. Gabriel Ramón Joffre

Figure 4.9

Effigy vessels: a) probable effigy vessel from a domestic structure context at La Consentida; b) Tola Trichrome jar (image courtesy of the Museo del Jade y de la Cultura Precolombina); and c) Carrillo/Galo polychrome jar (image courtesy of the Museo del Jade y de la Cultura Precolombina).



а





b

(2011:169) has offered "material correlates" of itinerant crafting. Among these are technical aspects of ceramic production and diagnostic marks left by a particular kind of tool kit. Interestingly, makers' marks do not factor heavily in the study, as they might be indicative of economic specializations or group identities rather than nomadic specialists (Ramón Joffre 2011). The formal similarities among some utilitarian ceramics from Ecuador, Oaxaca, and Colima are compelling. If sourcing might not necessarily help evince the work of itinerant potters using locally available materials, then perhaps diagnostic technical traces (such as the impressed central dots of sunburst designs) could represent a secondary source of evidence and deserve further investigation (see Vella Gregory 2018).

Problems and Closing Thoughts

As an old professor of mine used to love saying, "pots aren't people": indications of shared ceramic traditions or decorative motifs, no matter how compelling, cannot tell us everything about how those contacts took place or were perceived by those involved. It is with a sense of irony that I reflect on that comment now. I agree that pots are not people in that they do not represent satisfying evidence of ethnic boundaries in a cultural-historical sense. But object agency studies can help us to conceptualize how some Indigenous communities understand the material world to be animated by spiritual essences in a way that problematizes simple Cartesian subject/object dichotomies. In that sense, and at least sometimes for the

ancient Native American communities of concern here, pots probably were people! Object agency discussions serve as a reminder that local uses of an international style, which I propose the sunburst design represents, were not a one-way conduit of agency. People would have been affected by the styles they chose to use, whether imported or local, in a reciprocal fashion. The local significance of, interpretations regarding, and uses for decorated vessels employed at special community events should be considered independent of their purely stylistic genealogy. To explore just one way in which the local significance of sunburst-bearing pots could vary, consider the archaeology of the senses. To the extent that different peoples develop unique ethnotaxonomies of the senses, and indeed may even recognize different senses, and to the extent that sensation produces affectivity, the emotional significance of decorated pottery reserved for special occasions and perhaps implying a sort of "otherness" through its importation and local emulation could be significant (Gell 1998; Hamilakis 2014; Howes 2006; Taussig 1993).

Another useful avenue for exploring ancient interaction along the Pacific coast may be found in the communities of practice literature (e.g., Habicht-Mauche, Eckert, and Huntley 2006; Joyce 2012b; Lave and Wenger 1991; Wenger 1998). As discussed by Ann Stahl (2013:54), this historical and learning-centered perspective on how overlapping and intersecting groups may develop through shared practices provides "an alternative to monolithic notions of 'culture,' that homogenize practice in time and space" and are a problematic element of diffusionism. Focused on shared, learned activities such as crafting techniques, the communities of practice approach calls to mind the work of Bruno Latour (2005), who critiqued the very notion of bounded societies and instead sought to trace actual networks of interaction. Though such an approach may seem to contradict my earlier reference to ethnolinguistic areas and their associated pottery styles, it also provides a useful alternative perspective by calling into question deeply held assumptions about what constitutes social groups. This line of inquiry may also be uniquely appropriate for examining the relationship between identity and craft production. As Suzanne Eckert, Kari Schleher, and William James (2015) demonstrated for ancient villages in the American Southwest, identities may be developed and maintained across significant distances even while discrete patterns of technical practice may indicate that crafting itself was organized at the household or village level. Applying a chaîne opératoire concept to how the making of pottery is learned and

performed in a technical sense can provide the link necessary to move beyond considering decoration as merely functional or as epi-phenomena useful for forming typologies. Instead, the act of teaching someone to pot or learning to pot is part of the process of community formation (Vella Gregory 2018). To select one small example from my discussion, the impression of the central dots of sunburst-bearing vessels found along the Pacific coast, rather than their excision or incision, may represent a learned technical practice of an interaction community.

One enduring practical problem for these investigations, and an inspiration for the title of this chapter, has been the lack of a good Capacha chronology. Kelly (1980:4, 18-19) herself discussed the difficult circumstances under which she secured the initial radiocarbon dating for the Capacha phase. The problem has persisted, with some researchers (e.g., Mountjoy, personal communication 2015) even attributing the phase to the Middle Formative period. Recently, direct archaeomagnetic dates from several ceramic fragments (1481-1265 cal BC) have supported Kelly's original attribution of the phase to the Early Formative period (Morales et al. 2013; Olay Barrientos et al. 2019). Another problem presented by Capacha is that of context. Based on the ubiquity of sunburst-like designs, it seems that the use of that decoration to identify a chronological phenomenon may produce a logical fallacy. To my knowledge, excavated Capacha contexts are primarily mortuary; in other words, comparing these ceramics to domestic wares from elsewhere is problematic. If the Capacha sunburst was somehow exclusive to funerary practices, it suggests that we may not be prepared to recognize a domestic Capacha context even if we found one. Furthermore, if the design was widespread along the Pacific coast, it may not be a strong diagnostic trait for forming a chronology.

