REPORT

FEASTING WITH *ZEA MAYS* IN THE MIDDLE AND LATE FORMATIVE NORTH COAST OF PERU

Hugo C. Ikehara, J. Fiorella Paipay, and Koichiro Shibata

This work reports the presence of Zea mays *microremains in three feasting episodes performed during the Middle and Late Formative Period in the North Coast of Peru. The remains of the Cerro Blanco de Nepeña feasts may represent a step toward the intensification of* Zea mays *consumption in ritual contexts, related to changes in the ceramic assemblages, and parallel to the transformation of ritual spaces during the second half of the Formative Period.*

El presente trabajo reporta la presencia de micro-restos de Zea mays *en tres episodios de festines llevados a cabo durante el periodo Formativo Medio y Tardío en la Costa Norte del Perú. Los restos de los festines de Cerro Blanco de Nepeña representan un paso en la intensificación del consumo de* Zea mays *en contextos rituales, relacionado a cambios en la vajilla cerámica y paralelo a las transformaciones de los espacios ceremoniales durante la segunda mitad del Formativo.*

Zea mays (maize) has been considered an important element in ritual practices and political negotiation in Central Andean societies (Bray 2009; Hastorf 2003; Hastorf and Johannessen 1993; Moore 1989; Morris 1979). While *Zea mays* was included in the diet as early as the Archaic Period (Table 1) [1] (Bonavia and Grobman 1989; Haas et al. 2013; Haas and Creamer 2006; Shady 2006), many lines of evidence—including stable isotope analysis (Burger and Van Der Merwe 1990; Seki and Yoneda 2005; Tykot et al. 2006), macrobotanical remains (Chicoine 2006; Ericson et al. 1989), and starch grain analysis (Vasquez 2006)—suggest a major presence of *Zea mays* after 500 B.C. and support the hypothesis of its increasing importance in the diet starting in the Late Formative Period[2] (800–500 B.C. [after Kaulicke 2010]).

Beginning in the Final Archaic Period (2600–1500 B.C), coastal communities were organized in complex social systems that used massive amounts of labor to build monumental structures (Haas and Creamer 2006; Kaulicke 2010, 2011; Shady 2003). Ritual practices such as feasts may have been one of the social mechanisms for recruiting populations for that purpose, and, moreover, they may have been a context in which power relationships were structured and negotiated (Chicoine 2011; Vega-Centeno 2007). These ritual practices may have involved not only the mobilization of people, but also the gathering of resources to fulfill their material requirements. Thus, the implementation of these activities required the mobilization of the local labor, the extraction of surplus from household units, and, in many cases, the activation of social networks to acquire prestige and/or exotic items.

The degree to which power relationships can be shaped by participation in feasts may depend on the degree to which inequalities were already present (Dietler 1990). Considering the variability of social complexity in the Formative Andes (Pozorski and Pozorski 2008), it is expected that leaders were affected in different ways. Public gatherings may have helped established leaders to reproduce relationships of power and consolidate their position, while aspiring leaders may have found in them the opportunity to challenge the sta-

Hugo C. Ikehara ■ Department of Anthropology, University of Pittsburgh, Pittsburgh, PA 15260 (hci1@pitt.edu)
J. Fiorella Paipay ■ Laboratorio de Palinología y Paleobotánica, Sección de Ciencias Ambientales (LID), Universidad Peruana Cayetano Heredia, Lima, Peru (fiorellapaipay@hotmail.com)
Koichiro Shibata ■ Kobe City University of Foreign Studies, Kobe, Japan (ks@inst.kobe-cufs.ac.jp)

Latin American Antiquity 24(2), 2013, pp. 217–231

Table 1. Chronological Chart Used in the Text.

Cal. Years B.C.	General (Kaulicke 2010)	Cerro Blanco de Nepeña (Shibata 2010)	Chavín (Burger 1992)	Chavín (Rick 2005)
200	Epi-Formative			Abandoment and Reoccupation
300	Final Formative	Samanco	Janabarriu	
400				
500	Late Formative		Chakinani	Maintenance
600		Nepeña	Urabarriu	Black and White
700				
800	Middle Formative	Cerro Blanco		
900				
1000				Consolidation Expansion Sep. Mound
1100		Huambocayán		
1200	Early Formative			
1300				
1400				
1500				

tus quo and acquire followers (Ames 1995; Brumfiel 1994; Clark and Blake 1994). In this competition, they may have manipulated social, ideological, and material resources for their own benefit (Hayden and Villeneuve 2010). There is no evidence that this kind of activity lost its importance despite sociopolitical changes between the Middle and Final Formative Periods; indeed, it seems that it became rooted as a way to integrate communities and exercise relations of power.

The Middle Formative Period (1200–800 B.C. [after Kaulicke 2010]) witnessed the spread and later abandonment of the so-called Cupisnique tradition in the northern valleys, and was characterized by the construction of massive mounds with associated square plazas and distinctive ceramic and mural painting styles (Elera 1997; Larco 1941). These Cupisnique societies have been interpreted as being organized in chiefdom-like communities (Stanish 2004). A parallel or slightly earlier development with apparently higher degrees of sociopolitical complexity was present in the Casma valley (Pozorski and Pozorski 2002, 2006). The subsequent Late Formative Period (800–500 B.C.) was marked by the abandonment of the coastal centers and the apogee of the highland centers (Burger 1992; Onuki 2001). The ubiquity of the remains of exotic and local serving vessels during the Middle and Late Formative Period (Ikehara and Shibata 2008; Lumbreras 1993; Matsumoto 2011; Tellenbach 1997) can be considered as evidence of the continuity of the social role of feasting practices.

During the Final Formative Period (500–200 B.C.), a myriad of social developments commonly attributed to the Salinar tradition became widespread on the North Coast. During this last stage of the Formative, the North Coast witnessed the formation of large villages, the abandonment of the former architectural and iconographical tradition, intensified conflict, and the collapse of the former long-distance exchange network (Billman 1999; Brennan 1982; Ikehara and Chicoine 2011). Furthermore, the ubiquity of oversized vessels supports the hypothesis that, during the Final Formative Period, increasing elite control over ritual was achieved by the control of managerial roles in such events (Chicoine 2011; Ikehara 2010). Such changes in the feast repertoire were accompanied by relatively abundant *Zea mays* remains (Chicoine 2011; Ericson et al. 1989; Pozorski and Pozorski 1987).

During this time of sociopolitical change in the Late Formative, *Zea mays* seems to have been consumed in ritual gatherings. In this report, we present new information related to *Zea mays* consumption in ritual contexts obtained from archaeological research at the Cerro Blanco de Nepeña site.

Feasting Remains from Cerro Blanco de Nepeña

Cerro Blanco de Nepeña is an archaeological site located on the northern margins of the Lower Nepeña River on the coast of the Department of Ancash, Peru (Figure 1). The site is U-shaped, composed of three platforms (North, Main and South Platforms) around a central plaza, and so far it is not known if the surrounding area (under modern cultivation) was also occupied. The configuration of the complex is similar to that described for the U-shaped temples of the Central Coast or the contemporaneous Chavín de Huántar (Bischof 1997; Shibata 2010; Vega-Centeno 2000; Williams 1978).

