

HUACA DE LOS CHINOS: THE ARCHAEOLOGY OF A FORMATIVE PERIOD  
CEREMONIAL MOUND IN THE MOCHE VALLEY, PERU

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## **ABSTRACT**

JOHN GERALD PLEASANTS, JR.: Huaca de los Chinos: The Archaeology of a Formative Period Ceremonial Mound in the Moche Valley of Peru  
(Under the direction of Vincas P. Steponaitis and Brian R. Billman)

This research focused on clarifying the chronology and function of Huaca de los Chinos, as well as the presence and nature of sociopolitical complexity and how it changed during the huaca's active life. The methods used to gather this evidence included topographic survey, controlled surface collection, extensive excavations of Huaca de los Chinos, AMS radiocarbon analysis, elemental characterization analysis of paint from the summit structure, mapping, and analysis of artifact assemblages that were recovered during surface collection and excavation.

Although Huaca de los Chinos's chronological sequence is incomplete, architectural evidence gathered during this research suggests that the huaca may have been built to its current height in a single construction phase sometime during the last half of the Initial period (1800–800 B.C.). A small, elaborately decorated structure on the huaca's summit, which was part of the initial construction, was modified twice; once in a second construction episode near the end of the Initial period and a third construction episode at the beginning of the Early Horizon (800–400 B.C.).

Evidence implies that Huaca de los Chinos appears to have had a strong connection to ritual and may have functioned as a center for religious rituals. Some of the evidence

suggests that the huaca may also have served as a regional ceremonial and pilgrimage center for the Virú Valley.

The estimated labor requirement, analysis of access paths, and a multitiered spatial hierarchy suggest a minimal labor requirement to construct the huaca and the presence of social inequality and ideological control.

## **Dedicated to my wonderful son, Al Pleasants (1971 - 2006)**

The unconditional love and deep friendship that we shared, your tender caring heart, unique and infectious laugh, charismatic personality, and incredible love for your family brought me great joy during your short life. Big Al, you will always be my fishing partner; I will love you and carry you in my heart and mind forever.

Dad

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prepare my samples for analysis on their Accelerator Mass Spectrometer. Subsequently, the Physics Department staff analyzed my samples and provided me with the results.

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## LIST OF ABBREVIATIONS

In this dissertation, I have used various abbreviations to represent many parts of Huaca de los Chinos and the other architecture on the site. The following is a list of these (refer to Figures 1.4, 1.5 for the locations).

*Cem 1* - the cemetery located on the southeastern side of Huaca de los Chinos.

*Cem 2* - the cemetery located on the northwestern side of Huaca de los Chinos.

*Cem 3* - the cemetery on the northwestern side of Huaca de los Chinos, below *Cem 2*.

*DP* - Provenience designation number (designación de proveniencia).

*EC* - Field specimen number (especimina de campo).

*Ent 1* - the principal entrance (access path) on the front of Huaca de los Chinos leading from Level 1 to Level 2 of the huaca.

*Ent 2* - the entrance (access path) from huaca Level 2 to Level 3.

*Ent 3* - the entrance (access path) between huaca Levels 3 and 4.

*Ent 4* - the entrance (access path) between huaca Levels 4 and 6.

*Ent 5, 6, 7, 8, 9, and 10* - entrances located on the northwestern side of the huaca.

*Est 1* - the temple located on the summit of Huaca de los Chinos.

*Est 2* - the structure located on the northwestern side of plaza E.

*Est 3* - one of the structures located on the northwestern side of plaza D.

*Est 4* - one of the structures located on the northwestern side of plaza D.

*Est 5, 6, 7 and 8* - the structures located on the southwestern side of plaza D.

*Plat 1* - the platform located on the southeastern side of Huaca de los Chinos.

*Plat 2* - the platform located on the southeastern side of plaza D.

*Plat 3* - the platform located on the southeastern side of plaza E.

*Plat 4* - the platform located on the southwestern side of Huaca de los Chinos.

*Ter 1* - the upper of two terraces located directly above *Cem 2*.

*Ter 2* - the lower of two terraces located directly above *Cem 2*.

*Ter 3* - the terrace directly above *Cem 3*.

UE - the acronym for excavation unit or unidad de excavación.

US - the acronym for surface collection unit or unidad de superficie.

UTM - the acronym for Universal Transverse Mercator.

## CHAPTER 1

### INTRODUCTION

Complex civilizations emerged along the Pacific coastal plain of Perú as early as 3000 B.C., and by 1800 B.C., the populations living in the narrow valleys along the north and central coast had transitioned from a nomadic hunter-gatherer economy into a more sedentary life style associated with an economy based on fishing and rainfall-farming. Larger sites—containing public architecture—began to appear in the central coastal valleys, and they provide the first evidence of social ranking. During the Initial period (1800–800 B.C.), cultural changes were characterized by a significant increase in population and migration from the coastline into the middle part of these coastal valleys, the emergence and development of ceramics and irrigation agriculture, a huge increase in the construction and ubiquity of monumental public architecture, and increased political centralization. So far there has been a lack of evidence that would indicate the presence of warfare in most of the northern and central valleys during this time-span. Throughout the Early Horizon (800–400) there appeared to be a decline in the tradition of monumental architectural construction, as well as the associated political organizations (Billman 1999: 146, 2002: 389). During the last 400 years of the first millennium, raiding and violent conflict were ubiquitous, and the focus of materialization of power shifted to expansion of irrigation agriculture and construction of fortified sites in defensible locations (Figure 1.1; Billman 1996, 1999, 2001, 2002; Burger 1992; Feldman 1985, 1987; Fung Pineda 1988; Haas 1982, 1987a, 1987b; Moseley 1975,

1982, 1985, 1992; S. Pozorski 1976; S. Pozorski and T. Pozorski 1979; T. Pozorski 1976, 1983; T. Pozorski and S. Pozorski 1994, 1996; Williams 1971, 1980, 1985).