One of the points I take from Hoopes (1994a) is that in identifying evidence of ancient interaction, extraordinary claims require extraordinary evidence. What I have presented here is no slam-dunk case for early coastal interaction. Given the long stretches of the Pacific coast, particularly in Mesoamerica, where there have been relatively few studies of the earliest settlements, it is hardly surprising that no irrefutable evidence is available (though see Blake and Clark 1999; Brush 1965; Coe and Flannery 1967; Hepp 2019b; Lesure 2011; Smith, Ebert, and Kennett 2014; Zárate Morán 1995; Zeitlin 1979). It is interesting, however, that the earliest ceramics of Ecuador are more like those of Oaxaca and West Mexico than they are like Central American and Soconusco examples. This does not appear

to be a simple inland diffusional pattern, but rather the discontinuous or "leap-frogging" arrangement anticipated by a coastal interaction community more involved with some areas (such as Oaxaca, West Mexico, and possibly Guerrero) than with others (such as Soconusco). In this sense, La Consentida's location approximately 4 km from an ancient bay (since transformed into estuaries) is significant (Goman, Joyce, and Mueller 2013). La Consentida, and other still uninvestigated communities even closer to the water, would have been in a prime location for participating in a coastal interaction network involving maritime groups resting in the ancient bay before heading further along the coast. The recovery of some very large fish remains (Hepp 2019b:fig. 6.2) and several pieces of worked shell (Powell 2020:46–66) from the site suggests that the people of La Consentida were active participants in that coastal network. Furthermore, the discontinuous pattern of ceramic influence along the coast, compounded by geography, currents, and tidal factors (Callaghan 2003; see also Callaghan, Montenegro, and Fitzpatrick, this volume), is consistent with an approach considering "social similarities, connections, or conjunctures as well as their oppositions, disconnections, or disjunctures" (Stoner and Pool 2015:404).

In closing, my argument here is not that early Ecuadorian pottery, Toya/Bocana vessels from Costa Rica, Tlacuache wares from Oaxaca, and Capacha ceramics from Colima (along with their West Mexican relatives such as Opeño ceramics) are somehow representatives of the same assemblage. Instead, what I believe we have is essentially what Isabel Kelly (1974, 1980) predicted. There appear to be "landfalls" along the Pacific coast of a technological and probably cultural tradition sharing some heterogeneous but related iconographic elements and with at least some traits appearing first in South America. This is not a wholesale embracing of a 1970s-style diffusionism. For example, Ford's (1969) prediction of a single homeland of New World ceramics is not supported because the stylistic similarities among decorated coastal Ecuadorian, Oaxacan, and West Mexican ceramics seem to conflict with vessel forms shared between Tlacuache on the Oaxaca coast and the highland Red-on-Buff vessels of Purrón, Espiridión, and Tierras Largas. We can also rest easy, in this case, regarding Kubler's (1962:11) well-founded concern that some brands of diffusionism represented a thinly veiled claim that Indigenous peoples of the Americas required external influence for their accomplishments. What we have here, I suggest, is preliminary evidence of a collection of dispersed communities along the Pacific coast simultaneously developing their own technologies, incorporating in some instances foreign styles brought by their interaction partners, and employing it all according to their local needs and beliefs. To totally abandon the project of studying long-distance interaction over examples of its past misuse risks throwing out some babies with the bathwater (see Anthony 1990). Still, to make a strong case for such interaction, other questions remain. If the "sunburst" motif indicates influence coming from South America to the north, what was going back in return (see Zarrillo and Blake, this volume)? Candidates include domesticates such as maize, culinary treatments such as feasting foods made from those domesticates, and cultural practices such as ball games. In later periods, one explanation for long-distance travel up the Pacific coast has been spondylus shell (e.g., Anawalt 1998; Carter 2011; see Carter, this volume), and it would be interesting to investigate whether that tradition might have started earlier than previously thought.

Broadly, what I see is consistent with the hypothesis that at least some inspiration for the Red-on-Buff tradition might be traced back to Valdivia. This would also be consistent with Mesoamerican ceramics having at least two sources of early external influence, one from northern Central America and exerting its greatest impact on Soconusco pottery, and the other emerging from northern South America and making landfalls along the Pacific coast to West Mexico (Clark 1991; Hepp 2019a; Winter 1992). Of course, these external influences were mitigated by regional traditions and the local purposes to which ceramic vessels were suited. If future results continue to support the landfall hypothesis, we are likely to find more evidence as new excavations explore coastal Oaxaca, Guerrero, and elsewhere. As we learned from the application of disjuncture (Appadurai 1990; Stoner and Pool 2015) and ethnoarchaeology (e.g., Hodder 1977; Ramón Joffre 2011), what shared decoration and vessel form mean is not immediately clear. Additional chronometric studies (especially of Capacha contexts), ceramic sourcing, historical linguistics, vessel use evidence such as paleoethnobotanical data, more detailed technological comparisons, and even biodistance or genetic data could help us to inquire further into what I propose was a Pacific coastal interaction community of the kind the Spanish saw when they arrived, but significantly earlier.