During our excavation of the North Platform (Sector B), a structure (BR-1) facing the Central Plaza was uncovered (Figures 2 and 3). It was remarkable for its high density of artifacts, ecofacts, and traces of activities such as burning and sequential deposition of remains (Ikehara 2007; Ikehara

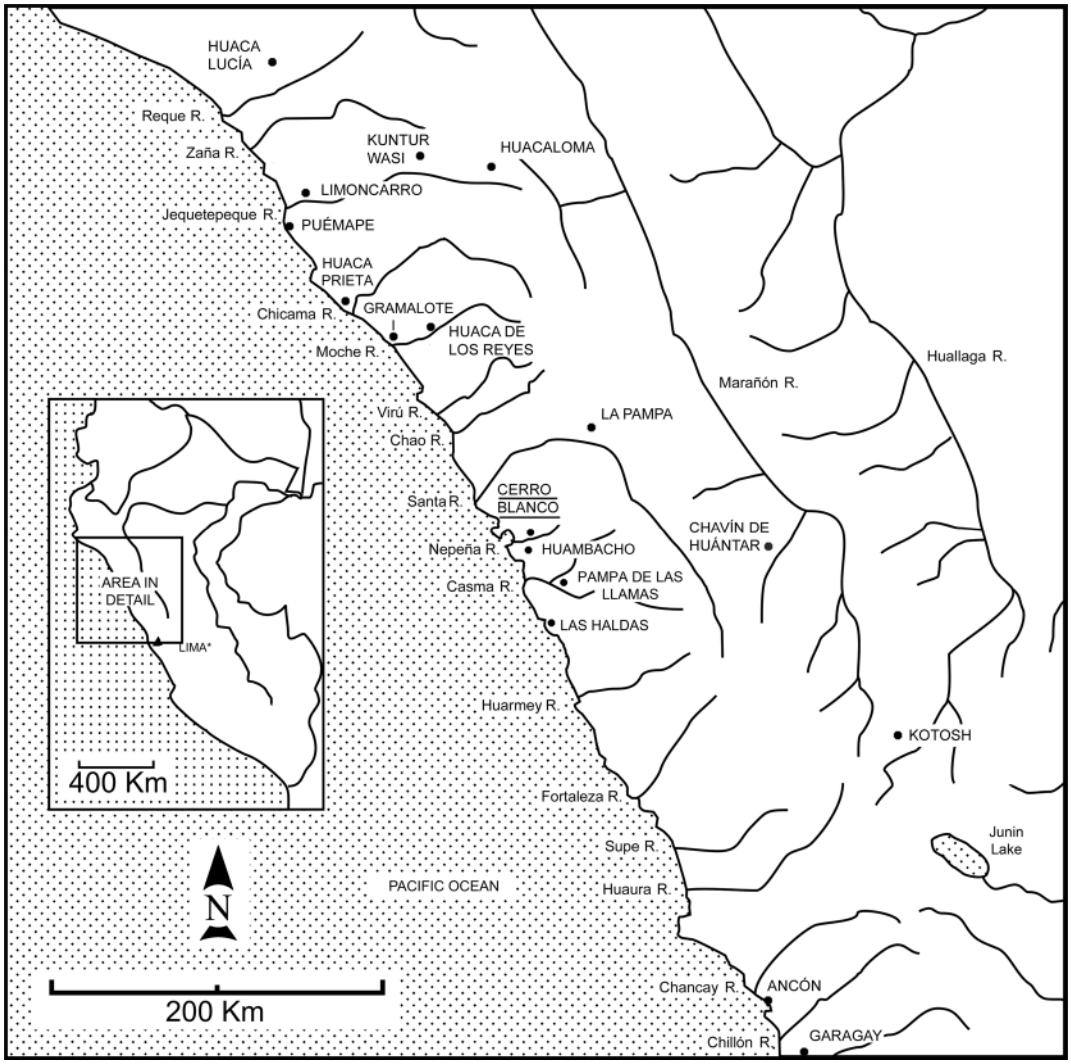

Figure 1. Map with the location of Cerro Blanco de Nepeña in the North Coast.

and Shibata 2008). A careful examination of the stratigraphy and the technological and morphological characteristics of the ceramic assemblage allowed for the reconstruction of formation processes and the identification of at least three main depositional events: BR-1(A), BR-1(B), and BR-1(C). Each one represents an episode of feasting activities (Ikehara 2007; Ikehara and Shibata 2008). Stylistic identification of ceramics and radiocarbon dates indicate that the first event, BR-1(A), occurred at the end of the Middle Formative Period, and the last two during the Late Formative (Tables 1 and 2).

The assemblages of the three events share similar vessel forms and styles, although in different proportions of wares (Table 3; see details in Ikehara 2007). Although we were unable to discern the underlying reasons for these feasting events, we can infer the social impact for both the hosts and the guests at the feast using cross-cultural comparisons (Clark and Blake 1994; Dietler and Hayden 2001; Ikehara 2007; Ikehara and Shibata 2008). The secure context of the ceramic remains, coupled with discrete depositional events that cover the Middle to Late Formative transition, offer a good context in which to examine the role of *Zea mays*

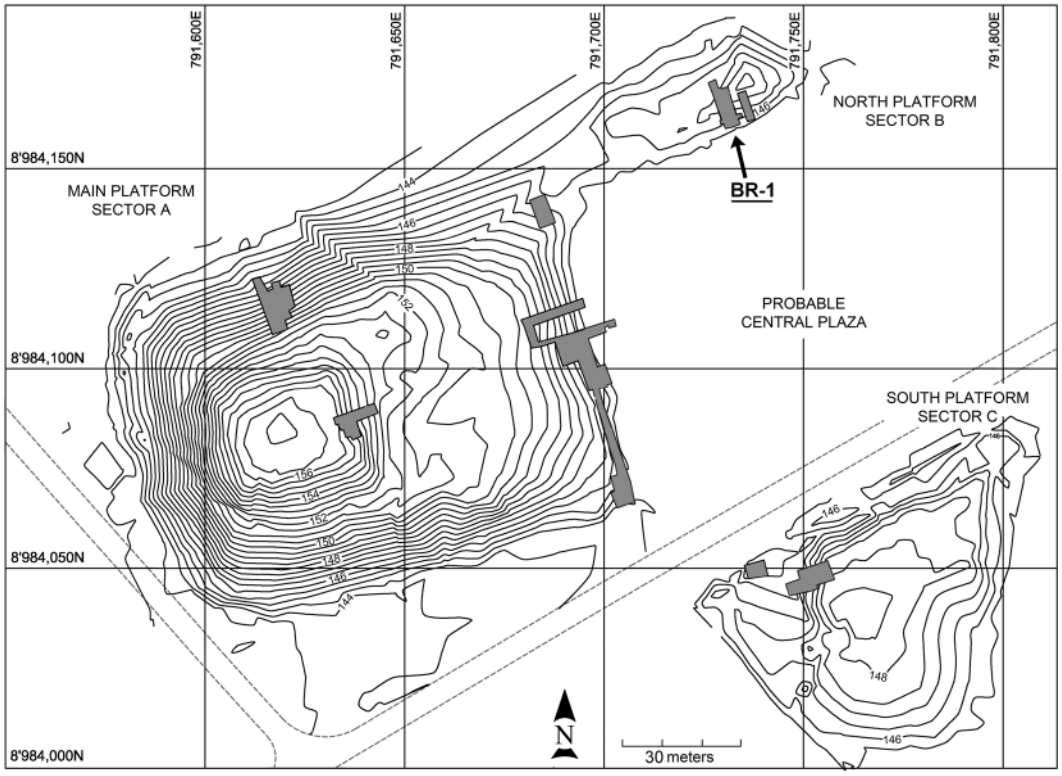

Figure 2. Topographic plan of Cerro Blanco de Nepeña with the location of the excavations and the structure BR-1.

in the ritual cuisine of the period and to examine the potential impact of its consumption in the social organization of those communities.

The potential function of the vessels was determined by their shapes (and related properties as containers), technological attributes (fabric and surface treatment), and evidence of use-wear (Ikehara 2007). The ceramic assemblages include cooking vessels (necked pot, neckless pot), storage and/or fermentation vessels (basins, necked jars), serving vessels (bowls, flat-based bowls), special serving vessels with emphasis in display (bottles), and other

Table 2. Radiocarbon Dates (AMS) of Feasting Episodes from BR-1 of Cerro Blanco de Nepeña (see also Shibata 2010: Tabla 1).

