

The Jaén Stone Bowl Tradition and Ceja de Selva Contributions to Early Andean Exchange Networks

Ryan Clasby 

Pedro Rojas's 1961 excavation of numerous stone vessels at the Huayurco site has led scholars to suspect that the Jaén region of the northeastern Peruvian Andes was an important center of early ceremonial stone bowl production. This discovery not only provided clear evidence of an independent craft technology within the ceja de selva, or eastern Andean tropical montane forest, but the similarity of these stone vessels to examples found at coastal and highland Andean sites also suggested that the Jaén region produced these vessels as a means of participating within early interregional exchange networks. Because empirical evidence of tropical forest exchange items within coastal and highland sites is difficult to obtain because of these items' suspected perishable nature, the stone vessels represented an alternative means for understanding early Andean–Amazonian relations. Despite the importance of this discovery, little follow-up investigation has been conducted. In this article, I define the Jaén stone vessel tradition on the basis of form, design, and technology. I then review the archaeological literature on early Andean stone vessels to show how these vessels help articulate Jaén's participation within Andean interaction spheres between 2500 and 800 BC.

Keywords: interregional interaction, complex societies, ceremonial stone vessels, Chavín culture, tropical forest, *ceja de selva*, Andean archaeology

El hallazgo de un entierro en Huayurco con numerosas vasijas de piedra, realizado por Pedro Rojas en 1961, ha llevado a los estudiosos a reconocer la región de Jaén en los Andes Nororientales peruanos como un importante centro de producción de cuencos ceremoniales de piedra. Este descubrimiento no solo proporcionó evidencia clara de una tecnología artesanal independiente dentro de la ceja de selva, sino también la similitud de estas vasijas de piedra con ejemplos encontrados en sitios andinos de la costa y sierra sugieren que la región de Jaén producía estas vasijas como medio para participar en las primeras redes de intercambio interregional. Debido a que la evidencia empírica de elementos de intercambio de los bosques tropicales en los sitios costeros y de las tierras altas es difícil de identificar por su presunta naturaleza perecedera, las vasijas de piedra representan un medio alternativo para comprender las primeras relaciones andino–amazónicas. A pesar de la importancia de este descubrimiento, se ha realizado muy poca investigación de seguimiento. En este artículo, defino la tradición de las vasijas de piedra de Jaén basado en la forma, el diseño y la tecnología. Luego, reviso la literatura arqueológica sobre las vasijas de piedra andinas tempranas con el fin de mostrar cómo estas vasijas ayudaron a articular la participación de Jaén en las diferentes esferas de interacción andina entre 2500 y 800 aC.

Palabras claves: interacción interregional, sociedades complejas, platos de piedra ceremoniales, cultura Chavín, bosque tropical, *ceja de selva*, arqueología Andina

Interregional exchange, including the transfer of goods, ideas, and peoples, has long factored into discussions concerning the origins of Andean sociopolitical complexity (Hirth and Pillsbury 2013). Notwithstanding the preference for models favoring community self-sufficiency (Murra 1972) and geographic primogenesis

(Shady 2010), scholars have recognized that the varied environments of the Andean landscape lent themselves to interregional exchange and that these processes affected the development of Andean cultural practices and belief systems, particularly during the late Initial period (1100–800 BC) and Early Horizon (800–1 BC)

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with the rise of the Chavín Interaction Sphere (950–400 BC; Burger 1992, 2008, 2019; Matsumoto et al. 2018). Much of this early exchange centered on the movement of exotic goods used for ritual paraphernalia.

In examining the impact of exchange on early Andean cultural developments, scholars have debated the degree to which these processes were influenced by the eastern Andean slopes (or *ceja de selva* in Peru), a narrow environmental zone of tropical montane forest situated between the highland Andes and Amazon lowlands (see Burger 1992; Clasby 2022; Clasby and Nesbitt 2021; Lathrap 1970, 1971; Raymond 1988). Beginning in the early twentieth century, Peruvian archaeologist Julio C. Tello (1921, 1940, 1960) argued that the Chavín culture and Andean civilization had their roots in the *ceja de selva*, with many of Chavín's defining cultural features—from its art style to its use of certain cultigens, such as squash, manioc, and sweet potato—being of tropical forest origin. For Tello, these individual elements, which would develop into civilization in the highlands, first spread to the region via cultural processes occurring in the *ceja de selva* along trans-Andean corridors such as the Marañón River. Later archaeologists built on these ideas, arguing that the tropical forest imagery in Chavín art, combined with similarities in material culture, was a strong indication that the people of the *ceja de selva* were engaged in interaction with those on the Andean coast and in the highlands (Burger 1992; Lathrap 1971), perhaps via networks oriented around the exchange of ritual items and ideas. Unfortunately, a lack of investigation within the *ceja* combined with the perishable nature of the suspected exported items—wood, dyes, medicinal and psychotropic plant products, feathers, and pelts (Lathrap 1970; Raymond 1988; Wilkinson 2018)—made it difficult to demonstrate the nature of *ceja* involvement within early Andean interaction networks beyond ceramic comparisons. Recent archaeological investigations within the *ceja* have begun to rectify this issue, although much remains unknown regarding the products that were produced and exported from this region.

For this reason, the Huayurco site has remained important in the Andean literature.

Located in the Jaén region of the northeastern Peruvian Andes along the confluence of the Chinchipe and Tabaconas Rivers (Figure 1a–b), Huayurco was discovered by Peruvian scholar Pedro Rojas (1961, 1985) during a three-year expedition to the Marañón Valley intended to elaborate on Tello's hypothesis that Chavín had its origins in the *ceja*. Rojas (1961) hoped to find the source of polished stone vessels from Chavín and the Piura region. The identification of a stone vessel fragment in a private collection near Huayurco resulted in his excavation of the site.

Rojas uncovered a burial featuring 12 finely carved stone vessels and 136 stone vessel fragments alongside marine shell pendants and *Strombus* trumpets from the Pacific coast and burnished brown ware pottery—including a nearly complete bottle (Figure 2)—similar in style to late Initial period/Early Horizon northern highland ceramics (compare with Lumbreras 2007:Figures 363–365; Terada and Onuki 1982:Plate 82:3–5, 83:4–6). These findings not only provided unmistakable evidence of interregional exchange at Huayurco, overturning past assumptions about the *ceja* as a geographical barrier to highland–lowland interaction (Steward 1948); in addition, the stone vessels, some of which featured elaborate excised designs, were suggestive of an independent technological development within the eastern Andes (Lathrap 1970:108–109), one that lent itself to study because of the vessels' nonperishable nature. The seemingly unfinished fragments, combined with the similarity of forms and decoration to Late Preceramic and Initial period stone vessels found outside Jaén, led Rojas (1961, 1985) and Donald Lathrap (1970:108–109) to posit that Huayurco was a manufacturing center for ceremonial stone bowls, with some of the vessels exported to the Andean coast and highlands as a means of participating within interregional exchange networks. The documentation of additional vessels from private collections near Huayurco (Bushnell 1966) and excavations in Bagua on the eastern edge of Jaén (Burger 1992:218) lent support to this claim.

Despite Huayurco and Jaén's importance for understanding *ceja* contributions to early Andean exchange networks, limited follow-up

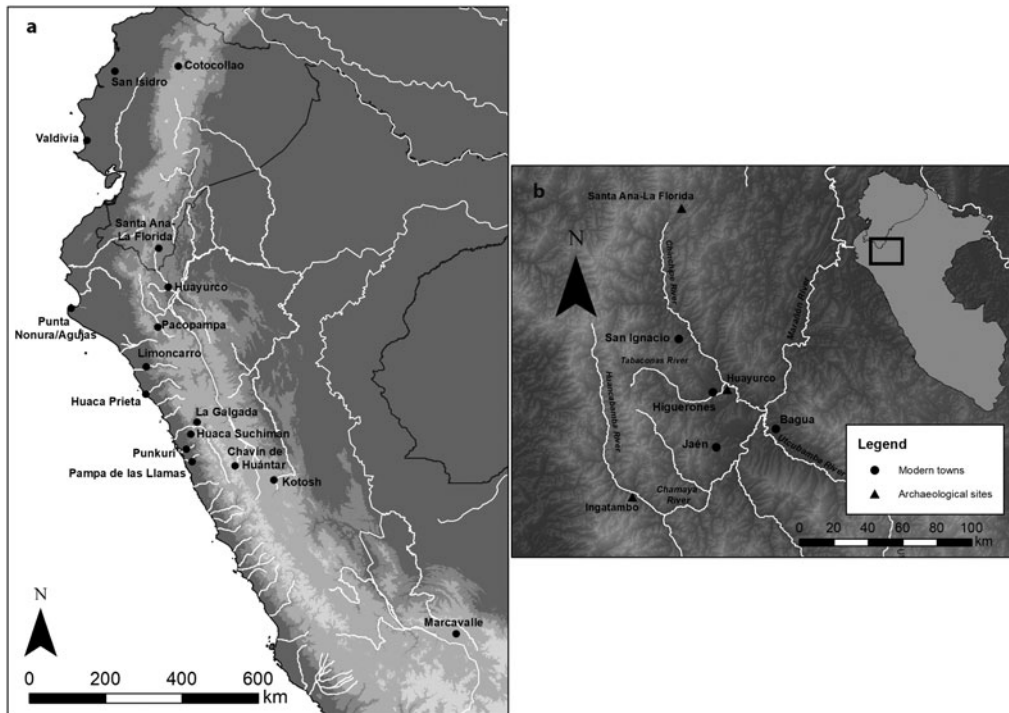


Figure 1. (a) Map of Peru and Ecuador with important sites mentioned in the text; (b) Jaén region map with important towns, rivers, and sites mentioned in the text (maps by Christopher Milan, used with permission).

occurred, with little attempt to define the Jaén stone vessel style. This lack of definition made assessing the interregional distribution of these



Figure 2. Ceramic bottle excavated by Pedro Rojas at Huayurco (photograph by author). (Color online)

vessels difficult because Jaén was not unique in its propensity for ceremonial stone vessel production, with several early styles developing in the coast and highlands (Peterson 1984; Pozorski and Pozorski 1992; Salazar and Burger 1982; Tello 1960; Zeidler 1988). Although recent investigations within the Jaén region have provided insight into these vessels' ritual importance to *ceja de selva* societies (Clasby 2014; Olivera 2014; Valdez 2007) and investigations in the *ceja* of southern Ecuador have demonstrated their early use (Valdez 2008; Zarillo et al. 2018), much remains unknown regarding their production, style, chronological placement, and interregional distribution.