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NOTES

- $_1$ All dates reported with "BCE" and "CE" are calibrated to 2σ probability.
- 2 Dates for La Consentida differ slightly from those published elsewhere (e.g., Hepp 2019c) following the processing of two new samples (Powell 2020) and the publication of a revised radiocarbon calibration curve (Reimer et al. 2020).

REFERENCES CITED

Ahern, Frances

2010 Identidad y estilo entre las alfareras mixtecas y Amuzgas de la costa de Oaxaca y Guerrero, México. Instituto Nacional de Antropología e Historia, Oaxaca.

Anawalt, Patricia Rieff

1992 Ancient Cultural Contacts between Ecuador, West Mexico, and the American Southwest: Clothing Similarities. *Latin American Antiquity* 3(2):114–129.

1998 They Came to Trade Exquisite Things: Ancient West Mexican–Ecuadorian Contacts. In Ancient West Mexico: Art and Archaeology of the Unknown Past, edited by Richard F. Townsend, pp. 232–249. Art Institute of Chicago, Chicago.

Anthony, David W.

1990 Migration in Archaeology: The Baby and the Bathwater. *American Anthropologist* 92(4):895–914.

Appadurai, Arjun

1990 Disjuncture and Difference in the Global Cultural Economy. *Public Culture* 2(2):1–24.

Ashmore, Wendy

2009 Mesoamerican Landscape Archaeologies. *Ancient Mesoamerica* 20(2):183–187.

Beekman, Christopher S.

2003 Fruitful Symmetry: Corn and Cosmology in the Public Architecture of Late Formative and Early Classic Jalisco. *Mesoamerican Voices* 1:5–22.

Bishop, Ronald L.

2014 Instrumental Approaches to Understanding Mesoamerican Economy: Elusive Promises.

Ancient Mesoamerica 25(1):251–269.

Bishop, Ronald L., Garman Harbottle, and Edward Sayre

1982 Chemical and Mathematical Procedures Employed in the Mayan Fine Paste Ceramics Project. In Analyses of Fine Paste Ceramics: Excavations at Seibal. Vol. 2 of Excavations at Seibal, Department of Peten, Guatemala, III, edited by Jeremy A. Sabloff, pp. 272–282. Peabody Museum Memoirs 15. Harvard University Press, Cambridge, Mass.

Black Elk, and John G. Neihardt

2000 Black Elk Speaks: Being the Life Story of a Holy Man of the Oglala Sioux. University of Nebraska Press, Lincoln.

Blake, Michael, and John E. Clark

1999 The Emergence of Hereditary Inequality: The Case of Pacific Coastal Chiapas, Mexico. In *Pacific* Latin America in Prehistory: The Evolution of Archaic and Formative Cultures, edited by Michael Blake, pp. 55–73. Washington State University Press, Pullman.

Blomster, Jeffrey P., Hector Neff, and Michael D. Glascock

2005 Olmec Pottery Production and Export in Ancient Mexico Determined through Elemental Analysis. Science 307(5712):1068–1072.

Brush, Charles F.

1965 Pox Pottery: Earliest Identified Mexican Ceramic. *Science* 149 (3680):194–195.

Callaghan, Richard T.

2003 Prehistoric Trade between Ecuador and West Mexico: A Computer Simulation of Coastal Voyages. Antiquity 77(298):796–804.

Carmack, Robert M., Janine Gasco, Marilyn A. Masson, and Michael E. Smith

2016 Late Postclassic Mesoamerica. In The Legacy of Mesoamerica, edited by Robert M. Carmack, Janine Gasco, and Gary H. Gossen, pp. 78–119. 2nd ed. Routledge, New York.

Carter, Benjamin P.

2011 Spondylus in South American Prehistory. In Spondylus in Prehistory: New Data and Approaches; Contributions to the Archaeology of Shell Technologies, edited by Fotis Ifantidis and Marianna Nikolaidou, pp. 63–89. BAR International Series 2216. Archaeopress, Oxford.

Cervantes Pérez, José Manuel, Tito Cuauhtémoc Mijangos García, and Augustín E. Andrade Cuautle

Collective Memory in San Sebastián Etla, Oaxaca:
Bioarchaeological Approaches to an Early
Formative Period (1400–1200 BCE) Mortuary
Space. Journal of Archaeological Science: Reports
13:737–743.