^{14}C yr B.P. (Lab#; δ13C)	2-Sigma Range (B.C.)*	Material and Context
2690 ± 70 (Tka-13943; $\delta^{13}C$ = -25.4‰)	920-550	Charcoal from plaster of the wall BM-31 of the earlier building below the North Platform. Before BR-1
2680 ± 40 (Tka-13564; $\delta^{13}C$ = -23.6‰)	840-670	Charcoal from inside the feature Lente 13 (on layer 25 level 2) related to the BR-1(A) event of the BR-1 room of the North Platform
2530 ± 35 (Tka-13911; $\delta^{13}C$ = -26.7‰)	790-400	Charcoal from inside the feature Lente 16 (on layer 27) from the BR-1(A) event of the room BR-1 of the North Platform
2560 ± 80 (Tka-13942; $\delta^{13}C$ = -23.2‰)	830-400	Charcoal from inside the feature Lente 6 (on layer 20) related to the BR-1(B) event of the BR-1 room of the North Platform
2500 ± 70 (Tka-13957; $\delta^{13}C$ = -18.7‰)	800-380	Charcoal from inside the hearth Fogón 3 from the BR-1(C) event of the room BR-1 of the North Platform
2530 ± 70 (Tka-13941; $\delta^{13}C$ = -28.1‰)	800-390	Charcoal from layer 18 from the seal of the room BR-1 of the North Platform

*Calibrated at 2-Sigma with the program OxCal v3.10 (Bronk Ramsey 2005).

Figure 3. View of BR-1 during the excavation of the remains of BR-1(B).

Table 3. Summary of Vessel Types and Samples of Each Feasting Episode in Structure BR-1.

Function	%	Vessel Type	%	MNV	Samples
Feasting Event BR-1(A)					
Display	19	Bottle (B)	19	12	4
Serving Vessels	38.1	Bows (C)	4.8	3	1
		Flat-Based Bowl (T)	33.3	21	3
Cooking Vessels	25.1	Neckless Jar (O)	25.4	16	5 + (1)[a]
		Necked Jar (OcC)	0	0	
Storage / Fermentation	12.7	Necked Jar (Ca)	7.9	5	2
		Basin (Ba)	4.8	3	3
Other	4.8	Gourd-shaped Bowl (X)	1.6	1	1
		Pitcher (Y)	0	0	
		Compotera (Co)	3.2	2	1
		Florers (F)	0	0	
Total	100		100	63	21
Feasting Event BR-1(B)					
Display	16.3	Bottle (B)	16.3	15	3
Serving Vessels	41.3	Bows (C)	6.5	6	1
		Flat-Based Bowl (T)	34.8	32	3
Cooking Vessels	23.9	Neckless Jar (O)	23.9	22	5 + (3)[a]
		Necked Jar (OcC)	0	0	
Storage / Fermentation	8.7	Necked Jar (Ca)	3.3	3	1
		Basin (Ba)	5.4	5	1
Other	9.8	Gourd-shaped Bowl (X)	1.1	1	1
		Pitcher (Y)	2.2	2	
		Compotera (Co)	4.3	4	1
		Florers (F)	2.2	2	
Total	100		100	92	19
Feasting Event BR-1(C)					
Display	13.8	Bottle (B)	13.8	12	3
Serving Vessels	49.4	Bows (C)	9.2	8	1
		Flat-Based Bowl (T)	40.2	35	3
Cooking Vessels	25.3	Neckless Jar (O)	23	20	5 + (2)[a]
		Necked Jar (OcC)	2.3	2	
Storage / Fermentation	3.4	Necked Jar (Ca)	2.3	2	2
		Basin (Ba)	1.1	1	1
Other	8	Gourd-shaped Bowl (X)	0	0	
		Pitcher (Y)	0	0	1
		Compotera (Co)	6.9	6	1
		Florers (F)	1.1	1	
Total	99.9		99.9	87	19

[a]Samples from the 2006 analysis (Ikehara and Shibata 2008; Vasquez 2006).

types with undetermined function (gourd-shaped bowl, *compoteras*, *floreros*) (see Table 3 and Figure 4). Neckless pots are commonly recognized as the standard and probably multipurpose kitchen vessel during the Formative Period (DeBoer 2003). Those coming from the BR-1 structure did not have use alterations, such as carbon accretions, related to the exposure to fire, and so we hypothesize that they were probably used to serve food or ferment liquids in. The neckless pots are not very likely to have been used to store foods because it is difficult to cover the mouth adequately.

In 2006, eight body sherds from jars were analyzed for starch grains in the ArqueoBios lab in Trujillo (Vasquez 2006). In 2009, 51 additional samples of sherds from different types of vessels were analyzed for starch grains and phytoliths in the Palynology and Paleobotany Laboratory of the Universidad Peruana Cayetano Heredia in Lima, following standard extraction and laboratory pro-

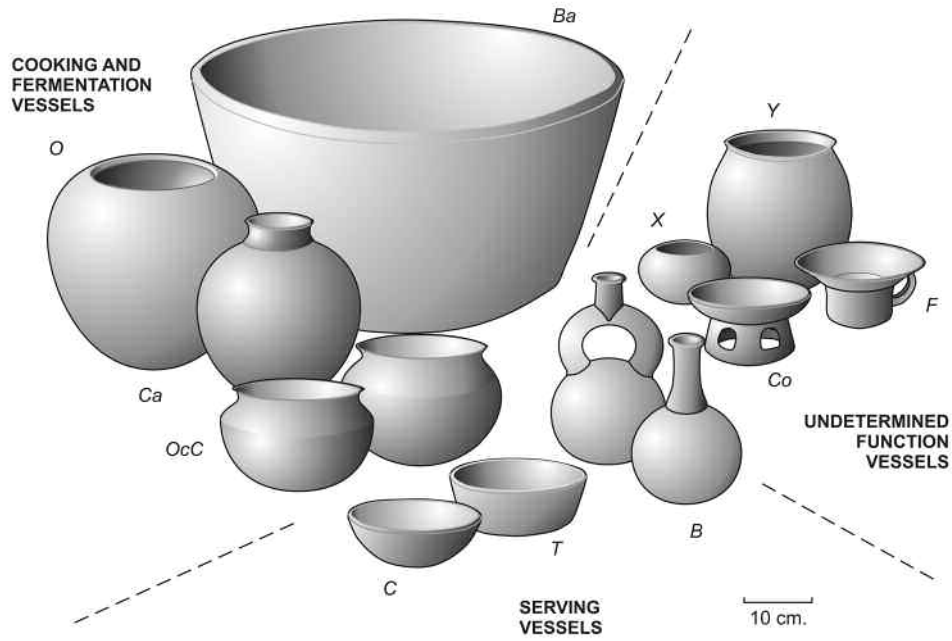

Figure 4. Ceramic assemblage from BR-1 structure feasting remains (see Table 3 for vessel type symbols).

cedures (Horrocks 2005; Kealhofer et al. 1999). The samples analyzed in 2009 were chosen to represent the variety and proportion of vessels from each of the three feasting events.

The identification of starch grains strongly depends on the ability of different species of plants to store energy as starch. The identification of phytoliths, on the other hand, depends on the potential of specific plants, and their different organs, to absorb silica (Piperno 2006). Consequently, we cannot discount the possible consumption of other species of plants (wild and cultivated) that are unlikely to produce starch grains or phytoliths.

Twenty-six individual starch grains and phytoliths from edible plants were identified in 18 samples, and this represents only a small part (30.5 percent) of the total of 59 analyzed sherds (Table 4). They were remains of *Manihot esculenta* (manioc roots), *Ipomoea batatas* (sweet potato roots), *Lepidium meyenii* (*maca*), *Zea mays* (all occurrences were starch grains or phytoliths from maize cobs), *Solanum* sp. (probably potato roots), *Phaselous* sp. (bean), and a species of *Maranthaceae* (Figures 5, 6, and 7). Other occurrences in other sherds were identified as non-edible (i.e., *Cyperaceae*) or as undetermined species, when the starch grains or phytoliths were too fractured or deformed to permit identification.

We were not able to identify the specific species of *Maranthaceae*, but a common variety recorded in prehispanic contexts is the *Maranta arundinacea* (arrowroot), which is a rainforest plant. The bottle from which this sample was extracted was the only sculptural vessel in the three assemblages and was probably obtained (along with its contents) by exchange with groups from the northernmost valleys. This bottle (specimen 93 in Ikehara 2007) is similar to Cupisnique sculptural ceramics reported by Alva (1986). This is the only sample with a positive identification of plant species from the 10 bottle samples. We suggest that this vessel may have had a display function in ritual practices and may not have been a "utilitarian" vessel (Ikehara 2007; Ikehara and Shibata 2008).