Since 2008, I have explored these questions through stylistic analyses of Jaén region stone vessels, including a reexamination of Rojas's Huayurco vessels and a study of examples in Jaén regional museums. In this article, I define the Jaén stone vessel tradition on the basis of form, design, and technology, demonstrating that it is in fact a discrete tradition, different from those of other Andean regions that

produced stone vessels. I then review the archaeological literature on early Andean stone vessels to show how they help articulate this area of the *ceja de selva's* participation within different Andean interaction spheres between 2500 and 400 BC.

Stone Vessels and Early Social Complexity in the Andes

The Huayurco stone vessels correspond to a material category popularly referred to as ceremonial stone bowls or vessels. Although a formal definition is lacking within the archaeological literature (Zeidler 1988:250–251), ceremonial stone vessels differ aesthetically and functionally from ground-stone mortars used in daily subsistence activities. Ceremonial stone vessels encompass a variety of forms, including beakers, cups, trays, convex-curved or straight-walled bowls, and effigies. They are typically well polished, with relatively thin walls in comparison to their utilitarian counterparts. Decoration is common, often occurring in the form of incision or excised relief patterns and carved zoomorphic figures. The production process likely entailed hammering, pecking, and grinding a stone core to fit a desired shape (Manen 2017; Schneider and Osborne 1996), a process likely aided by softening agents (Tschopik 1946) and abrasive materials such as sand (Pozorski and Pozorski 1992).

Ceremonial stone vessels were an important material component of early Andean ritual complexes, particularly during the Central Andean Late Pre-ceramic period, Initial period, and Early Horizon (or the corresponding Ecuadorian Formative period), when several independent styles or traditions developed in association with coastal and highland cultures throughout Ecuador and Peru. These styles have been summarized elsewhere (Peterson 1984; see also Bischof 2008; Pozorski and Pozorski 1992; Salazar and Burger 1982; Zeidler 1988) but include the following cultures/geographical regions: Valdivia/San Isidro (cylindrical beakers and zoomorphic effigies) and Cotacollao (convex-curved or straight-walled bowls on a flat base with circumferential grooves, nicked welts, and engraved geometric decoration) in coastal and highland Ecuador, respectively; Cupisnique

(beakers and convex-curved bowls with high-relief excision) along the north coast of Peru; Punkurí/Suchimán (flat-bottomed beakers with incised, interlocking design elements and geometric/figurative imagery) and Casma (beakers and cups with flanged lips and incised designs) on Peru's north-central coast; and Chavín (zoomorphic effigies) in central highland Peru. Ceremonial stone vessels that do not fit within clear styles have been documented at Marcavalle in Cuzco (Mohr-Chavez 1980); Kotosh and Shillacoto in the upper Huallaga (Izumi and Sono 1963; Izumi and Terada 1972; Kano 1972), and La Pampa (Terada 1979:Plate 88b, 125:4–6) in the northern highlands.

Although few stone vessels have been found in context or analyzed for use, the fine craftsmanship, decoration, and variation in forms suggest that these vessels were employed as serving containers and specialized mortars during ritual activities. James Zeidler (1988) and Richard Burger (2011) have argued that some zoomorphic effigies were used as receptacles for preparing tropical-forest-grown hallucinogenic snuff such as *vilca*. Similar practices have been documented through ethnographic comparison, and Spanish accounts detailing the extirpation of idolatry during the colonial period mentioned the importance given to stone mortars holding hallucinogenic snuff, notably referred to as *vilcanas*, by Indigenous peoples (see Burger 2011). Specialized stone mortars may have also functioned as palettes for the preparation of pigments involved in ritual activities such as the painting of monumental friezes (Pozorski and Pozorski 1992).

Ceremonial stone vessels were central to Chavín cult activities: Chavín-style zoomorphic effigy vessels and cylindrical mortars have been found within the site's heartland and along the coast (Tello 1960). The elaborate nature of the designs and the emphasis on felines and avian imagery support the idea that the vessels held hallucinogenic snuff (Burger 2011; Zeidler 1988). The importance of stone vessels to Chavín cult activities is also supported by non-Chavín style zoomorphic effigies found within the Ofrendas Gallery at Chavín de Huántar, a chamber used for the storage of exotic offerings (Lumbreras 2007). One fish-shaped vessel

(Lumbreras 2007:Figures 199, 201a) is almost identical to examples from the Jaén region (see the later discussion).

Stone Vessels and the Jaén Region

The Jaén region (Figure 1b) is located within the Huancabamba Depression, a relatively low and narrow section of the Andes formed by the partial interruption of the Central and Eastern Cordilleras by the Chamaya-Marañón drainage system. As a result of these low elevations, the Huancabamba Depression is characterized by a westward extension of tropical montane forest that ranges from higher-altitude *páramo* (above 3300 m asl) and cloud forest (3300–1700 m asl) to lower-elevation dry forest (1700–300 m asl; Young and Reynel 1997).

The Jaén region corresponds to the dry forests within the depression, a hot and humid climatic zone of low-lying hills and scrub vegetation, marked by the convergence of several river valleys as they connect with the Marañón River. These valleys constitute the Jaén region and frame its geographical borders from the Huancabamba and Chamaya Rivers in the west and southwest, to the upper Marañón and lower Utcubamba in the east, and the Tabaconas and Chinchipe Valleys in the north. The convergence of these rivers created natural corridors between the coast, highlands, and tropical forest, establishing Jaén as a geographical nexus point. Indeed, evidence indicates that Jaén was home to complex societies engaged in interregional exchange as early as the Late Preceramic period (Olivera 2014; Valdez 2008), processes that continued through the Early Horizon (Clasby 2019; Yamamoto 2008, 2013).

The geographical and environmental makeup of Jaén likely encouraged a degree of cultural uniformity within the region. Although sub-regional cultural differences developed between valleys (see Clasby 2019, 2022), recent investigations have shown that early Jaén occupations maintained similar lifeways and material culture. These similarities include linear settlement patterns along rivers, the use of river cobbles and yellow mortar as building materials for ceremonial architecture, and the adoption of Initial period/Early Horizon regional ceramic styles

dominated by bowls and short-necked jars and decorated with incision and polychrome painting (Clasby 2019, 2022; Olivera 2014; Valdez 2008; Yamamoto 2008).

Among these investigations were the survey and excavation that I conducted at Huayurco (Clasby 2014, 2019) to address the stone bowl question. Although 60 years of landscape alteration and Rojas's lack of detailed field notes made it impossible to identify the location of his excavations, my investigations showed that Huayurco was a large site complex comprising at least 16 sectors spread over 360 ha around the Chinchipe–Tabaconas confluence, with a continuous occupational history between 800 BC and AD 550. My investigation of Huayurco's Early Horizon components led to the discovery of a ceremonial structure (Figure 3a) organized around the ritual burning of exotic goods. Indeed, Huayurco's participation within interregional networks was central to the site's growth and development.

Despite extensive excavation, I only recovered a single stone vessel fragment from surface survey along the north side of the Chinchipe River, part of a boat-shaped bowl with zoomorphic imagery (Figure 3b–c). Atsushi Yamamoto's (2008:Figure 10) investigations at the Inгатambo site along the Huancabamba River were more successful, encountering an amphibious-shaped effigy vessel that was associated with late Initial period architectural renovations.

Some of the most exciting information concerning stone vessels comes from Santa Ana-La Florida (SALF) in southern Ecuador. Located upstream from Huayurco in the Chinchipe Drainage, SALF is characterized by some 20 circular structures around a sunken court, as well as a spiral-shaped architectural feature found in the site's eastern half (Valdez 2008). Francisco Valdez's (personal communication 2021) investigations recovered 15 stone vessels from ritual or funerary contexts in or near the spiral feature. Some of these vessels dated to the Ecuadorian Early Formative or corresponding Late Preceramic period in Peru,¹ including one vessel placed upside down covering greenstone medallions and beads in a hearth located at the center of the spiral. Four vessels including a bird-shaped

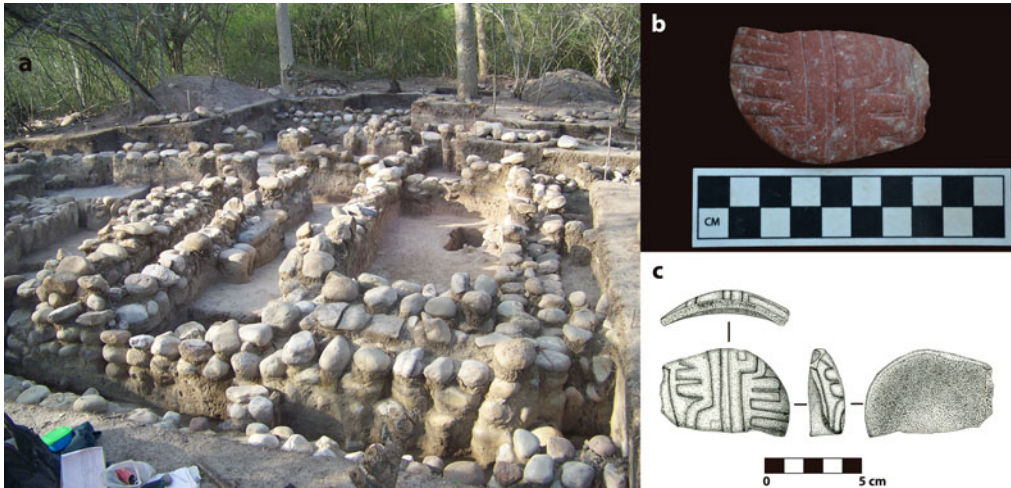


Figure 3. (a) Early Horizon ceremonial architecture at Huayurco (photograph by author); (b–c) stone vessel fragment from Huayurco (photograph by author; drawing by Edwin Silva de la Roca, used with permission). (Color online)

mortar were found in a shaft tomb near the spiral's vortex, which also contained ceramics (including stirrup-spout vessels), *Strombus* shell, and green stone beads. Residue analyses from one stone vessel revealed maize and cacao, further illustrating the site's ritual nature (Zarillo and Valdez 2013; Zarillo et al. 2018). These deposits date to approximately 2250 BC. Valdez (personal communication 2021) has documented 26 additional vessels in private collections that are thought to come from SALF.