Cheetham, David

2010 Cultural Imperatives in Clay: Early Olmec Carved Pottery from San Lorenzo and Cantón Corralito. Ancient Mesoamerica 21(1):165–185.

Clark, John E.

1991 The Beginnings of Mesoamerica: Apologia for the Soconusco Early Formative. In *The Formation* of Complex Society in Southeastern Mesoamerica, edited by William R. Fowler Jr., pp. 13–26. CRC Press, Boca Raton, Fla.

Clark, John E., and Michael Blake

1994 The Power of Prestige: Competitive Generosity and the Emergence of Rank Society in Lowland Mesoamerica. In Factional Competition and Political Development in the New World, edited by Elizabeth M. Brumfiel and John W. Fox, pp. 17–30. Cambridge University Press, Cambridge.

Clark, John E., and Dennis C. Gosser

1995 Reinventing Mesoamerica's First Pottery. In The Emergence of Pottery: Technology and Innovation in Ancient Societies, edited by William Barnett and John W. Hoopes, pp. 209–221. Smithsonian Institution Press, Washington, D.C.

Coe, Michael D.

1961 La Victoria: An Early Site on the Pacific Coast of Guatemala. Papers of the Peabody Museum of Archaeology and Ethnology 53. Peabody Museum, Cambridge, Mass.

Coe, Michael D., and Kent V. Flannery

1967 Early Cultures and Human Ecology in South Coastal Guatemala. Smithsonian Contributions to Anthropology 3. Smithsonian Press, Washington, D.C.

Currie, Elizabeth J.

1995 Archaeology, Ethnohistory and Exchange along the Coast of Ecuador. *Antiquity* 69(264):511–526.

De Atley, Suzanne P., M. James Blackmann, and Jacqueline S. Olin

1982 Comparison of Data Obtained by Neutron Activation and Electron Microprobe Analyses of Ceramics. In *Archaeological Ceramics*, edited by Jacqueline S. Olin and Alan D. Franklin, pp. 79–88. Smithsonian Institution Press, Washington, D.C.

Dewan, Leslie, and Dorothy Hosler

2008 Ancient Maritime Trade on Balsa Rafts: An Engineering Analysis. *Journal of Anthropological Research* 64(1):19–40.

Eckert, Suzanne L., Kari L. Schleher, and William D. James

2015 Communities of Identity, Communities of Practice: Understanding Santa Fe Black-on-White Pottery in the Española Basin of New Mexico. *Journal of Archaeological Science* 63:1–12.

Estrada, Emilio, Betty J. Meggers, and Clifford Evans

1962 Possible Transpacific Contact on the Coast of Ecuador. *Science* 135(3501):371–372.

Fiedel, Stuart J.

1992 Prehistory of the Americas. 2nd ed. Cambridge University Press, New York.

Flannery, Kent V., and Joyce Marcus

1994 Early Formative Pottery of the Valley of Oaxaca, Mexico. University of Michigan Press, Ann Arbor.

Ford, James A.

1969 A Comparison of Formative Cultures in the Americas.
 Smithsonian Contributions to Anthropology 11.
 Smithsonian Institution Press, Washington, D.C.

García Cook, Ángel, and Beatriz Leonor Merino Carrión

2005 El inicio de la producción alfarera en el México antiguo. In *La producción alfarera en el México antiguo I*, edited by Beatriz Leonor Merino Carrión and Angel García Cook, pp. 73–119. Instituto Nacional de Antropología e Historia, Mexico City.

Gell, Alfred

1998 Art and Agency: An Anthropological Theory. Oxford University Press, Oxford.

Glascock, Michael D.

2011 X-Ray Fluorescence Analysis of Obsidian Artifacts from La Consentida, Oaxaca, Mexico. Archaeometry Laboratory, Research Reactor Center, University of Missouri, Columbia.

Goman, Michelle, Arthur A. Joyce, and Raymond G. Mueller

2013 Paleoecological Evidence for Early Agriculture and Forest Clearance in Coastal Oaxaca. In *Polity and Ecology in Formative Period Coastal Oaxaca*, edited by Arthur A. Joyce, pp. 43–64. University Press of Colorado, Boulder.

Goodwin, Whitney A., and Jeffrey R. Ferguson

2020 Neutron Activation Analysis of Early Formative Pottery from La Consentida, Oaxaca, Mexico. Archaeometry Laboratory, Research Reactor Center, University of Missouri, Columbia.

Gosden, Chris, and Yvonne Marshall

1999 The Cultural Biography of Objects. World Archaeology 31(2):169–178.

Grove, David C.

1976 Olmec Origins and Transpacific Diffusion: Reply to Meggers. American Anthropologist 78(3):634–637.

Habicht-Mauche, Judith A., Suzanne L. Eckert, and Deborah L. Huntley (editors)

2006 The Social Life of Pots: Glaze Wares and Cultural Dynamics in the Southwest, AD 1250–1680. University of Arizona Press, Tucson.