Despite the modest size of the analyzed sample and identified plant microremains, it seems that there is a weak relationship between specific vessel use and plant remains (Table 4). We propose three hypothetical relationships between cooking/storage/fermenting vessels and individual

Table 4. Identified Starch Grains and Phytoliths from Cerro Blanco de Nepeña Feasting Episodes.

Vessel Type	*Manihot esculenta*	*Ipomoea batatas*	*Lepidium meyenii*	*Zea mays*	*Phaselous sp.*	*Solanum sp.*	*Maranthaceae*
Feasting Event BR-1(A)							
Bottle (B)	-	-	-	-	-	-	-
Flat-based Bowl (T)	1/0	-	-	0/1	1/0	1/0	-
Bowl (C)	-	-	-	-	-	-	-
Compotera (Co)	-	-	-	-	-	1/0	-
Pitcher (Y)	-	-	-	-	-	-	-
Gourd-shaped Bowl (X)	-	-	-	-	-	-	-
Basin (Ba)	1/0	-	-	-	-	1/0	-
Neckless Jar (O)	-	-	-	1/0	-	-	-
Necked Jar (Ca)	-	-	-	-	-	-	-
(O) or (Ca)	-	-	-	-	-	-	-
Feasting Event BR-1(B)							
Bottle (B)	-	-	-	-	-	-	0/1
Flat-based Bowl (T)	-	-	-	1/1	-	-	-
Bowl (C)	-	-	-	-	-	-	-
Compotera (Co)	-	-	-	1/1	-	-	-
Pitcher (Y)	-	-	-	-	-	-	-
Gourd-shaped Bowl (X)	-	-	-	-	-	-	-
Basin (Ba)	-	-	-	-	-	-	-
Neckless Jar (O)	-	-	1/0	0/1	1/0	-	-
Necked Jar (Ca)	-	-	-	-	-	-	-
(O) or (Ca)	1/0	-	-	2/0	-	1/0	-
Feasting Event BR-1(C)							
Bottle (B)	-	-	-	-	-	-	-
Flat-based Bowl (T)	-	-	-	1/1	-	-	0/1
Bowl (C)	-	-	-	-	-	-	-
Compotera (Co)	-	-	-	-	-	-	-
Pitcher (Y)	-	1/0	-	-	-	-	-
Gourd-shaped Bowl (X)	-	-	-	-	-	-	-
Basin (Ba)	-	-	-	-	-	-	-
Neckless Jar (O)	-	-	-	-	-	-	-
Necked Jar (Ca)	-	-	-	-	-	-	-
(O) or (Ca)	1/0	-	-	-	-	1/0	-

Note: Numbers indicate occurrence. Numbers at left are starch grains, numbers at right are phytoliths, (-) means that neither starch grains or phytoliths of edible plants were found.

serving vessels for specific meals (Figure 8). Flat-based bowls were used for meals made with the four main species described in Figure 8, but how these plants were cooked and consumed varies. Basins (Ba) were used to contain *Solanum* sp. and *Manihot esculenta*-based meals or drinks, while neckless pots (O) were used to contain *Phaselous* sp. and *Zea mays*-based meals or drinks. It has been suggested (Ikehara 2007; Ikehara and Shibata 2008) that basins were probably used to ferment manioc beer. Some ethnographic examples show the preference for large, open vessels for such purposes (DeBoer 2003:Figure 1; Lathrap 1970:55, 88, Figures 7-i and 24-c). Finally, the category O/Ca describes the samples from the bodies of jars, which specific type cannot be distinguished. It is clear that they were not parts of basins or of open serving vessels.

There is an interesting relationship between the increase in the frequency of *Zea mays* remains, the disappearance of basins from the archaeological record, and the appearance of big jars and grater bowls (Ikehara 2010). Rather than a simple coincidence, we suggest that they are linked phenomena related to the increased reliance on *Zea mays* in political practices during the Final Formative Period in the North Coast of Peru.

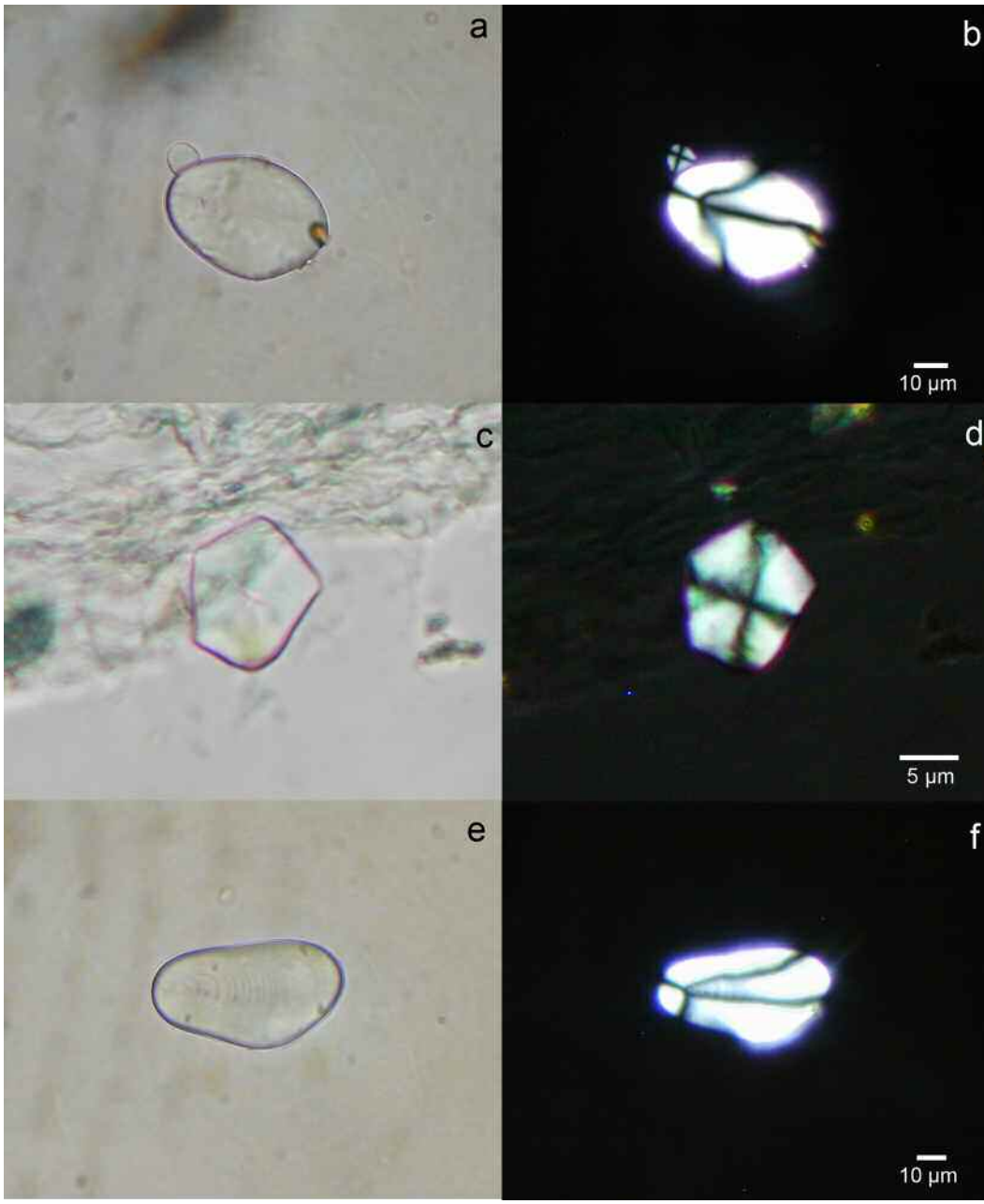

Figure 5. (a, b) Starch grains of Manihot esculenta from sample 10; (c, d) Ipomoea batatas from sample 27; (e, f) Solanum sp. from sample 10. Left images (a, c, e) were taken under normal light, right images (b, d, f) were taken under polarized light.