Despite the paucity of excavated finds, stone vessels were an important aspect of early Jaén regional cultures. Following Rojas's excavations, Geoffrey Bushnell (1966) and French archaeologists Henry and Paule Reichlen (Musée du Quai Branly 2021a) documented specimens from a private collection in the Higerones community around Huayurco.² The Reichlens acquired and donated seven of these vessels to the Musée de l'Homme in 1965 (they were later moved to the Musée du Quai Branly). Jaén regional museums also contain numerous examples donated by local landowners. In the next section I compare the Rojas and Reichlen vessels from Huayurco to the Jaén regional collections and the SALF specimens to define the corpus of forms and decorative techniques that make up the Jaén tradition.

The Rojas Stone Vessel Collection from Huayurco

The Rojas stone vessel collection from Huayurco is held in the Museo Nacional de Arqueología, Antropología e Historia del Perú (MNAHP) in Lima and has never been described systematically or published in its entirety. The collection consists of 12 complete vessels and 136 vessel fragments (Supplemental Table 1), some of which fit together; 73 of the 148 specimens feature a rim.

Vessels were made from arkose (25.7%), limestone (21.6%), sandstone (micaceous and cream-colored, 15.5%), tonalite (12.2%), quartzite (9.5%), basalt (8.1%), and orthoquartzite (5.4%). A cryptocrystalline bowl was also identified, along with two fragments corresponding to a type of sandstone, most likely greywacke. Geologic maps indicate that most of these raw materials are local to the Jaén region (De la Cruz 1995; Reyes and Caldas 1987; Sánchez et al. 1996). Some of the vessels were fashioned from river cobbles, a resource that lines Jaén region riverbeds including the Chinchipe and Tabaconas. Despite Lathrap's (1970:108) argument that some fragments were unfinished, all are shaped and feature smooth or polished finishes. As part of a burial deposit, these fragments likely corresponded to finished vessels broken before or after interment.

Vessel Size and Forms

Vessels can be divided into three major forms: (1) convex-curved bowls with flat to rounded bases (Figure 4a–f, j–o), (2) straight-sided bowls with a flat base (Figure 4g–i, p–q), and (3) effigy vessels (Figure 5a–b). Convex-curved bowls are the most common form, representing 9 of the 12 complete vessels and all but two identifiable fragments. Only three straight-sided bowls and two effigy vessel fragments were identified. There is significant variation within the convex-curved bowls, with shapes mimicking gourd skeuomorphs (see DeBoer 2003:295). No distinctions were made between shallow and deep bowls.

Vessel diameters taken from the 12 complete vessels range between 8.3 cm and 32 cm, with an average of 19.1 cm. Vessel height ranges from 3.5 cm to 10 cm, with an average of 6.4 cm. Vessel walls thicken toward the base. Rims were rounded or flat, and 14 specimens show evidence of rim castellation. This technique involves carving notches into the rim, akin to battlements on a castle (Figure 4a, d, f, k, o; Figure 5c–d). Three of the four complete vessels feature four equidistant castellations along the rim, with the fourth (badly fragmented) likely sharing this pattern. The 14 castellated specimens were made from arkose ($n = 4$), orthoquartzite ($n = 3$), limestone ($n = 3$), quartzite ($n = 2$), sandstone ($n = 1$), and possibly greywacke ($n = 1$).

The two effigy fragments are made of tonalite: one depicts the head of a raptorial bird (Figure 5a) and the other the head of a monkey (Figure 5b; see also Lathrap 1970:Plate 23). Each head is attached to a concave depression positioned within the figure's dorsal side.

Decoration

The Huayurco stone vessels are well known in the Andean literature for their distinctive spiral-shaped serpentine relief patterns (Rojas 1985:186; see also Burger 1992:Figure 242; Lathrap 1970:Plate 26–27). I refer to this pattern as the “coiled serpent” motif (Figure 4g–i, p). It appears on three complete stone vessels, all of which are made of tonalite and feature straight (but flaring) polished walls.

Apart from the coiled serpent motif, non-castellated and non-effigy vessel decorations

appear on only 12 specimens, all fragments. The decoration is restricted to vessel exteriors and consists of incised/excised geometric and figurative imagery (Figure 5e–h), including the depiction of a hand or paw. The principal design patterns are often framed by circumferential excised/incised lines below the rim and along the basal angle. Only one decorated fragment was manufactured from tonalite, despite it being the raw material for the effigy fragments and coiled serpent vessels. The rest were made from quartzite ($n = 6$), orthoquartzite ($n = 2$), arkose ($n = 2$), and limestone ($n = 1$). Further investigation could identify whether certain types of stone were preferred for specific decorative techniques or whether other aspects such as color were more important (see Valdez 2007).

Stone Vessels from Jaén Regional Collections

The Huayurco stone vessels parallel patterns present in Jaén regional museums and collections. I have documented 100 stone vessel specimens at the following institutions or private collections: the Museo Hermógenes Mejía Solf (MHMS; $n = 76$) and Universidad de Cajamarca (UCJ; $n = 2$) in Jaén, the Colegio Tupac Yupanqui (CTY; $n = 21$) in San Ignacio, and the Museo Ángel Jáuregui (MAJ; $n = 1$) in Bagua. This sample does not include quotidian mortar stones that I define loosely by their thick walls and rough surfaces.

The MHMS vessels, although unsystematically documented, are associated with collections records detailing the location from which they were found. These locations include towns located on the Chinchipe, Tabaconas, Huanca-bamba, Chamaya, and Marañón Rivers (Supplemental Table 2). There is no indication that donors acquired specimens from outside Jaén. If this information is assumed to be correct, it suggests that stone vessels were widely used throughout Jaén and probably involved multiple production centers.

Vessel Forms

As with the Rojas collection from Huayurco, vessels largely correspond to three major forms: (1) convex-curved bowls (Figure 6a–d), (2) straight-

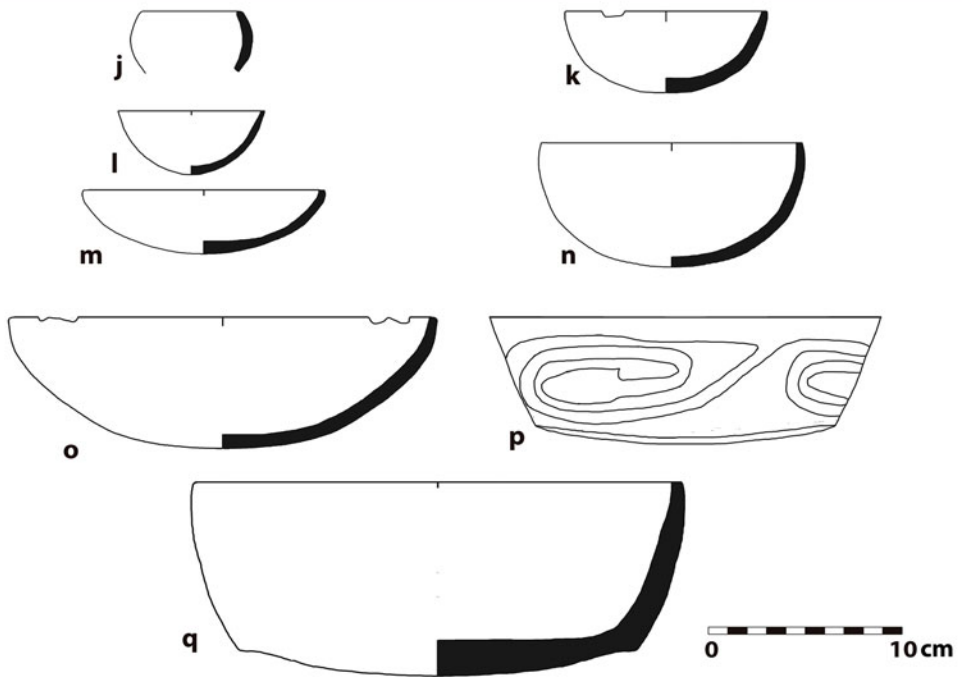


Figure 4. Huayurco stone vessels excavated by Pedro Rojas (photographs and drawings by author): (a–f): convex-curved bowls; (g–i): straight-walled bowls; (j–o) convex-curved bowls; (p–q) straight-walled bowls. (Color online)

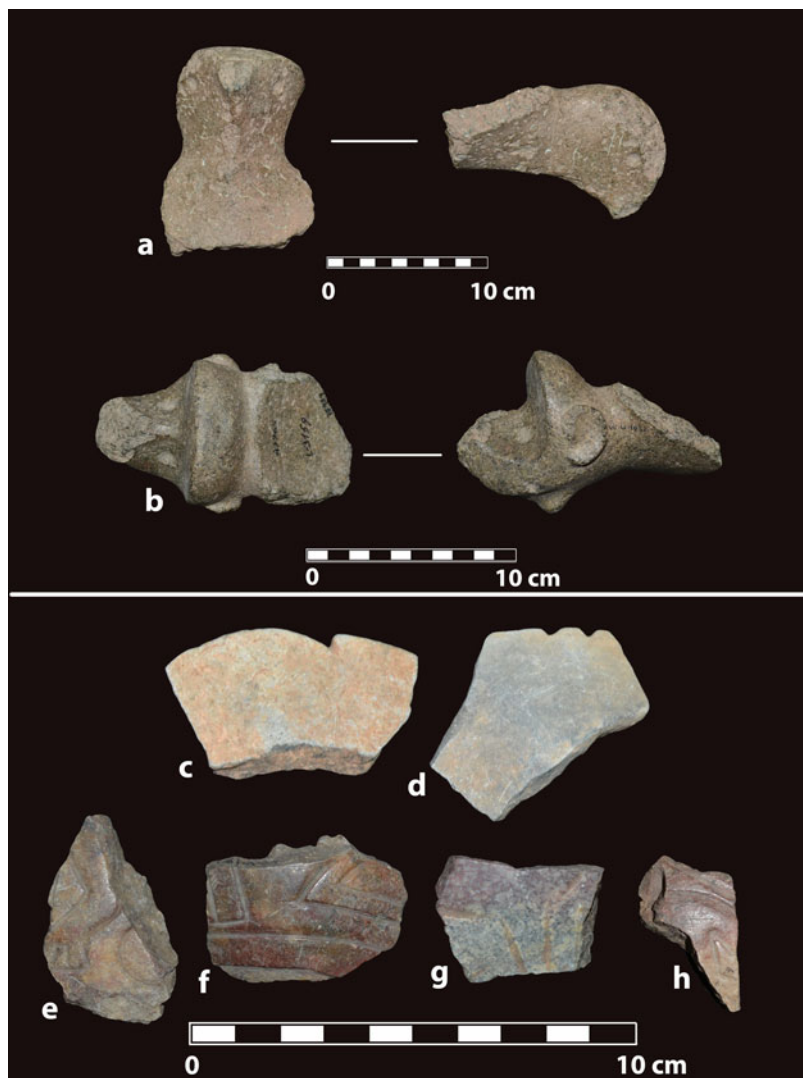


Figure 5. Huayurco stone vessel fragments excavated by Pedro Rojas (photographs by author): (a) raptor effigy; (b) monkey effigy; (c–d) examples of castellation; (e–f) examples of incised/excised imagery. (Color online)

sided bowls (Figure 6e–h), and (3) effigy vessels (Figure 6i–o). However, these categories exhibit greater variation in the Jaén regional collections, and beakers, trays, and neckless ollas appear in small numbers.