Hage, Per

2003 The Ancient Maya Kinship System. *Journal of Anthropological Research* 59(1):5–21.

Hamilakis, Yannis

2014 Archaeology and the Senses: Human Experience, Memory, and Affect. Cambridge University Press, New York.

Hegmon, Michelle

1992 Archaeological Research on Style. Annual Review of Anthropology 21:517-536.

Hendon, Julia A.

2012 Objects as Persons. In Power and Identity in Archaeological Theory and Practice: Case Studies from Ancient Mesoamerica, edited by Eleanor Harrison-Buck, pp. 82–89. University of Utah Press, Salt Lake City.

Hepp, Guy David

2015 La Consentida: Initial Early Formative Period Settlement, Subsistence, and Social Organization on the Pacific Coast of Oaxaca, Mexico. PhD dissertation, University of Colorado, Boulder.

2016 Movement of Goods and Ideas in Early Formative Western and Central Mesoamerica: New Evidence from Coastal Oaxaca, Mexico. Paper presented at the Annual Meeting of the Society for American Archaeology, Orlando.

2019a Interaction and Exchange in Early Formative Western and Central Mesoamerica: New Data from Coastal Oaxaca. In Interregional Interaction

- in Ancient Mesoamerica, edited by Joshua D. Englehardt and Michael D. Carrasco, pp. 51–82. University Press of Colorado, Louisville.
- 2019b La Consentida: Settlement, Subsistence, and Social Organization in an Early Formative Mesoamerican Community. University Press of Colorado, Louisville.
- 2019c Radiocarbon Evidence for Initial Early Formative Period Occupation in Coastal Oaxaca, Mexico. Latin American Antiquity 30(2):437–444, https://doi.org/10.1017/laq.2019.25.

Hirth, Kenneth, Ann M. Cyphers, Robert H. Cobean, Jason De León, and Michael D. Glascock

2013 Early Olmec Obsidian Trade and Economic Organization at San Lorenzo. *Journal of Archaeological Science* 40(6):2784–2798.

Hodder, Ian

1977 The Distribution of Material Culture Items in the Baringo District, Western Kenya. Man, n.s., 12(2):239–269.

2012 Entangled: An Archaeology of the Relationships between Humans and Things. Wiley-Blackwell, Malden, Mass.

Hoopes, John W.

1994a Ford Revisited: A Critical Review of the Chronology and Relationships of the Earliest Ceramic Complexes in the New World, 6000– 1500 BC. Journal of World Prehistory 8(1):1–49.

1994b The Tronadora Complex: Early Formative Ceramics in Northwestern Costa Rica. *Latin American Antiquity* 5(1):3–30.

Hosler, Dorothy

1988 Ancient West Mexican Metallurgy: South and Central American Origins and West Mexican Transformations. *American Anthropologist* 90(4):832–855.

Howes, David

2006 Scent, Sound and Synaesthesia: Intersensoriality and Material Culture Theory. In *Handbook of Material Culture*, edited by Christopher Tilley, Webb Keane, Susanne Küchler, Mike Rowlands, and Patricia Spyer, pp. 161–172. Sage, London.

Josserand, J. Kathryn, Marcus Winter, and Nicholas A. Hopkins (editors)

1984 Essays in Otomanguean Culture History. Department of Anthropology, Vanderbilt University, Nashville,

Joyce, Arthur A., J. Michael Elam, Michael D. Glascock, Hector Neff, and Marcus Winter

1995 Exchange Implications of Obsidian Source Analysis from the Lower Río Verde Valley, Oaxaca, Mexico.

Latin American Antiquity 6(1):3-15.

Joyce, Arthur A., Hector Neff, Mary S. Thieme, Marcus Winter, J. Michael Elam, and Andrew G. Workinger

2006 Ceramic Production and Exchange in Late/ Terminal Formative Period Oaxaca. *Latin* American Antiquity 17(4):579–594.

Joyce, Rosemary A.

- 2001 Burying the Dead at Tlatilco: Social Memory and Social Identities. Archaeological Papers of the American Anthropological Association 10:12–26.
- 2009 Making a World of Their Own: Mesoamerican Figurines and Mesoamerican Figurine Analysis. In Mesoamerican Figurines: Small-Scale Indices of Large-Scale Social Phenomena, edited by Christina T. Halperin, Katherine A. Faust, Rhonda Taube, and Aurore Giguet, pp. 407–425. University Press of Florida, Gainesville.
- 2012a Life with Things: Archaeology and Materiality. In Archaeology and Anthropology: Past, Present, and Future, edited by David Shankland, pp. 119–132. Berg, New York.
- 2012b Thinking about Pottery Production as Community Practice. In Potters and Communities of Practice, edited by Linda Cordell and Judith Habicht-Mauche, pp. 149–154. University of Arizona Press, Tucson.