Discussion: Feasting during the Formative

While it has been suggested (Ikehara 2010) that during the Formative Period *Manihot esculenta* roots instead of *Zea mays* may have been used to prepare fermented drinks, our present evident does not support that assertion. Rather, we have found that *Zea mays* was already an important part of the meals and/or drinks (present in half of the sherds with occurrences of edible plants) consumed in the feasting events in Cerro Blanco de Nepeña during the Late Formative Period but accompanied by

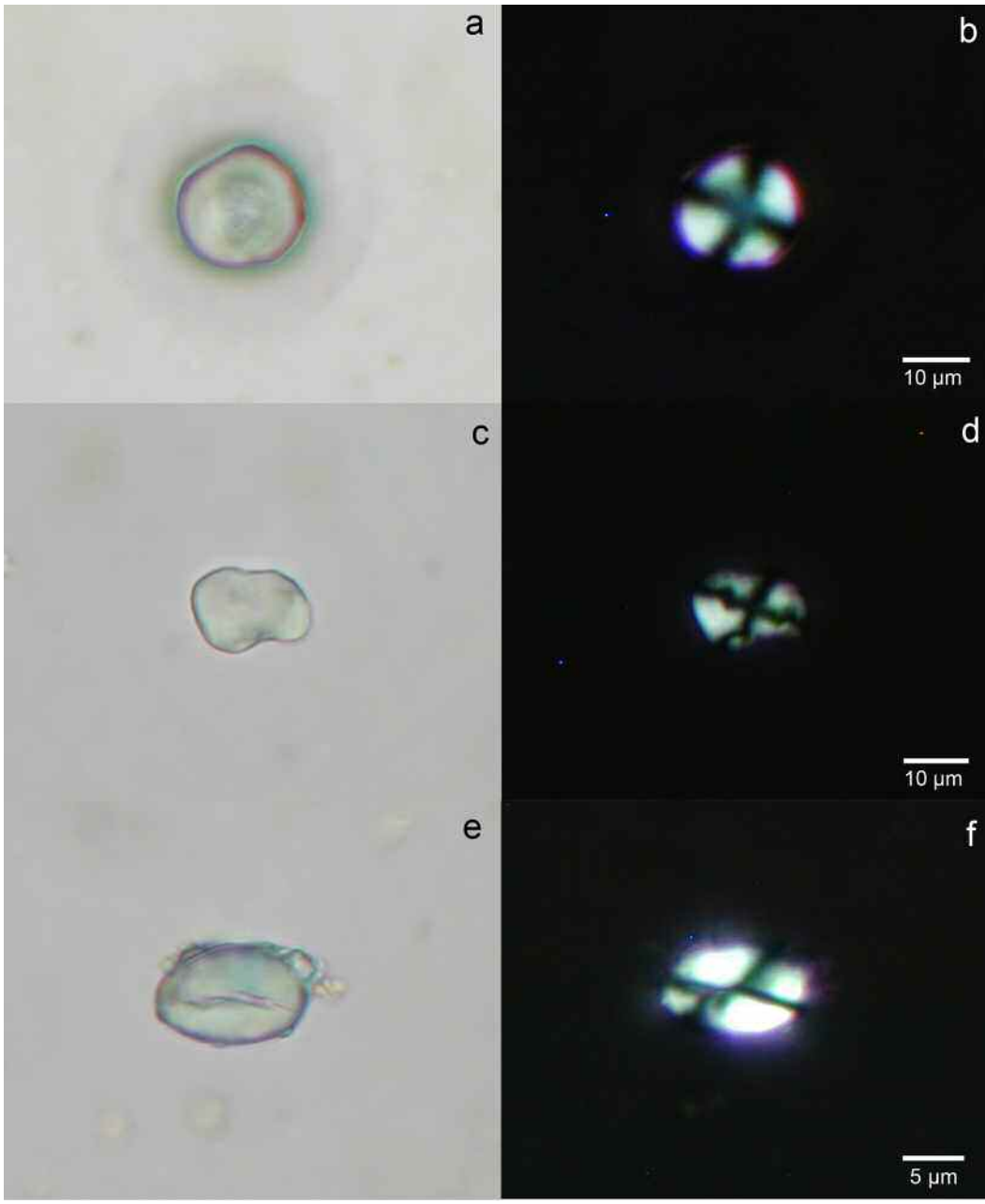

Figure 6. (a, b) Starch grains of Zea mays from sample 23; (c, d) *Lepidium meyenii* from sample 51; (e, f) Phaselous sp. from sample 11. Left images (a, c, e) were taken under normal light, right images (b, d, f) were taken under polarized light.

other species (Table 5). The contexts in which it is found indicate that its consumption may have been included in ritualized practices, along with other foods such as camelid meat and small mollusks (Ikehara and Shibata 2008).

In many other sites of the Final Formative Period—such as Huambacho (Chicoine 2011), Caylán (Chicoine and Ikehara 2010), Pampa Rosario, and San Diego (Pozorski and Pozorski 1987), dated between 700 and 200 B.C.—there is evidence of a greater abundance of *Zea mays*. However, according to new reconstructions of the social

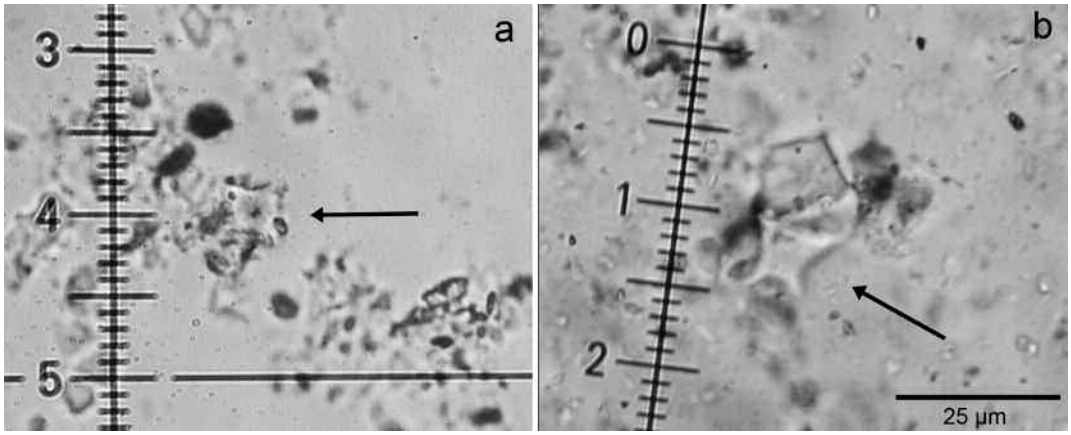

Figure 7. *Zea mays* phitoliths from (a) sample 1 and (b) sample 35.

organization of these communities, they were related to differing and novel configurations of political power and community integration based in society's internal segmentation and increased political factionalism, materializing in the construction of dozens of functionally equivalent compounds, access to which was restricted (Chicoine 2010, 2011). In contrast, in the earlier Cupisnique/Chavin-related societies such as Cerro Blanco de Nepeña, strategies for political integration were more important (Ikehara and Shibata 2008).

The increase of *Zea mays* occurrence in the archaeological record coincided with an increase in the frequency and proportion of necked jars and oversized vessels during the Late and Final Formative Periods in the North Highlands. Seki and Yoneda (2005) interpret this as a change in the management of power in which *Zea mays* beer played an important part. In the Cerro Blanco context, these necked jars are present in small proportions, and oversized vessels are not visible until the Final Formative (Samanco phase). We suggest that the development of a *Zea mays* beer ceramic assemblage did not take place until this species was widely adopted (probably for ritual purposes such as fermented drink preparation) at the end of the Formative Period.