Convex-curved bowls with round to flat bases ($n = 62$) remain the most common form. A subtype of this form includes oval or boat-shaped bowls ($n = 5$), similar in shape to the specimen I recovered from Huayurco. Convex-curved vessel diameters range from 4.8 to 28.5 cm, with an average of 11.2 cm. The variations in vessel size

could indicate differences in function—larger bowls as serving vessels, smaller bowls for preparing ritual substances—as noted from ethnographic studies of ceramic assemblages (see DeBoer 2003). However, a lack of chronological and spatial control and the absence of use-ware analysis make any inference of function premature.

Straight-walled bowls ($n = 16$) also demonstrate size variation with diameters ranging between 5 and 23 cm, with an average of 12 cm. Many of the smaller bowls exhibit thick



Figure 6. Jaén stone vessel regional collections (photographs by author): (a–d) convex-curved bowls; (e–h) straight walled vessels; (i–o) effigy vessels. (Color online)

bases and might be more adequately called tumblers (Figure 6f–g). The larger bowls, like their Rojas collection counterparts, feature flaring walls and a flat base, with some vessels exhibiting the coiled serpent motif.

Rim castellation appears on 18 specimens. Unlike the Rojas vessels, which never exhibit more than four castellations, the Jaén regional examples show more variation: some vessels feature six castellations, and others demonstrate repeated castellations along the entire rim (Figure 6b). The castellations vary in shape from rectangular to wavy, and the designs are often framed underneath by a circumferential incised line.

The effigy vessels ($n = 18$) typically consist of a convex-curved bowl within a zoomorphic-shaped figure. The bowl is usually located on the dorsal side (Figure 6j, l) although occasional examples are positioned on the ventral side (Figure 6k) or in profile view (Figure 6i). Figures include fish, birds, felines, monkeys, and reptiles. The MHMS also features an example of a quadruped with a circular hole in the dorsal side (Figure 6n). Although it is similar to other effigy vessels, the focus is on the animal rather than the concave depression, and the style is similar to an unprovenienced example recovered from the north coast of Peru (Larco 1941:Figure 154). One effigy vessel, a rectangular tray depicting a reptile (Figure 6m), deviates from the convex-curved form. Nonzoomorphic effigy vessels are rare but include two vessels featuring carved human faces and one example with squash-like high relief grooves (Figure 6o).

Other vessel forms include cylindrical beakers ($n = 1$), neckless ollas ($n = 1$), and trays ($n = 3$). The cylindrical beaker (Figure 6h) stands out among Jaén vessels in terms of form and decoration, featuring repeating incised fangs across the exterior. The decoration is similar to the Peruvian north-central coast stone vessel style (Bischof 2008), particularly Punkurí in the Nepeña Valley (Falcón 2009), and may be an import.

Decoration

The decoration on Jaén regional museum examples shares conventions, styles, and designs present in the Rojas collection. Decoration is again

limited to carved effigies or exterior incised/excised designs, and the coiled serpent motif notably appears on six Jaén regional collection specimens, all of which are similar in form and design to the Rojas examples.

The regional collection demonstrates greater variation in design fields and imagery. For the convex-curved bowls, decoration is generally applied to the base and exterior walls (Figure 6a–b), which may constitute a single design field or be split into separate fields. On single design fields, the decoration may be divided into hemispheres or quadrants (Figure 6a–b, 7a–f). Many of the bowls show a preference for dualism, with similar zoomorphic (e.g., raptors, coiled snakes; Figure 7a, c) or geometric (concentric triangles; Figure 6a) designs on both halves. For straight-sided vessels, decoration appears on the external walls, usually framed by circumferential incision/excision along the basal joint and rim (Figure 6e). These design patterns often repeat and, in some cases, are split into separate horizontal panels. Decoration unconnected to the walls sometimes appears on the base.

Many designs depict natural or mythological scenes. For example, one convex-curved bowl depicts two serpents in striking position facing a bird (Figure 7b). A similar example from the Museo Ángel Jáuregui presents a complex scene involving reptiles, felines, and raptors ripping apart a human (Figure 7d). The reptiles and felines repeat on opposite ends of the vessel, and the center depicts a raptor and human body parts.

Although these bowls share similar iconography, one vessel deviates from this pattern: it is a convex-curved bowl with wavy rim castellations and four incised faces along the base (Figures 6b, 7f). Despite the shape and castellation, the design shows stronger similarities with ceramic iconography from Peru's far north coast (see Izumi and Terada 1966:Plate 28:7, 11; and Burger 1992:Figure 240, for comparison).

The Reichlen Stone Vessels from Huayurco

The Reichlen collection ($n = 7$; Musée du Quai Branly 2021a) acquired from the area around Huayurco fits firmly into the style of the Rojas vessels and the Jaén regional collections. Four of the vessels are convex curved, two are straight

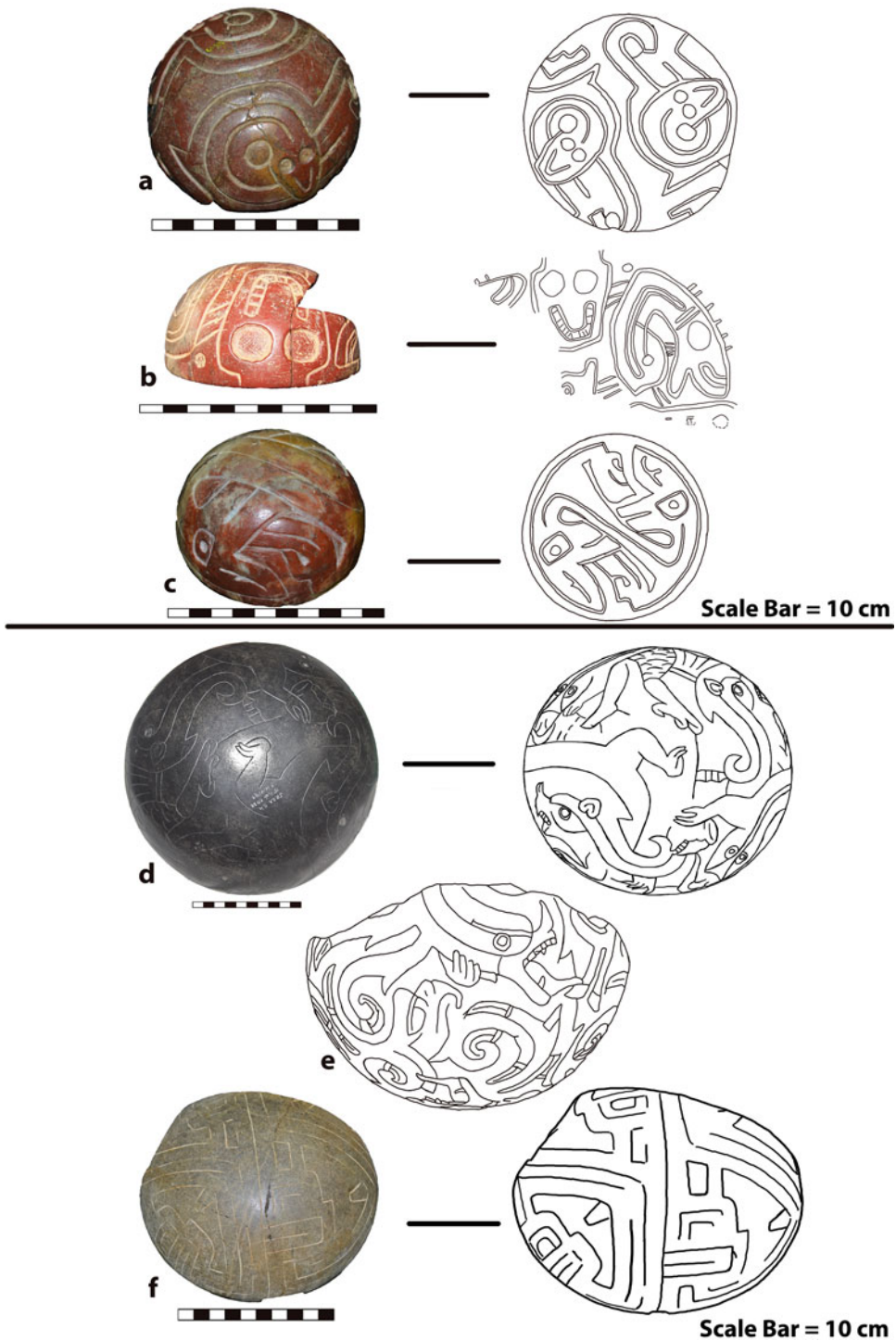


Figure 7. Jaén stone vessel regional collection decoration; (a–c) vessel from the MHMS (photographs and drawings by author); (d) vessel from the Museo Ángel Jáuregui (photograph and drawing by author); (e) vessel from the Musée Quai Branly (2021b; redrawn from collection database photograph); (f): vessel from the MHMS (photograph and drawing by author). (Color online)

sided, and one is an effigy vessel of a fox. For the convex-curved vessels, two show evidence of incision, including design patterns (Figure 7e) that are similar in style and motif to the Ángel Jáuregui example (Figure 7d), and a third features rim castellation at the four equidistant points. For straight-sided forms, one example features the coiled serpent motif, whereas the other shows patterns of inverted concentric triangles, almost identical to a vessel from the MHMS (Figure 6e).