Joyce, Rosemary A., and Jeanne Lopiparo

2005 Postscript: Doing Agency in Archaeology. Journal of Archaeological Method and Theory 12(4):365–374.

Keane, Webb

2006 Subjects and Objects: Introduction. In Handbook of Material Culture, edited by Christopher Tilley, Webb Keane, Susanne Küchler, Mike Rowlands, and Patricia Spyer, pp. 197–202. Sage, London.

Kelly, Isabel

- 1974 Stirrup Pots from Colima: Some Implications. In The Archaeology of West Mexico, edited by Betty Bell, pp. 206–211. Sociedad de Estudios Avanzados del Occidente de México, Ajijic, Jalisco.
- 1980 Ceramic Sequence in Colima: Capacha, an Early Phase. Anthropological Papers of the University of Arizona 37. University of Arizona Press, Tucson.

Kosiba, Steve, John Wayne Janusek, and Thomas B. F. Cummins (editors)

2019 Sacred Matter: Animacy and Authority in the Americas. Dumbarton Oaks Research Library and Collection, Washington, D.C.

Kubler, George

1962 The Art and Architecture of Ancient America: The Mexican, Maya, and Andean Peoples. Penguin Books, Baltimore, Md.

Lange, Frederick W. (editor)

1988 Costa Rican Art and Archaeology. Essays in Honor of Frederick W. Meyer. University of Colorado, Boulder.

Lathrap, Donald Ward, Donald Collier, and Helen Chandra

1975 Ancient Ecuador: Culture, Clay and Creativity, 3000–300 BC. Field Museum of Natural History, Chicago.

Latour, Bruno

2005 Reassembling the Social: An Introduction to Actor-Network-Theory. Oxford University Press, Oxford.

Lave, Jean, and Etienne Wenger

1991 Situated Learning: Legitimate Peripheral Participation. Cambridge University Press, Cambridge.

Layton, Robert

2003 Art and Agency: A Reassessment. *Journal of the Royal Anthropological Institute* 9(3):447–464.

Lesure, Richard G. (editor)

2011 Early Mesoamerican Social Transformations. University of California Press, Berkeley.

MacNeish, Richard S., Frederick A. Peterson, and Kent V. Flannery

1970 The Prehistory of the Tehuacán Valley, vol. 3, Ceramics. University of Texas Press, Austin.

Marcos, Jorge G.

1988 Real Alto: La historia de un centro ceremonial Valdivia. Corporación Editorial Nacional–Escuela Politécnica del Litoral, Quito.

McEwan, Gordon F., and D. Bruce Dickson

1978 Valdivia, Jomon Fishermen, and the Nature of the North Pacific: Some Nautical Problems with Meggers, Evans, and Estrada's (1965) Transoceanic Contact Thesis. *American Antiquity* 43(3):362–371.

Meggers, Betty J.

1975 The Transpacific Origin of Mesoamerican Civilization: A Preliminary Review of the Evidence and Its Theoretical Implications. American Anthropologist 77(1):1–27.

Meggers, Betty J., and Clifford Evans

- 1962 The Machalilla Culture: An Early Formative Complex on the Ecuadorian Coast. *American* Antiquity 28(2):186–192.
- 1969 Speculations on Early Pottery Diffusion Routes between South and Middle America. Biotropica: 20–27.

Meggers, Betty J., Clifford Evans, and Emilio Estrada

1965 Early Formative Period of Coastal Ecuador: The Valdivia and Machalilla Phases. Smithsonian Contributions to Anthropology 1. Smithsonian Institution Press, Washington, D.C.

Mester, Ann Marie

The Pearl Divers of Los Frailes: Archaeological and Ethnohistorical Explorations of Sumptuary Good Trade and Cosmology in the North and Central Andes. PhD dissertation, University of Illinois, Urbana-Champaign.

Mills, Barbara J., and T. J. Ferguson

Animate Objects: Shell Trumpets and Ritual Networks in the Greater Southwest. *Journal of* Archaeological Method and Theory 15(4):338–361.

Moberg, Mark

2013 Engaging Anthropological Theory: A Social and Political History. Routledge, New York.

Morales, Juan, Avto Goguitchaichvili, María de los Ángeles Olay Barrientos, Claire Carvallo, and Bertha Aguilar Reyes

2013 Archeointensity Investigation on Pottery Vestiges from Puertas de Rolón, Capacha Culture: In Search for Affinity with Other Mesoamerican Prehispanic Cultures. Studia geophysica et geodaetica 57(4):605–626.

Morphy, Howard

2009 Art as a Mode of Action: Some Problems with Gell's Art and Agency. *Journal of Material Culture* 14(1):5–27.

Mountjoy, Joseph B.