The remains of the Cerro Blanco de Nepeña feasts may indicate a step toward the intensification of *Zea mays* consumption in ritual contexts, but we will need complementary information in the future to evaluate this interpretation, especially regarding its consumption as a fermented beverage. The inclusion of *Zea mays* in feasts may be related to its relatively high social value. In addition, the selection of only a few plant species, together with small mollusks and camelid meat, for meals that were served in impressive fineware, may highlight the special character of the event. The differential use of vessels may also be related to foodways, in which not only what you ate but also how you ate was important (Atalay and Hastorf 2006). This trend continued until the next period, when new specialized ceramic assemblages were employed.

During the Final Formative Period, ceramic assemblage was characterized by the disappearance of Late Formative cult images (predator-like zoomorphs) and the reduced frequency or absence of some ceramic forms such as basins, previously interpreted as manioc drink fermentation containers (Ikehara 2010). However, new vessel types, such as grater bowls and oversized jars (Ikehara and Chicoine 2011), appeared at the same time that *Zea mays* kernels became abundant (Pozorski and

Table 5. Frequency and Ubiquity of Occurrences of Edible Species, by Sample.

Edible Species Identified	Number of Sherds with Ocurrences	Ubiquity (% of the Total, T = 18)
Zea mays	9	50.0
Solanum sp.	5	27.8
Manihot esculenta	4	22.2
Phaselous sp.	2	11.1
Maranthaceae	2	11.1
Ipomoea batatas	1	5.6
Lepidium meyenii	1	5.6

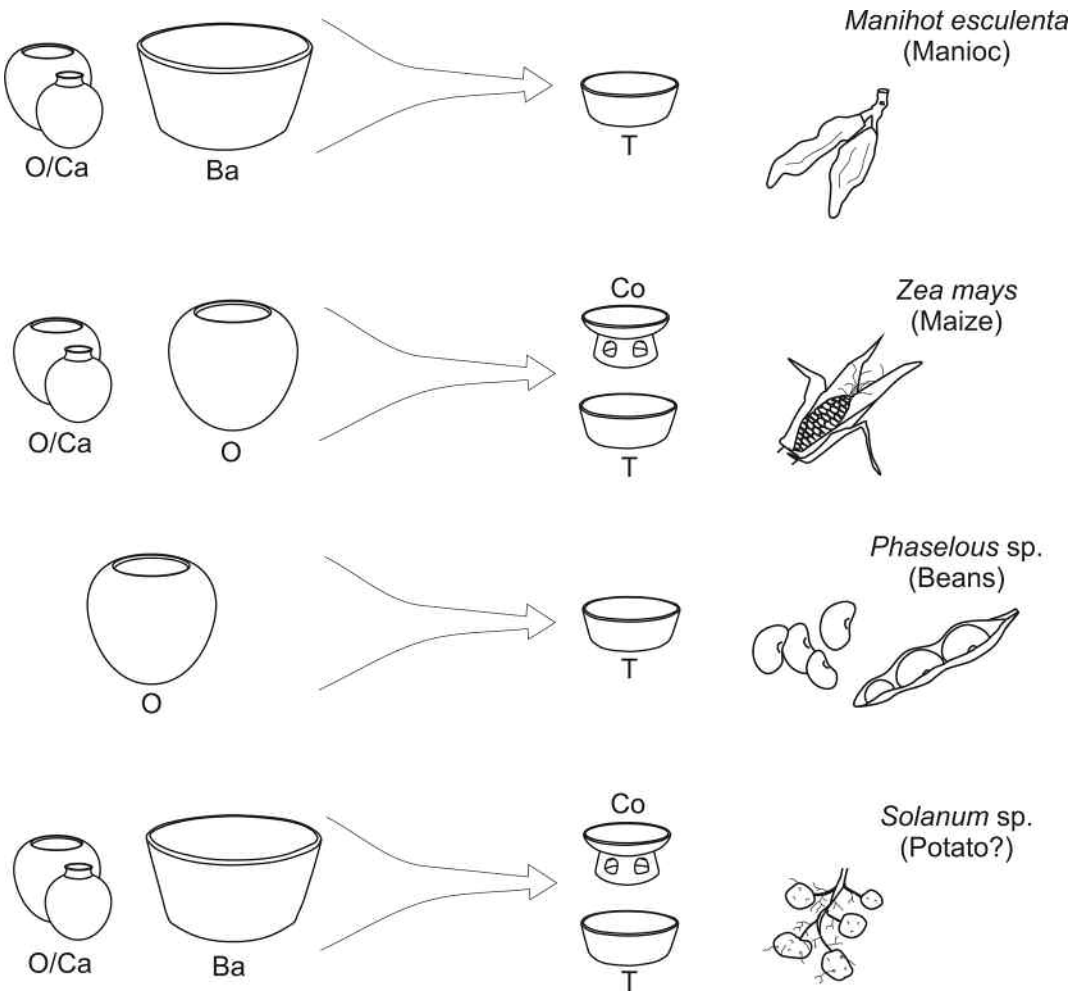

Figure 8. Interpretation of the flow of meals from their cooking vessels to their serving vessels, according to the micro botanical remains.

Pozorski 1987). These changes may be associated with the new political and economic strategies of emerging elites during the Final Formative Period, who were gradually acquiring control of the political economy and increasing social differentiation within communities (Brennan 1982). It has been argued that in Cerro Blanco de Nepeña, this trend toward the concentration of power was already visible in the frequency of different wares of assemblages between BR-1(A) and BR-1(C), or between the Middle and the Late Formative Periods (Ikehara and Shibata 2008). A shift from two to one dominant local wares for cooking vessels is interpreted as the concentration of the role of hosts in one dominant group; while an increase of the frequency in exotic serving wares and exotic goods (e.g., obsidian and anthracite) (Ikehara and Shibata 2008) may be interpreted as the increasing reliance on network strategies related to the reinforced links with the highland interregional interaction network (Blanton et al. 1996; Shibata 2010).

Conclusions

The presence of *Zea mays* in Middle and Late Formative Period feasting vessels and the apparent increased frequency of *Zea mays* remains in Final Formative Period cases must be understood within a context of political change. The role that *Zea mays* may have played must be related to the sociopolitical dynamics of the people that consumed it. First, during the Middle and Late Formative Period, it may

have been used in rituals promoting the integration of the local community. However, at the end of the Late Formative Period, its consumption coincides with new power configurations related to increasing centralized control over ceremonies and an increased reliance on external social links that materialized in higher frequencies of imported goods. Finally, during the Final Formative Period, *Zea mays* was likely used by leaders trying to create their own factions or groups inside a context of increasing political competition.

In this political transition, the importance of *Zea mays* is seen in its ubiquity in post-Formative societies and in the creation of special vessels used to cook, store, and serve maize for both quotidian and special occasions.

Acknowledgments. We are grateful to Marc Bermann and David J. Goldstein for commenting on early drafts of this manuscript. After-submission comments from the editors, Christopher Pool and Gabriela Uruñuela y Ladrón de Guevara, and the anonymous reviewers were very helpful toward refining content and shaping the article for publication. The remaining errors and inconsistencies in the argument are solely our responsibility. The fieldwork was financed by Heiwa Nakajima Foundation (Japan) and the Japan Society for the Promotion of Science. Analysis of the samples was possible with the support of Prof. Luis Huamán of the Universidad Peruana Cayetano Heredia and Prof. Víctor Vasquez of the Universidad de Trujillo. Analysis of the ceramics was made possible with the support of the Archaeology Section of the Department of Humanities in the Pontificia Universidad Católica del Perú. We appreciate the help of Sarah Taylor and Julia K. Clark in the improvement of the style of the text. The fieldwork was possible with the permission and supervision of the Instituto Nacional de Cultural del Perú (now Ministry of Culture) and the support of the community of Nepeña, Ancash.

References Cited

Alva, Walter
1986 *Frühe Keramik aus dem Jequetepeque-Tal, Nordperu: cerámica temprana en el Valle de Jequetepeque, norte del Perú*. Materialen zur Allgemeinen und Vergleichenden Archäologie 31. Verlag C.H. Beck, München.