Stone Vessels from Santa Ana-La Florida, Ecuador

SALF shows evidence of 15 stone vessels from excavated contexts and 26 nonexcavated vessels (Francisco Valdez, personal communication 2021). Vessels were made from andesite, basalt, jasper, and sandstone and include convex-curved bowls (deep or shallow), boat-shaped bowls, and

zoomorphic effigy vessels. Some of these vessels were castellated. The decorated convex-curved bowls (Figure 8a–b) share many of the conventions present in the Jaén regional collections, including bipartite and quadripartite exterior design fields emphasizing dualistic principles (Valdez 2007, 2008). One convex-curved vessel is divided into nonsymmetrical halves with human-like figures and animals (snakes, raptorial birds; Figure 8a; Valdez 2008:Figure 43.7) and is similar in iconography to other Jaén vessels. Another vessel depicts humanoid figures with avian bodies alternating with tricephalous avian and serpent motifs, which, as will be discussed, shares similarities with coastal and highland Late Preceramic iconography (Valdez 2008:Figure 43.8).

The Jaén Region Stone Vessel Tradition

A review of stone vessels from the Jaén region provides evidence of a regional style that is

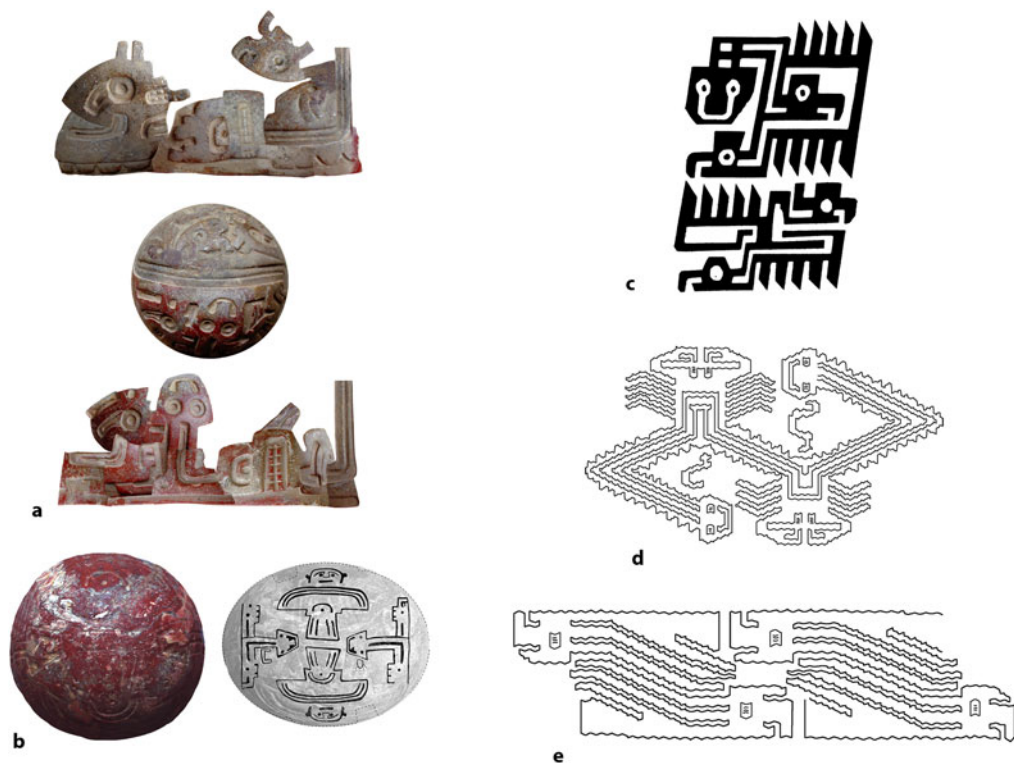


Figure 8. Late Preceramic/Early Formative bicephalous imagery: (a–b) stone vessels from Santa Ana-La Florida (images courtesy of Francisco Valdez); (c) looped bag from La Galgada (redrawn from Grieder 1988:Figure 130); (d) twined fabric from Huaca Prieta (redrawn from Bird 1963:Figure 4); (e) reconstructed textile design from Huaca Prieta (redrawn from Bird 1963:Figure 7b). (Color online)

characterized by three major forms: (1) convex-curved bowls, (2) straight-walled bowls, and (3) effigy vessels. Vessels are finely carved with smoothed to polished surfaces, and some convex-curved and straight walled bowls show evidence of rim castellation and exterior excised/incised decoration. Convex-curved bowls generally incorporate the entire exterior as a design field that is then split into bipartite or quadripartite divisions, whereas straight-walled vessels feature horizontal panels of repeating imagery. Motifs include geometric (e.g., concentric triangles, dots, spirals) and figurative imagery (e.g., snakes, birds, felines, humans, etc.) arranged in symmetrical and dualistic patterns. Many of the figurative designs depict natural or mythological scenes. Zoomorphic effigies of birds, fish, reptiles, and monkeys are common, with figures generally exhibiting a dorsal-side concave depression.

An underlying question is the temporal placement of the Jaén stone vessels. Although only the Rojas (1961) and SALF (Valdez 2008) collections were systematically excavated, evidence indicates that the Jaén region was producing stone vessels for perhaps a millennium or longer, from the Late Preceramic through the late Initial period, and possibly into the Early Horizon.

Valdez's dates for SALF securely place some specimens within the Ecuadorian Early Formative (or Late Preceramic period). This conclusion is supported by the similarities in iconography—most notably in the use of bicephalous serpent and avian imagery—between the SALF vessels and textiles and gourds from La Galgada (Figure 8c; Grieder 1988:Figures 130–132, 138–140) and Huaca Prieta (Figure 8d–e; Bird 1963:Figures 1, 4, 7a, 7b) in the Peruvian highlands and coast, respectively,

Yamamoto (2008) discovered a zoomorphic effigy vessel within a late Initial period context at Inгатambo, whereas the Rojas stone vessels from Huayurco were accompanied by burnished brown ware pottery, including a bottle reminiscent of late Initial period northern highland ceramics. Examples of Jaén style vessels also have been found at late Initial period coastal and highland sites (see the later discussion).

Stone vessel production possibly extended into the Early Horizon. The form and decoration

characteristic of the Rojas and Reichlen collections from Huayurco are also found in Early Horizon ceramics from the same site (Clasby 2014, 2019). In addition to the high frequency of convex-curved ceramic bowls, a number of ceramic vessels also feature castellated rims and “figure eight” designs that are similar to the coiled serpent motifs.

Unfortunately, the small sample of excavated specimens and the lack of chronological and spatial control make it difficult to construct a reliable relative sequence at the regional and subregional levels. Nevertheless, the forms, decoration techniques, design fields, and iconographic styles present in the study sample, combined with the longevity of use, indicate that the Jaén vessels pertain to a stone vessel tradition, by which I mean “a (primarily) temporal continuity represented by persistent configurations in single technologies or other systems of related forms” (Willey and Phillips 1958:37). This definition notably untethers single technologies from other cultural traits while also permitting regional variation (Willey and Phillips 1958: 35–39). Although temporal and subregional stylistic differences likely existed within the Jaén region tradition as suggested by the raw material and stylistic variation in the study sample, the differences do not appear significant enough to constitute independent styles. In addition, the presence of these vessels at SALF, Inгатambo, and Huayurco, all of which demonstrate distinct architectural layouts albeit with similar construction materials (Clasby 2022), suggests that stone vessels were not tied to other cultural traits or types of social organization but rather represented an important ritual item within the Jaén region.

The Interregional Distribution of the Jaén Stone Vessel Tradition

Ceremonial stone vessels were not unique to the Jaén region; rather, they were a critical material component of early Andean ritual assemblages, with examples documented in several coastal and highland sites. These vessels differ dramatically in form and style from those in the Jaén collections. Stone vessels from north-central Peru are dominated by cylindrical beakers (Pozorski and Pozorski 1992) and feature a distinct

iconography emphasizing composite beings, winged creatures, and fanged mouths (Bischof 2008). As mentioned, only one vessel within the Jaén collections fits these conventions, indicating it was likely imported to the region.

Convex-curved vessels appear in the Cupisnique culture of the northern coast of Peru (Salazar and Burger 1982), although they are typically smaller and shallower than their Jaén counterparts. The Cupisnique iconography, oriented around spiders and trophy heads, is unique to the north coast and is done exclusively in high relief, whereas Jaén vessels sometimes feature incised patterns. Cinnabar is sometimes found within the incised grooves of the Cupisnique vessels, a trait absent from Jaén vessels. Convex-curved and straight-walled vessels appear in the Ecuadorian Cotacollo culture, but they often sit on a flat pedestal base, and their decoration is limited to circumferential grooves, nicked wilts, and engraved geometric shapes. Avian, feline, and monkey effigy vessels are found in the Ecuadorian Valdivia/San Isidro culture, and although these vessels share some similarities with Jaén (arched faces, dorsal-side depressions), the figures are stylized with rectangular, “box-like” bodies and spiral tails in the case of the monkey and feline effigies (Winn 2009; Zeidler 1988). The Valdivia/San Isidro culture also features cylindrical beakers, which are mostly absent from Jaén. Tetrapodal vessels have been found in the upper Huallaga (Izumi and Sono 1963:Plate 171:16; Kano 1972), possibly representing zoomorphic effigies, but they have not been published.

The Jaén tradition is also distinct in its raw materials: the vessels were produced from a variety of igneous (tonalite, basalt, andesite), metamorphic (quartzite), and sedimentary (arkose, limestone, orthoquartzite, sandstone, jasper, cryptocrystalline silicates, and possibly greywacke) rocks. The raw material is more limited for Cupisnique (steatite) and the north-central coast of Peru (diorite, andesite, and granite). In Ecuador, the Valdivia/San Isidro and Cotacollo vessels were produced exclusively from igneous rock, with the latter made of andesite and dacite (Villalba 1988:307).