1994 Capacha: Una cultura enigmática del occidente de México. Arqueología mexicana 2(9):39-42.

2006 Excavation of Two Middle Formative Cemeteries in the Mascota Valley of Jalisco, México. Foundation for the Advancement of Mesoamerican Studies. Electronic document, http://www.famsi.org/reports/03009/, accessed August 30, 2015.

2012 El Pantano y otros sitios del Formativo Medio en el valle de Mascota, Jalisco. Secretaría de Cultura, Gobierno de Jalisco, Guadalajara.

Neff, Hector, Jeffrey P. Blomster, Michael D. Glascock, Ronald L. Bishop, M. James Blackman, Michael D. Coe, George L. Cowgill, Richard A. Diehl, Stephen D. Houston, Arthur A. Joyce, Carl P. Lipo, Barbara L. Stark, and Marcus Winter

2006 Methodological Issues in the Provenance Investigation of Early Formative Mesoamerican Ceramics. *Latin American Antiquity* 17(1):54–76.

Olay Barrientos, María Ángeles, Ligia Sofía Sánchez Morton, Avto Gogichaishvili, and Juan Morales

2019 El valle de Colima: Nuevas dataciones arqueomagnéticas para el Periodo Clásico. *Boletín de la Sociedad Geológica Mexicana* 71(2):413–428.

Oliveros Morales, José Arturo

1974 Nuevas exploraciones en el Opeño, Michoacán. In The Archaeology of West Mexico, edited by Betty Bell, pp. 182–201. Sociedad de Estudios Avanzados del Occidente de México, Ajijic, Jalisco.

Oliveros Morales, José Arturo, and Magdalena de los Ríos

1993 La cronología en el Opeño, Michoacan: Nuevos fechamientos por radiocarbono. *Arqueología* 9(10):45–48.

Olsen, Bjørnar

2010 In Defense of Things: Archaeology and the Ontology of Objects. AltaMira Press, Lanham, Md.

Pauketat, Timothy R.

2012 An Archaeology of the Cosmos: Rethinking Agency and Religion in Ancient America. Routledge, New York.

Pearsall, Deborah M., Neil A. Duncan, Karol Chandler-Ezell, Douglas H. Ubelaker, and James A. Brown

2020 Food and Society at Real Alto, an Early Formative Community in Southwest Coastal Ecuador. *Latin American Antiquity* 31(1):122–142.

Piña Chan, Roman

1958 Tlatilco. Instituto Nacional de Antropología e Historia, Mexico City.

Powell, Steven

2020 Like Listening to a Seashell: A Midden Analysis from La Consentida, Oaxaca, Mexico. MA thesis, California State University, San Bernardino.

Pugh, Timothy W.

2001 Flood Reptiles, Serpent Temples, and the Quadripartite Universe: The Imago Mundi of Late Postclassic Mayapan. Ancient Mesoamerica 12(2):247-258.

Ramírez Urrea, Susana

1993 Hacienda Blanca: Una aldea a traves del tiempo,
 en el valle de Etla, Oaxaca. Licenciatura thesis,
 Universidad Autónoma de Guadalajara, Guadalajara.

Ramón Joffre, Gabriel

2011 The Swallow Potters: Seasonally Migratory Styles in the Andes. In Archaeological Ceramics: A Review of Current Research, edited by Simona Scarcella, pp. 160–175. BAR International Series 2193. Archaeopress, Oxford.

Reimer, Paula J., William E. N. Austin, Edouard Bard, Alex Bayliss, Paul G. Blackwell, Christopher Bronk Ramsey, Martin Butzin, et al.

2020 The IntCal20 Northern Hemisphere Radiocarbon Age Calibration Curve (0–55 Cal KBP). *Radiocarbon* 62(4):725–757.

Romero Molina, Javier

Nuevos datos sobre mutilación dentaria en Mesoamérica. Anales de antropología 23(1):349-365.

Roosevelt, Anna C., Rupert A. Housley, M. Imazio Da Silveira, Silvia Maranca, and Richard Johnson

1991 Eighth Millennium Pottery from a Prehistoric Shell Midden in the Brazilian Amazon. *Science* 254(5038):1621–1624.

Schmidt Schoenberg, Paul

2006 La época prehispánica en Guerrero. *Arqueología mexicana* 14(82):28–37.

Shimada, Izumi

1999 Evolution of Andean Diversity: Regional Formations (500 BCE–CE 600). In South America, vol. 3, pt. 1 of The Cambridge History of the Native Peoples of the Americas, edited by Frank Salomon and Stuart B. Schwartz, pp. 350–517. Cambridge University Press, Cambridge.

Smith, A. Ledyard

1932 Two Recent Ceramic Finds at Uaxactun. Contributions to American Archaeology, vol. 2, no. 5, pp. 1–25. Carnegie Institution of Washington Publication 436. Carnegie Institution of Washington, Washington, D.C.