Ames, Kenneth M.
1995 Chiefly Power and Household Production on the Northwest Coast. In *Foundations of Social Inequality*, edited by T. Douglas Price and Gary M. Feinman, pp. 155–187. Plenum Press, New York.

Atalay, Sonya, and Christine A. Hastorf
2006 Food, Meals, and Daily Activities: Food *Habitus* at Neolithic ÇatalHöyük. *American Antiquity* 71(2):283–319.

Billman, Brian R.
1999 Reconstructing Prehistorical Political Economies and Cycles of Political Power in the Moche Valley, Peru. In *Settlement Pattern Studies in the Americas*, edited by Brian R. Billman and Gary M. Feinman, pp. 131–159. Smithsonian Institution Press, Washington, D.C.

Bischof, Henning
1997 Cerro Blanco, Valle de Nepeña, Perú-Un sitio del Horizonte Temprano en emergencia. In *Prehispanic Architecture and Civilization in the Andes, Archaeologica Peruana 2*, edited by Elizabeth Bonnier and Henning Bischof, pp. 202–234. Sociedad Arqueológica Peruano-Alemana/Reiss-Museum, Mannheim.

Blanton, Richard E., Gary M. Feinman, Stephen A. Kowalewski, and Peter N. Peregrine
1996 A Dual-Processual Theory for the Evolution of Mesoamerican Civilization. *Current Anthropology* 37(1):1–14.

Bonavia, Duccio, and Alexander Grobman
1989 Preceramic Maize in the Central Andes: A Necessary Clarification. *American Antiquity* 54(4):836–840.

Bray, Tamara
2009 The Role of Chicha in Inca State Expansion: A Distributional Study of Inca Aríbalos. In *Drink, Power, and Society in the Andes*, edited by Justin Jennings and Brenda J. Bowser, pp. 108–132. University Press of Florida, Gainesville.

Brennan, Curtiss T.
1982 Cerro Arena: Origins of the Urban Tradition on the Peruvian North Coast. *Current Anthropology* 23(3):247–254.

Bronk Ramsey, Christopher
2005 *OxCal Software Version 3.10*. University of Oxford Radiocarbon Accelerator Unit, Oxford.

Brumfiel, Elizabeth M.
1994 Factional Competition and Political Development in the New World: An Introduction. In *Factional Competition and Political Development in the New World*, edited by Elizabeth M. Brumfiel and John W. Fox, pp. 3–13. New Directions in Archaeology. Cambridge University Press, Cambridge.

Burger, Richard L.
1992 *Chavin and the Origins of Andean Civilization*. Thames and Hudson, London.

Burger, Richard L., and Nikolaas J. Van Der Merwe
1990 Maize and the Origin of Highland Chavin Civilization: An Isotopic Perspective. *American Anthropologist* 92(1):85–95.

Clark, John E., and Michael Blake
1994 The Power of Prestige: Competitive Generosity and the Emergence of Rank Societies 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. New Directions in Archaeology. Cambridge University Press, Cambridge.

Chicoine, David
2006 Early Horizon Architecture at Huambacho, Nepeña Valley, Peru. *Journal of Field Archaeology* 31(1):1–22.
2010 Elite Strategies and Ritual Settings in Coastal Peru during the 1st Millennium BC. In *Comparative Perspective on the Archaeology of Coastal South America*, edited by Robyn Cutright, Enrique López-Hurtado and Alexander Martin, pp. 191–212. Center for Comparative Archaeology-University of Pittsburgh, Pontificia Universidad Católica del Perú, Ministerio de Cultura del Ecuador, Pittsburgh.
2011 Feasting Landscapes and Political Economy at the Early Horizon Center of Huambacho, Nepeña Valley, Peru. *Journal of Anthropological Archaeology* 30:432–453.

Chicoine, David, and Hugo Ikehara
2010 Nuevas evidencias sobre el Periodo Formativo del

Valle de Nepeña: resultados preliminares de la primera temporada de investigaciones en Caylán. In *Boletín de Arqueología PUCP 12 El periodo Formativo: enfoques y evidencias recientes. Cincuenta años de la Misión Arqueológica Japonesa y su vigencia. Primera Parte*, edited by Peter Kaulicke and Yoshio Onuki, pp. 349–369. Departamento de Humanidades, Especialidad de Arqueología, Pontificia Universidad Católica del Perú, Lima.

DeBoer, Warren
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. 289–336. Dumbarton Oaks Research Library and Collection, Washington, D.C.

Dietler, Michael
1990 Driven by Drink: The Role of Drinking in the Political Economy and the Case of Early Iron Age France. *Journal of Anthropological Archaeology* 9(4):352–406.

Dietler, Michael, and Brian Hayden
2001 Digesting the Feast. In *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics, and Power*, edited by Michael Dietler and Brian Hayden, pp. 1–20. Smithsonian Series in Archaeological Inquiry. Smithsonian Institute Press, Washington, D.C.

Elera, Carlos G.
1997 Cupisnique y Salinar: algunas reflexiones preliminares. In *Archaeologica Peruana 2*, edited by Elizabeth Bonnier and Henning Bischof, pp. 177–201. Reiss-Museum, Mannheim.

Ericson, Jonathon E., Michael West, Charles H. Sullivan, and Harold W. Krueger
1989 The Development of Maize Agriculture in the Viru Valley, Peru. In *The Chemistry of Prehistoric Human Bone*, edited by T. Douglas Price, pp. 68–104. Cambridge University Press, Cambridge.

Haas, Jonathan, and Winifred Creamer
2006 Crucible of Andean Civilization: The Peruvian Coast from 3000 to 1800 BC. *Current Anthropology* 47(5):745–775.

Haas, Jonathan, Winifred Creamer, Luis Huamán Mesía, David Goldstein, Karl Reinhard, and Cindy Vergel Rodríguez
2013 Evidence for Maize (*Zea mays*) in the Late Archaic (3000–1800 B.C.) in the Norte Chico Region of Peru. *Proceedings of the National Academy of Sciences* 110(13): 4945–4949. Washington D.C. Electronic document, doi: 10.1073/pnas.1219425110.

Hastorf, Christine A.
2003 Andean Luxury Foods: Special Food for the Ancestors, Deities and the Élite. *Antiquity* 77:545–554.

Hastorf, Christine A., and Sissel Johannessen
1993 Pre-Hispanic Political Change and the Role of Maize in the Central Andes of Peru. *American Anthropologist* 95(1):115–138.

Hayden, Brian, and Suzanne Villeneuve
2010 Who Benefits from Complexity? A View from Futuna. In *Pathways to Power. New Perspectives on the Emergence of Social Inequality*, edited by T. Douglas Price and Gary M. Feinman, pp. 95–145. Fundamental Issues in Archaeology. Springer Science+Business Media, New York.

Horrocks, Mark
2005 A Combined Procedure for Recovering Phytoliths and Starch Residues from Soils, Sedimentary Depostis and Similar Materials. *Journal of Archaeological Science* 32(8):1169–1175.

Ikehara, Hugo
2007 Festines del periodo Formativo Medio y Tardío en Cerro Blanco de Nepeña. Unpublished Licenciatura thesis. Facultad de Letras y Ciencias Humanas, Pontificia Universidad Católica del Perú, Lima.
2010 Social Organization, Technology of Production, and the Function of Utilitarian Ceramics for Feasting during the Middle and Late Formative Periods in the Central Andes. In *Comparative Perspective on the Archaeology of Coastal South America*, edited by Robyn Cutright, Enrique López-Hurtado, and Alexander Martin, pp. 45–62. Center for Comparative Archaeology, University of Pittsburgh, Potificia Universidad Católica del Perú, Ministerio de Cultura del Ecuador, Pittsburgh.

Ikehara, Hugo, and David Chicoine
2011 Hacia una reevaluación de Salinar desde la perspectiva del Valle de Nepeña, Costa de Ancash. In *Andes 8: Arqueología de la Costa de Ancash*, edited by Milosz Giersz and Iván Ghezzi, pp. 153–184. Boletín del Centro de Estudios Precolombinos de la Universidad de Varsovia. Centre of Precolumbian Studies, University of Warsaw, Warsaw.