This clear delineation of stone vessel styles makes it possible to evaluate the distribution of the Jaén region style outside their center of

production, and a literature review does suggest that some vessels were transported outside Jaén. Most notable is the stone fish bowl from the late Initial period Ofrendas Gallery at Chavín de Huántar (Lumbreras 2007:Figure 199, 201a). This vessel is identical to three specimens from the Jaén region (Figure 9), including one identified near Huayurco (see note 3; Amat 1997:246; Bushnell 1966:Figure 10). Scholars have argued that the Ofrendas Gallery was a depository for ritual items brought by pilgrims to Chavín (Burger 1992, 2008) and may indicate that Jaén was involved in Chavín cult activities. Tello also documented two stone vessel fragments near the Chavín temple that share similarities to Jaén vessels. One fragment (Tello 1960:Figure 130b) is a straight-walled vessel with an exterior panel of inverse, concentric triangles similar to MHMS and Quai Branly specimens. The second fragment (Tello 1960:Figure 132) features exterior stepped incised lines, recalling a specimen that Bushnell (1966:Figure 8) described from Huayurco.

Outside Chavín, Rojas (1961:Plate 61) identified a convex-curved stone bowl with rim castellation at the Initial period/Early Horizon Pacopampa site in the northern highlands; this bowl was likely imported from the Jaén region. Although it is possible that Pacopampa and Jaén produced similar stone bowls because of their geographical proximity, as argued by Emil Peterson (1984), the Pacopampa castellated bowl likely reflects the site’s importance as a major ceremonial center within northern Peru. In fact, stone vessels recovered from Pacopampa belong to multiple styles. One example depicts a spider in association with severed hands (Rosas and Shady 2005:Figure 21c) and likely belongs to the Cupisnique culture. A small cylindrical vessel from Yarc Sara near Pacopampa (Burger 1992:Figure 97) is also reminiscent of north-central coast stone vessel forms, albeit with a local iconographic style. Nevertheless, support for close interaction between Pacopampa and Jaén is evident in the discovery of a convex-curved bowl (Fung 1975:Plate 8d) and zoomorphic effigy vessel fragment (Yuji Seki, personal communication 2020) at Pacopampa.

Rojas also identified four Jaén-style vessels in the Piura region of Peru’s far north coast. None of these vessels were systematically excavated,

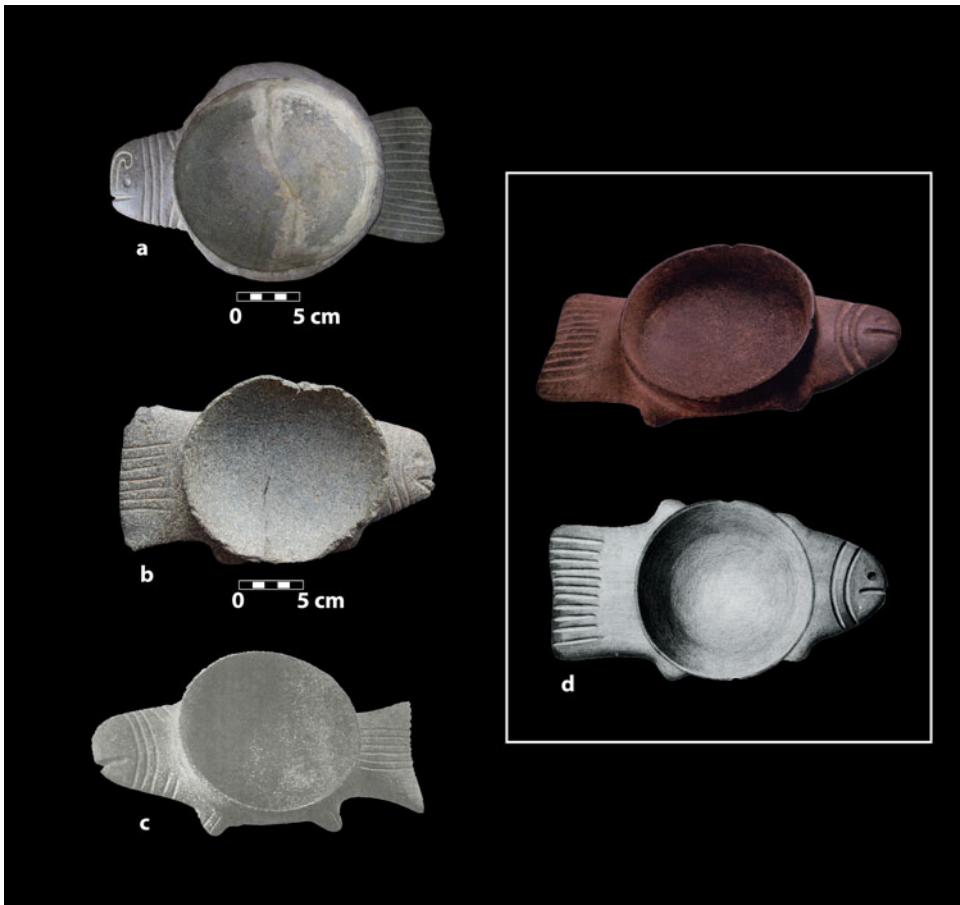


Figure 9. Stone fish platters: (a) vessel recovered along the Chamaya River (MHMS; photograph by author); (b) specimen recovered near Inгатambo (MHMS; photograph by author); (c) vessel likely recovered near Huayurco (Amat 1997:246, used with permission.); (d) vessel from the Ofrendas Gallery, Chavín de Huántar (Lumbreras 2007:Figures 199, 201a, used with permission). (Color online)

but three originate from the Punta Aguja ($n = 2$; Ramos de Cox 1958; see Rojas 1961:1–4, Plate 117e–f) and Punta Nonura ($n = 1$; Kostritsky 1955; Rojas 1961:Plate 117a) sites. The Punta Nonura vessel was part of a multi-individual tomb with stone vessels placed over skulls (Rojas 1961:3–4). The Ángel Jáuregui specimen was found in similar fashion at the Las Juntas site near Bagua (Olivera 2014:177). The Punta Aguja and Nonura bowls are straight sided, with the former showing evidence of castellation (Rojas 1961:Plate 117a, c–d). The fourth vessel, not attributed to any site, features iconography that resembles an MHMS stone vessel from Jaén.

Less convincing but still intriguing are the polished stone vessel fragments that Karen

Mohr-Chavez (1980:254–255, Figure 17a–e) discovered at the Early Horizon Marcavalle site in Cuzco. Some fragments feature coiled serpent motifs similar to those found at Huayurco, although the Marcavalle designs are incised/low relief and the vessels are made of serpentine and biotite, rather than tonalite.

Discussion

From the Late Prececeramic to the late Initial period, and possibly the Early Horizon, the Jaén region of the *ceja de selva* engaged in an independent craft tradition involving the production of finely carved stone vessels. These vessels served an important role within ritual activities

as containers and serving vessels for ceremonial food and drink (see Zarillo et al. 2018), as well as possibly special mortars for the preparation of ritually important substances. The ritual significance of these stone vessels is also noted in their placement as offerings within ceremonial architecture and burials; in some cases, they were positioned over the faces of the dead (Olivera 2014; Rojas 1961:3–4).

The widespread use of these vessels throughout Jaén indicates that production likely occurred at multiple centers or areas, leaving open the possibility of several regional substyles. Jaén's precociousness in stone vessel production may be partially due to the ample raw materials that were available via local outcrops and the numerous multicolored cobbles that littered the region's riverbeds. A future study aimed at sourcing the stone vessels may resolve this question.

Although stone vessels were used in local rituals, the vessels have become emblematic of Jaén's interregional relationships. Iconography in the form of bicephalous serpents on some of the SALF stone vessels shows strong similarities to Late Preceramic gourd and textile motifs from Huaca Prieta and La Galgada, connecting Jaén to early exchange networks that have been documented between northern Peru and coastal Ecuador (Lathrap et al. 1975:21). Evidence of Jaén's involvement within these networks is further supported by the presence of warm-water marine shell at SALF. Although some of these trade networks were oriented along the coastline (Marcos 1978), scholars are increasingly recognizing the importance of intermontane routes that would have passed through the Jaén region (Clasby 2014; Hocquenghem et al. 1993; Yamamoto 2013; Zeidler 2008).

During the late Initial period, some Jaén stone vessels ended up at sites far outside the region. Although these finds are not extensive, the widespread distribution of these vessels supports recent data that indicate that Jaén and the *ceja de selva* participated within Initial period and Early Horizon exchange networks that developed in the Andean coast and highlands. Of particular significance are the findings of these vessels in adjacent sites/areas such as Pacopampa and Piura, which may speak to an integrated northern interaction sphere during the Initial period and

Early Horizon, evident both in the close stylistic similarities between ceramics from all three areas and the ubiquity of warm-water marine shell and faunal remains at contemporary Jaén sites such as Huayurco (Clasby 2014, 2019) and Inगतambo (Yamamoto 2008). It also may explain the north-central-style stone beaker within Jaén regional collections.

The appearance of a Jaén-style vessel within the Ofrendas Gallery at Chavín de Huántar suggests that Jaén's participation in this northern exchange network may have led to its integration within the Chavín Interaction Sphere. This integration is evident from items associated with the spread of the Chavín cult at Inगतambo (Burger 2008), including *Spondylus* and camelid during the late Initial period and Quispisisa obsidian and Janabarrui ceramics in the Early Horizon (Yamamoto 2013). However, this integration was not uniform across sites (Clasby 2019, 2022;), nor did it interfere with local autonomy.

The Jaén region was not the only area of stone vessel production with several traditions arising in the highlands and coast during the Initial period and Early Horizon. Major centers such as Chavín and Pacopampa acquired stone vessels from multiple regions and, in the case of Chavín, produced an independent stone vessel style. Thus, the value of the Jaén stone vessels likely stemmed from their representation as exotic, tropical forest products. As shown in ethnographic studies of Andean shamanic networks, highland and coastal shamans often travel long distances to seek out their tropical lowland counterparts because they perceive that the latter have access to greater esoteric knowledge, power, and ritual paraphernalia (Helms 1988; Langdon 1981). Major ceremonial centers like Chavín and Pacopampa grew in prestige based on their ability to acquire such products, and the distinctive nature of the Jaén stone vessels coupled with their tropical forest origins may have made them desirable to these centers.