Smith, Carley B., Claire E. Ebert, and Douglas J. Kennett

2014 Human Ecology of Shellfish Exploitation at a Prehistoric Fishing-Farming Village on the Pacific Coast of Mexico. *Journal of Island and Coastal Archaeology* 9(2):183–202.

Snarskis, Michael J.

1982 La cerámica precolombina en Costa Rica. Instituto Nacional de Seguros, San José.

Stahl, Ann B.

2013 Archaeological Insights into Aesthetic Communities of Practice in the Western Volta Basin. African Arts 46(3):54-67.

Staller, John Edward

2001 Reassessing the Developmental and Chronological Relationships of the Formative of Coastal Ecuador. Journal of World Prehistory 15(2):193–256.

Stark, Barbara L., and Alanna Ossa

2010 Origins and Development of Mesoamerican Marketplaces: Evidence from South-Central Veracruz, Mexico. In Archaeological Approaches to Market Exchange in Ancient Societies, edited by Christopher P. Garraty and Barbara L. Stark, pp. 99–126. University Press of Colorado, Boulder.

Stoner, Wesley D., and Christopher A. Pool

2015 The Archaeology of Disjuncture: Classic Period Disruption and Cultural Divergence in the Tuxtla Mountains of Mexico. Current Anthropology 56(3):385-420.

Stross, Brian

1994 Maize and Fish: The Iconography of Power in Late Formative Mesoamerica. RES: Anthropology and Aesthetics 25:10–35.

Tabarev, Andrey V., Yoshitaka Kanomata, Jorge G. Marcos, Alexander N. Popov, and Boris V. Lazin

2016 Insights into the Earliest Formative Period of Coastal Ecuador: New Evidence and Radiocarbon Dates from the Real Alto Site. *Radiocarbon* 58(2):323–330.

Taube, Karl A.

2010 Where Earth and Sky Meet: The Sea in Ancient and Contemporary Maya Cosmology. In Fiery Pool: The Maya and the Mythic Sea, edited by Daniel Finamore and Stephen D. Houston, pp. 202–219. Peabody Essex Museum, Salem, Mass.

Taussig, Michael

1993 Mimesis and Alterity: A Particular History of the Senses. Routledge, New York.

Trigger, Bruce G.

2006 A History of Archaeological Thought. 2nd ed. Cambridge University Press, New York.

Urban, Matthias

2009 "Sun" and "Moon" in the Circum-Pacific Language Area. *Anthropological Linguistics* 51(3):328–346.

Vella Gregory, Isabelle

2018 Pots and Communities of Practice in Late Neolithic Malta: A Study of Decoration and Motor Skills. Journal of Archaeological Science: Reports 20:843–852.

Viveiros de Castro, Eduardo

2004 Exchanging Perspectives: The Transformation of Objects into Subjects. Common Knowledge 10:463-484.

Webmoor, Timothy, and Christopher L. Witmore

2008 Things Are Us! A Commentary on Human/ Things Relations under the Banner of a "Social" Archaeology. Norwegian Archaeological Review 41(1):53-70.

Wenger, Etienne

1998 Communities of Practice: Learning, Meaning, and Identity. Cambridge University Press, Cambridge.

Willey, Gordon R.

1955 The Prehistoric Civilizations of Nuclear America. American Anthropologist 57(3):571-593.

Williams, Eduardo

2007 Prehispanic West México: A Mesoamerican Culture Area. Foundation for the Advancement of Mesoamerican Studies, http://www.famsi.org /research/williams/, accessed August 30, 2015.

Williams, Eduardo, Phil C. Weigand, Lorenza López Mestas, and David C. Grove (editors)

2005 En antiguo occidente de México: Nuevas perspectivas sobre el pasado prehispánico. El Colegio de Michoacán, Zamora.

Winter, Marcus

1992 Oaxaca: The Archaeological Record. P.G.O., Oaxaca.

Winter, Marcus, and Gonzalo Sánchez Santiago

2014 Introduction to *Panorama arqueológico: Dos Oaxacas*, edited by Marcus Winter and Gonzalo Sánchez Santiago, pp. 1–30. Centro INAH Oaxaca, Oaxaca.

Witmore, Christopher L.

2014 Archaeology and the New Materialisms. Journal of Contemporary Archaeology 1(2):1-44.

Zárate Morán, Roberto

1995 El Corozal, un sitio arqueológico en la costa del Pacífico de Oaxaca. *Cuadernos del sur: Ciencias sociales* 3(10):9–36.

Zedeño, María Nieves

Animating by Association: Index Objects and Relational Taxonomies. Cambridge Archaeological Journal 19(3):407–417.

Zeidler, James A.

2008 The Ecuadorian Formative. In The Handbook of South American Archaeology, edited by Helaine Silverman and William H. Isbell, pp. 459–488. Springer, New York.

Zeitlin, Robert N.

Prehistoric Long-Distance Exchange on the Southern Isthmus of Tehuantepec, Mexico. PhD dissertation, Yale University, New Haven, Conn.