Ikehara, Hugo, and Koichiro Shibata
2008 Festines e integración social en el periodo Formativo: nuevas evidencias de Cerro Blanco, valle bajo de Nepeña. In *Boletín de Arqueología PUCP 9 Encuentros: identidad, poder y manejo de espacios públicos*, edited by Peter Kaulicke and Tom Dillehay, pp. 123–159. Departamento de Humanidades, Especialidad de Arqueología, Pontificia Universidad Católica del Perú, Lima.

Kaulicke, Peter
2010 *Las cronologías del Formativo: 50 años de investigaciones japonesas en perspectiva*. Fondo Editorial de la Pontificia Universidad Católica del Perú, Lima.
2011 Espacio y tiempo en el periodo Formativo: algunas reflexiones finales. In *Boletín de Arqueología PUCP 13 El periodo Formativo: enfoques y evidencias recientes. Cincuenta años de la Misión Arqueológica Japonesa y su vigencia. Segunda Parte*, edited by Peter Kaulicke and Yoshio Onuki, pp. 373–387. Departamento de Humanidades, Especialidad de Arqueología, Pontificia Universidad Católica del Perú, Lima.

Kealhofer, Lisa, Robin Torrence, and Richard Fullagar
1999 Integrating Phytoliths within Use-Wear/Residue Studies of Stonce Tools. *Journal of Archaeological Science* 26(5):527–546.

Larco, Rafael
1941 *Los cupisniques*. La Crónica and Variedades, Lima.

Lathrap, Donald
1970 *The Upper Amazon*. Thames and Hudson, London.

Lumbreras, Luis G.
1993 *Chavín de Huántar: excavaciones en la Galería de las Ofrendas*. Materialien zur Allgemeinen und Vergleichenden Archäologie 51. Verlag Philipp Von Zabern, Mainz and Rhein.

Matsumoto, Yuichi
2011 El manejo del espacio ritual en el sitio de Sajara-patac y sus implicancias para el "Fenómeno Chavín". In *Boletín de Arqueología PUCP 13 El periodo Formativo: enfoques y evidencias recientes. Cincuenta años de la Misión Arqueológica Japonesa y su vigencia. Segunda Parte*, edited by Peter Kaulicke and Yoshio Onuki, pp. 133–158. Departamento de Humanidades, Especialidad de Arqueología, Pontificia Universidad Católica del Perú, Lima.

Moore, Jerry D.
1989 Pre-Hispanic Beer in Coastal Peru: Technology and Social Context of Prehistoric Production. *American Anthropologist* 91(3):682–695.

Morris, Craig
1979 Maize Beer in the Economics, Politics, and Religion

of the Inca Empire. In *Fermented Food Beverages in Nutrition*, edited by Clifford F. Gastineau, William J. Darby and Thomas B. Turner, pp. 21–34. Academic Press, New York.

Onuki, Yoshio
2001 Una propuesta del periodo Formativo de la sierra norte del Perú. In *Historia de la cultura peruana*, Vol. I, pp. 103–126. Fondo Editorial del Congreso del Perú, Lima.

Piperno, Dolores R.
2006 *Phytoliths: a Comprehensive Guide for Archaeologists and Paleoecologists*. Altamira Press, Oxford.

Pozorski, Shelia, and Thomas Pozorski
1987 *Early Settlement and Subsistence in the Casma Valley, Peru*. University of Iowa Press, Iowa City.
2002 The Sechín Alto Complex and Its Place Within Casma Valley Initial Period Development. In *Andean Archaeology I*, edited by William H. Isbell and Helaine Silverman, pp. 21–52. Kluver Academic/Plenum Press, New York.
2006 Las Haldas: An Expanding Initial Period Polity of Coastal Peru. *Journal of Anthropological Research* 62(1):27–52.
2008 Early Cultural Complexity on the Coast of Peru. In *Handbook of South American Archaeology*, edited by Helaine Silverman and William H. Isbell, pp. 607–631. Springer Science+Business Media, New York.

Rick, John W.
2005 The Evolution of Authority and Power at Chavín de Huántar, Peru. *Archeological Papers of the American Anthropological Association* 14(1):71-89.

Seki, Yuji, and Minoru Yoneda
2005 Cambios de manejo del poder en el Formativo: desde el análisis de la dieta alimenticia. *Perspectivas Latinoamericanas, Nanzan University, The Center for Latin American Studies* 2:110–131.

Shady, Ruth
2003 *La ciudad sagrada de Caral-Supe: los orígenes de la civilización andina y la formación del Estado prístino en el antiguo Perú*. Instituto Nacional de Cultura, Proyecto Especial Arqueológico Caral-Supe, Lima.
2006 Caral-Supe and the North-Central Area of Peru. The History of Maize in the Land Where Civilization Came into Being. In *Histories of Maize: Multidisciplinary Approaches to the Prehistory, Linguistics, Biogeography, Domestication, and Evolution of Maize*, edited by John E. Staller, Robert H. Tykot and Bruce F. Benz, pp. 381–402. Elsevier, Amsterdam.

Shibata, Koichiro
2010 El sitio de Cerro Blanco de Nepeña dentro de la dinámica interactiva del periodo Formativo. In *Boletín de Arqueología PUCP 12 El periodo Formativo: enfoques y evidencias recientes. Cincuenta años de la Misión Arqueológica Japonesa y su vigencia. Primera Parte*, edited by Peter Kaulicke and Yoshio Onuki, pp. 287–315. Departamento de Humanidades, Especialidad de Arqueología, Pontificia Universidad Católica del Perú, Lima.

Stanish, Charles
2004 The Evolution of Chiefdoms: An Economic Anthropological Model. In *Archaeological Perspectives on Political Economies*, edited by Gary M. Feinman and Linda M. Nicholas, pp. 7–24. Foundation of Archaeological Inquiry. University of Utah Press, Salt Lake City.

Tellenbach, Michael
1997 Los vestigios de un ritual ofrendatorio en el Formativo peruano-acerca de la relación entre templos, viviendas y hallazgos. In *Archaeologica Peruana 2*, edited by Elizabeth Bonnier and Henning Bischof, pp. 162–175. Reiss-Museum, Mannheim.

Tykot, Robert H., Richard L. Burger, and Nikolaas J. Van Der Merwe
2006 The Importance of Maize in Initial Period and Early Horizon Peru. In *Histories of Maize: Multidisciplinary Approaches to the Prehistory, Linguistics, Biogeography, Domestication, and Evolution of Maize*, edited by John E. Staller, Robert H. Tykot, and Bruce F. Benz, pp. 187–197. Elsevier, Amsterdam.

Vasquez, Víctor
2006 Análisis microscópico de granos de almidón de Cerro Blanco de Nepeña y Huaca Partida, Valle de Nepeña. Report for the Proyecto de Investigación Arqueológica Cerro Blanco de Nepeña, Trujillo. Manuscript on file, Ministerio de Cultura, Lima.

Vega-Centeno, Rafael
2000 Imagen y simbolismo en la arquitectura de Cerro Blanco, costa nor-central peruana. *Bulletin de l'Institut français d'études andines* 29(2):139–159.
2007 Construction, Labor Organization, and Feasting during the Late Archaic Period in the Central Andes. *Journal of Anthropological Archaeology* 26:150–171.

Williams, Carlos
1978 Complejos de pirámides con planta en U. *Revista del Museo Nacional* XLIV:95–110.

Notes

1. Kaulicke's chronology (2010, 2011) is preferred here because it provides a finer temporal framework within which to understand changes in the archaeological record of the Archaic and Formative Periods of the Central Andes.

2. Recent research has reported the high ubiquity of *Zea mays* microscopic remains in Late Archaic sites in the Central Coast of Peru (Haas et al. 2013). Despite the importance of such findings, they cannot demostrate the continuity of its use in the subsequent periods, and this report must be relevant to contextualize *Zea mays* use in a long-term perspective.

Submitted March 11, 2011; Revised May 11, 2012; Accepted March 19, 2013.