The value of the Jaén stone vessels may have also extended to the substances that were contained inside. Although it is generally assumed that stone vessels were exchanged as objects unto themselves, colonial accounts indicate that small wooden or stone *conopas* containing espingo seeds, highly desired as *chicha* beer

additives, were traded from Jaén and Chachapoyas where the plant was grown to the Peruvian highlands and coast (Wassen 1979). Because the Jaén collection is almost exclusively comprised of open vessels, it is not clear whether such a practice occurred during the Late Preceramic and late Initial period; however, the possibility remains that the value of the Jaén vessels was intrinsically connected to endemic tropical forest products. Recent studies have shown that *vilca*, a psychotropic hallucinogen, was almost certainly imported to Chavín de Huántar from the tropical forest in the form of seeds (Burger 2011; Sayre et al. 2016). Located at a geographical interface, Jaén may have contributed to existing northern coastal–highland exchange networks by facilitating the trade of medicinal plants and other tropical forest products. Microbotanical analyses of exported Jaén stone vessels could shine light on this question.

Although an understanding of the Jaén stone vessel tradition remains in its infancy, these vessels were important to ritual activities in Jaén and the region's integration within long-distance exchange networks. The Jaén region undoubtedly exported other products from the Late Preceramic to the Early Horizon, but the distinctiveness of the stone vessel style and the durability of the raw material present an observable means for exploring early coastal, highland, and tropical forest relationships, one that I hope will stimulate further research in Jaén and the *ceja de selva*.

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Data Availability Statement. The physical collections are held in the Museo Nacional de Arqueología Antropología e Historia del Perú in Lima, the Museo Hermógenes Mejía

Solf and Universidad de Cajamarca in Jaén, the Colegio Tupac Yupanqui in San Ignacio, the Museo Ángel Jáuregui in Bagua, and the Musée Quai Branly in Paris.

Competing Interests. The author declares none.

Supplemental Material. For supplementary material accompanying this article, visit <https://doi.org/10.1017/laq.2022.9>.

Supplemental Table 1. Stone Vessel Data from the Rojas Collection from Huayurco.

Supplemental Table 2. Stone Vessel Data from Jaén Regional Museums and Collections.

Notes

1. SALF is discussed in relation to the Late Preceramic period, despite its featuring ceramics, to maintain chronological consistency with Peruvian sites mentioned in the text.

2. The Reichlens did not publish on Huayurco or the Higueros specimens. However, a comparison of the Quai Branly ceramics and lithics with a photograph of the Higueros collection published by Bushnell (1966:Figure 10) suggests that the Reichlens materials correspond to the same collection.

3. Amat (1997:246) published a stone fish vessel, noting the similarities between the Ofrendas specimen and an example recorded by the Reichlens (unpublished) along the Chinchipe. Mislabelled as the Ofrendas specimen, comparisons suggest that the Amat vessel is the specimen recorded by Bushnell (1996:Figure 10) and the Reichlens near Huayurco.

References Cited

- Amat Olazábal, Hernán
1997 Formación y desarrollo de las sociedades teocráticas en los Andes Centrales. In *XI Congreso Peruano del Hombre y la Cultura Andina "Augusto Cardich." Actas y Trabajos Científicos*, Vol. I, edited by Hernán Amat Olazábal and Luis Guzmán Palomino, pp. 241–252. Universidad Nacional "Hermilio Valdizán", Huánuco, Peru.
- Bird, Junius B.
1963 Pre-Ceramic Art from Huaca Prieta, Chicama Valley. *Nawpa Pacha* 1:29–34.
- Bischof, Henning
2008 Context and Contents of Early Chavín Art. In *Chavín: Art, Architecture, and Culture*, edited by William J. Conklin and Jeffrey Quilter, pp. 107–142. Monograph 61. Cotsen Institute of Archaeology, University of California, Los Angeles.
- Burger, Richard L.
1992 *Chavín and the Origins of Andean Civilization*. Thames and Hudson, New York.
2008 Chavín de Huántar and Its Sphere of Influence. In *Handbook of South American Archaeology*, edited by Helaine Silverman and William H. Isbell, pp. 681–703. Springer, New York.
2011 What Kind of Hallucinogenic Snuff Was Used at Chavín de Huántar? An Iconographic Identification. *Nawpa Pacha* 31:123–140.
2019 Understanding the Socioeconomic Trajectory of Chavín de Huántar: A New Radiocarbon Sequence

- and Its Wider Implications. *Latin American Antiquity* 30:373–392.
- Bushnell, Geoffrey H. S.
1966 Some Archaeological Discoveries from the Frontier Region of Perú and Ecuador near Jaén. In *Actas y Memorias de XXXVI Congreso Internacional de Americanistas 1964*, Vol. 1, pp. 501–507. ECESA, Seville, Spain.
- Clasby, Ryan
2014 Exploring Long Term Cultural Developments and Interregional Interaction in the Eastern Slopes of the Andes: A Case Study from the Site of Huayurco, Jaén Region, Peru. PhD dissertation, Department of Anthropology, Yale University, New Haven, Connecticut.
2019 Diachronic Changes in Sociopolitical Developments and Interregional Interaction in the Early Horizon Eastern Montane Forest. In *Perspectives on Early Andean Civilization in Peru: Interaction, Authority, and Socio-economic Organization during the First and Second Millennia BC*, edited by Richard L. Burger, Lucy C. Salazar, and Yuji Seki, pp. 149–171. Yale University Publications in Anthropology No. 94. Peabody Museum of Natural History and the Department of Anthropology, Yale University, New Haven, Connecticut.
2022 From Jaguars to Harpy Eagles: Re-Evaluating the Chavín Phenomenon and Its Relationship with the Tropical Forest. In *Reconsidering the Chavín Phenomenon in the 21st Century*, edited by Richard Burger and Jason Nesbitt. Dumbarton Oaks, Washington DC, in press.
- Clasby, Ryan, and Jason Nesbitt (editors).
2021 *The Archaeology of the Upper Amazon: Complexity and Interaction in the Andean Tropical Forest*. University Press of Florida, Gainesville.
- DeBoer, Warren R.
2003 Ceramic Assemblage Variability in the Formative of Ecuador and Peru. In *Archaeology of Formative Ecuador*, edited by J. Scott Raymond and Richard L. Burger, pp. 465–486. Dumbarton Oaks, Washington DC.
- De La Cruz, Julio
1995 *Geología de los cuadrángulos de río Santa Águeda, San Ignacio y Aramango. Hojas: 10-f, 11-f y 11-g*. Instituto Geológico Minero y Metalúrgico. Boletín No. 57. Serie A: Carta Geológica Nacional. República del Perú Sector Energía y Minas, Lima.
- Falcón Huayta, Víctor.
2009 Reconstruction of the Burial Offering at Punkurí in the Nepeña Valley of Peru's North-Central Coast. *Andean Past* 9:109–129.
- Fung Pineda, Rosa
1975 Excavaciones en Pacopampa, Cajamarca. *Revista del Museo Nacional* 41:129–210.
- Griender, Terence E.
1988 Burial Patterns and Offerings. In *La Galgada, Peru: A Pre-ceramic Culture in Transition*, by Terrance Griender, Alberto Bueno Mendoza, C. Earle Smith Jr., and Robert M. Malina, pp. 73–102. University of Texas Press, Austin.
- Helms, Mary W.
1988 *Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance*. Princeton University Press, Princeton, New Jersey.
- Hirth, Kenneth G., and Joanne Pillsbury
2013 Merchants, Markets, and Exchange in the Pre-Columbian World. In *Merchants, Markets, and Exchange in the Pre-Columbian World*, edited by Kenneth G. Hirth and Joanne Pillsbury, pp. 1–22. Dumbarton Oaks, Washington DC.
- Hocquenghem, Anne-Marie, Jaime Idrovo, Peter Kaulicke, and Dominique Gomis
1993 Bases del intercambio entre las sociedades norperuanas y surecuatorianas: Una zona de transición entre 1500 A.C. y 600 D.C. *Bulletin del Institut Français d'Etudes Andines* 22:701–719.
- Izumi, Seiichi, and Toshihiko Sono
1963 *Andes 2: Excavations at Kotosh, Peru, 1960*. Kadokawa Publishing, Tokyo.
Izumi, Seiichi and Kazuo Terada
1966 *Andes 3: Excavations at Pechiche and Garbanzal, Tumbes Valley, Peru 1960*. Kadokawa Publishing, Tokyo.
1972 *Excavations at Kotosh, Peru: A Report on the Third and Fourth Expedition*. University of Tokyo Press, Tokyo.
- Kano, Chiaki
1972 Pre-Chavín Cultures in the Central Highlands of Peru: New Evidence from Shillacoto, Huánuco. In *The Cult of the Feline*, edited by Elizabeth Benson, pp. 139–152. Dumbarton Oaks, Washington DC.
- Kostritsky, León
1955 Hallazgos arqueológicos que demuestran la existencia de un antiquísimo pueblo pescador. *Pesca y Caza* 6:51–59.
- Langdon, E. Jean
1981 Cultural Bases for Trading of Visions and Spiritual Knowledge in the Colombian and Ecuadorian Montaña. In *Networks of the Past: Regional Interaction in Archaeology*, edited by Peter D. Francis, François J. Kense, and Philip G. Duke, pp. 101–116. Department of Archaeology, University of Calgary, Calgary, Canada.
- Larco Hoyle, Rafael
1941 *Los Cupisniques*. Casa editora “La Crónica” y “Variedades” S.A. Lima.
- Lathrap, Donald W.
1970 *The Upper Amazon*. Thames and Hudson, New York.
1971 The Tropical Forest and the Cultural Context of Chavín. In *Dumbarton Oaks Conference on Chavín*, edited by Elizabeth Benson, pp. 73–100. Dumbarton Oaks, Washington DC.
- Lathrap, Donald W., Donald Collier, and Helen Chandra
1975 *Ancient Ecuador: Culture, Clay, and Creativity, 3000–300 B.C.* Field Museum of Natural History, Chicago.
- Lumbreras, Luis G.
2007 *Chavín: Excavaciones arqueológicas*. Universidad ALAS Peruanas, Lima.
- Manen, Claire
2017 Manufacturing and Use of Stone Vessels from PPN Shillourokambos in the Context of Cypriot and Near Eastern PPN Stone Vessel Production. In *Nouvelles données sur les débuts du Néolithique à Chypre*. Actes de la séance de la Société Préhistorique Française, Paris, 18–19 mars 2015, edited by Jean-Denis Vigne, Françoise Briois, and Margareta Tengberg, pp. 167–187. Séance Société préhistorique française 9, Paris.
- Marcos, Jorge G.
1978 Cruising to Acapulco and Back with the Thorny Oyster Set: A Model for a Lineal Exchange System. *Journal of the Steward Anthropological Society* 9:99–132.
- Matsumoto, Yuichi, Jason Nesbitt, Michael Glascock, Yuri Cavero Palomino, and Richard L. Burger
2018 Interregional Obsidian Exchange during the Late

- Initial Period and Early Horizon: New Perspectives from Campanayuc Rumi, Peru. *Latin American Antiquity* 29:44–63.
- Mohr-Chavez, Karen L.
1980 The Archaeology of Marcavalle, an Early Horizon Site in the Valley of Cuzco, Peru: Part 1. *Baessler-Archiv Neue Folge* 28:203–329.
- Murra, John V.
1972 El control vertical de un máximo de pisos ecológicos en la economía de las sociedades andinas. In *Visita de la provincia de León de Huánuco*, edited by John Murra, pp. 429–476. Universidad Nacional Hermilio Valdizán, Huánuco, Peru.
- Musée du Quai Branly-Jacques Chirac
2021a Wayurco, L'Unité Patrimoniale des Collections des Amériques. Electronic document, <http://collections.quaibrnaly.fr/#916fcfe3-35e3-4d5d-8411-966d8ff47928>, accessed August 9, 2021.
2021b Coupe à décor anthropo-zoomorphe, Inventory Number 71.1965.103.2, L'Unité Patrimoniale des Collections des Amériques. Electronic document, <http://collections.quaibrnaly.fr/#1b79e608-620a-4b58-b21d-58f9fbc37f60>, accessed August 9, 2021.
- Olivera Núñez, Quirino
2014 *Arqueología Alto Amazónica: Los orígenes de la civilización en el Perú*. Apus Graph, Lima.
- Peterson, Emil
1984 Morteros Ceremoniales: The Early Development and Distribution of a Decorated Stone Bowl Tradition in North-West South America. In *Social and Economic Organization in the Prehispanic Andes*, edited by David L. Browman, Richard L. Burger, and Mario A. Rivera, pp. 21–31. BAR International Series 194. British Archaeological Reports, Oxford.
- Pozorski, Thomas, and Shelia Pozorski
1992 Early Stone Bowls and Mortars from Northern Peru. *Andean Past* 3:165–186.
- Ramos de Cox, Josefina
1958 Tallan. In *Mercurio Peruano, Revista Mensual de Ciencias Sociales y Letras* 39(369):18–34.
- Raymond, J. Scott
1988 A View from the Tropical Forest. In *Peruvian Prehistory*, edited by Richard W. Keatinge, pp. 279–300. Cambridge University Press, Cambridge.
- Reyes Rivera, Luis, and Julio Caldas Vidal.
1987 *Carta de geología del cuadrángulo de Huanca-bamba (1:250,000)*. Instituto Geológico Minero y Metalúrgico. República del Perú Sector Energía y Minas, Lima.
- Rojas Ponce, Pedro
1961 *Informe preliminar de la exploración arqueológica al Alto Marañón. Exploración arqueológica al Alto Marañón*, Vol. III. Manuscript on file, Wenner-Gren Foundation, New York.
1985 La “Huaca” Huayurco, Jaén. In *Historia de Cajamarca I. Arqueología*, edited by Fernando Silva Santiesteban, Waldemar Espinoza Soriano, and Rogger Ravines, pp. 181–186. Instituto Nacional de Cultura-Cajamarca, Cajamarca, Peru.
- Rosas La Noire, Hermilio, and Ruth Shady Solís
2005 Pacopampa: Un centro formativo en la sierra norperuana. Arqueología de Pacopampa. *Arqueología y Sociedad* 16:11–62.
- Salazar, Lucy, and Richard Burger
1982 La araña en la iconografía del Horizonte Temprano en la costa norte del Perú. *Beitrag zur allgemeinen und vergleichenden Archäologie Band* 4:213–253.
- Sánchez, Agapito, David Dávila, and Natalio de La Cruz
1996 *Geología del cuadrángulo de Jaén. Hoja 12-f*. Instituto Geológico Minero y Metalúrgico. Boletín no. 62. Serie A: Carta Geológica Nacional. República del Perú Sector Energía y Minas. Lima.
- Sayre, Matthew P., Melanie J. Miller, and Silvana A. Rosenfeld
2016 Isotopic Evidence for the Trade and Production of Exotic Marine Mammal Bone Artifacts at Chavín de Huántar, Peru. *Archaeological and Anthropological Sciences* 8:403–417.
- Schneider, Joan S., and Richard H. Osborne
1996 A Model for the Production of Portable Stone Mortars and Bowls. *Pacific Coast Archaeological Society Quarterly* 32:27–40.
- Shady Solís, Ruth
2010 *Caral: The First Civilization in the Americas*. CK Photo, Lima.
- Steward, Julian H. (editor)
1948 *The Tropical Forest Tribes. Handbook of South American Indians*, Vol. 3. Bureau of American Ethnology Bulletin 143. US Government Printing Office, Washington, DC.
- Tello, Julio C.
1921 *Introducción a la historia antigua del Peru*. Editorial Euforion, Lima.
1940 Origen y desarrollo de las civilizaciones prehistóricas andinas. *Proceedings of the 27th International Congress of Americanists* 1:589–720. Lima.
1960 *Chavín, cultura matriz de la civilización andina (primera Parte)*. Revised by Toribio Mejía Xesspe. Publicación Antropológica del Archivo “Julio C. Tello.” Imprenta de la Universidad Nacional Mayor de San Marcos, Lima.
- Terada, Kazuo
1979 *Excavations at La Pampa in the North Highlands of Peru, 1975: Report 1 of the Japanese Scientific Expedition to Nuclear America*. University of Tokyo Press, Tokyo.
- Terada, Kazuo, and Yoshio Onuki
1982 *Excavations at Huacaloma in the Cajamarca Valley, Peru, 1979: Report 2 of the Japanese Scientific Expedition to Nuclear America*. University of Tokyo Press, Tokyo.
- Tschopik, Harry, Jr.
1946 The Aymara. In *The Andean Civilizations*, edited by Julian H. Steward, pp. 501–573. Handbook of South American Indians, Vol. 2. Bureau of American Ethnology Bulletin 143. US Government Printing Office, Washington DC.
- Valdez, Francisco
2007 Mayo-Chinchi: The Half-Open Door. In *Ecuador: The Secret Art of Precolumbian Ecuador*, edited by Daniel Klein, Ivan Cruz Cevallos, and Leon Doyon, pp. 320–349. Five Continents, Milan.
2008 Inter-Zonal Relationships in Ecuador. In *Handbook of South American Archaeology*, edited by Helaine Silverman and William H. Isbell, pp. 865–888. Springer, New York.
- Villalba, Marcelo
1988 *Cotacolloa: Una aldea formativa del valle de Quito*. Serie Monográfica 2, Miscelánea Antropológica Ecuatoriana. Museos del Banco Central del Ecuador, Quito.
- Wassen, S. Henry
1979 Was Espingo (Ispincu) of Psychotropic and Intoxicating Importance for the Shamans in Peru? In *Spirits*,

- Shamans, and Stars: Perspectives from South America*, edited by David L. Browman and Ronald A. Schwarz, pp. 55–62. Mouton, The Hague.
- Wilkinson, Darryl
2018 The Influence of Amazonia on State Formation in the Ancient Andes. *Antiquity* 92:1362–1376.
- Willey, Gordon R., and Philip Phillips
1958 *Method and Theory in American Archaeology*. University of Chicago Press, Chicago.
- Winn, Paula L.
2009 Ancient Ecuadorian Stone Mortars: Style and Cultural Continuity in Pre-Columbian Art. PhD dissertation, Department of Art History, Virginia Commonwealth University, Richmond.
- Yamamoto, Atsushi
2008 Ingatambo: Un sitio estratégico de contacto interregional en la zona norte del Perú. *Boletín de Arqueología PUCP* 12:25–52.
2013 Las rutas interregionales en el Periodo Formativo para el norte del Perú y el sur de Ecuador: Una perspectiva desde el sitio Ingatambo, valle de Huancabamba. *Arqueología y Sociedad* 25:9–34.
- Young, Kenneth R., and Carlos Reynel
1997. Huancabamba Region, Peru and Ecuador. In *Centres of Plant Diversity: A Guide and Strategy for Their Conservation*, Vol. 3: *The Americas*, edited by Stephen D. Davis, Vernon H. Heywood, Olga Herrera-MacBryde, Jane Villa-Lobos, and Alan C. Hamilton, pp. 465–469. IUCN Publications Unit, Cambridge.
- Zarillo, Sonia, Nilesh Gaikwad, Claire Lanaud, Terry Powis, Christopher Viot, Isabelle Lesur, Olivier Fouet, et al.
2018 The Use and Domestication of the *Theobroma Cacao* during the Mid-Holocene in the Upper Amazon. *Nature Ecology and Evolution* 2:1879–1888.
- Zarillo, Sonia, and Francisco Valdez
2013 Evidencias del cultivo de maíz y de otras plantas en la ceja de selva oriental ecuatoriana. In *Arqueología amazónica: Las civilizaciones ocultas del bosque tropical*, edited by Francisco Valdez, pp. 147–171. Actes & Mémoires de l'Institut Français d'Études Andines, Vol. 35. Instituto Francés de Estudios Andinos, Lima.
- Zeidler, James A.
1988 Feline Imagery, Stone Mortars, and Formative Period Interaction Spheres in the Northern Andean Area. *Journal of Latin American Lore* 14:243–283.
2008 The Ecuadorian Formative. In *Handbook of South American Archaeology*, edited by Helaine Silverman and William H. Isbell, pp. 459–488. Springer, New York.

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