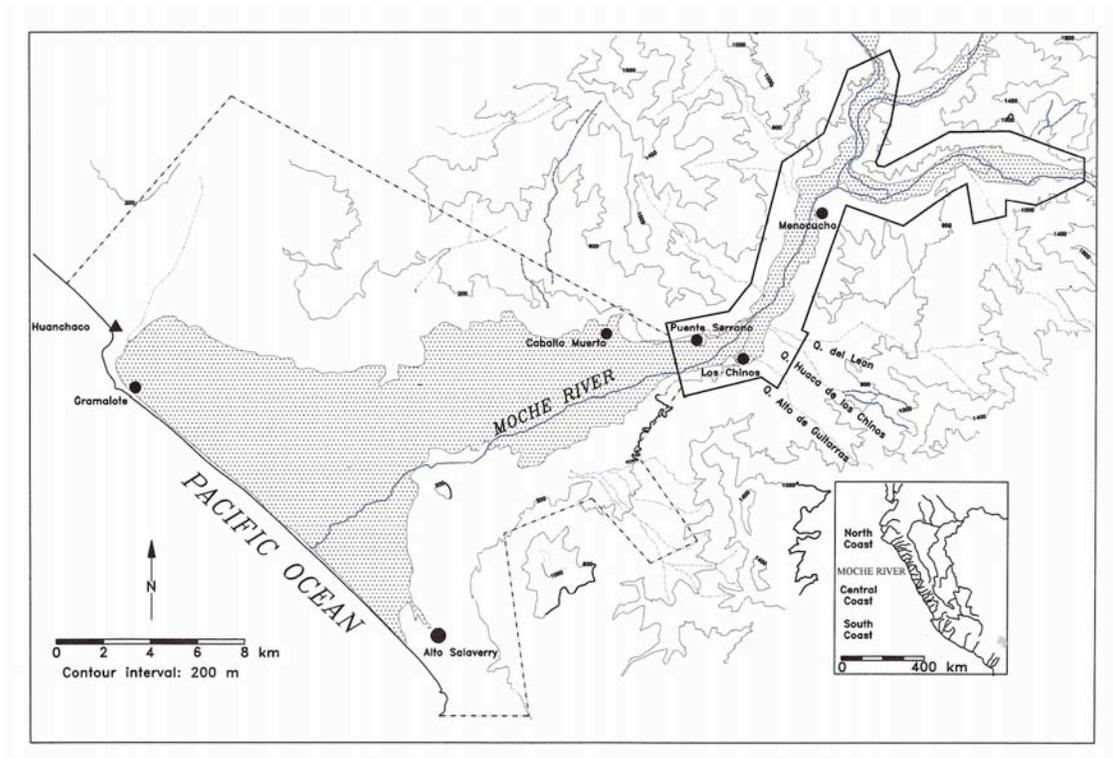


Figure 1.1 Location of Late Preceramic, Initial period, and Early Horizon archaeological sites in the Moche Valley, Perú (adapted from Billman 1996:139).

The Moche Valley—located on the north coast of Perú—has attracted the attention of archaeologists since the early twentieth century, largely because prehistoric archaeological remains were ubiquitous throughout the lower and middle parts of the valley (Figure 1.1). These remains are associated with the numerous cultures that lived in this valley from the third millennium B.C. through the sixteenth century A.D.

This dissertation focuses on Huaca de los Chinos, a large Initial period-Early Horizon (1800–400 B.C.) ceremonial mound in the middle Moche Valley. Research objectives were to obtain a more detailed understanding of the function of the huaca, its chronological sequence,

and the existence and nature of sociopolitical complexity (social inequality and political centralization), and how it may have changed during the active life of the huaca. My methodology included controlled systematic surface collection, topographic survey, architectural mapping, selected excavation, and analysis of artifacts recovered from surface collection and excavation, as well as spatial data gathered during the topographic survey. The discussions and conclusions contained herein are based on evidence collected during a six-month field season from February 25 to August 20, 2006.

Perú has a diverse natural environment and a rich prehistoric cultural history. The coast of Peru was one of only six or seven centers of the development of early civilizations in the world. In the Moche Valley on the north coast of Perú, ceremonial centers with large mounds emerged during the Initial period (1800–800 B.C.). Interest in the archaeology of the Moche Valley began in the nineteenth century, but the majority of the research has been carried out during the last 60 years of the twentieth century and first decade of the twenty-first century (Billman 1996, 1997, 1999, 2001; Burger 1985, 1987a, 1987b, 1992a 1992b; Feldman 1985, 1987; Flannery 1998; Fung Pineda 1988; Grieder and Bueno Mendoza 1985, 1988; Haas 1982, 1987a, 1987b, 2001a, 2001b; Keating 1988; Moseley 1975, 1982, 1985, 1992; Moseley and Mackey 1974; S. Pozorski 1976; S. Pozorski and T. Pozorski 1979, 1986, 1987, 1991, 1992, 1992, 1994, 2002; T. Pozorski 1976, 1982, 1983; T. Pozorski and S. Pozorski 1987, 1994, 1996; Williams 1971, 1980, 1985). The remainder of chapter 1 describes the chronological periods and cultural phases of the north and central coast, the natural environment of Perú and the Moche Valley, cultural development in the Moche Valley during the formative period, previous formative period research in the Moche Valley and at

Huaca de los Chinos, a description of the Huaca de los Chinos site, and my research objectives and methods.

Chapter 2 discusses the topographic survey, the excavations, the orientation of the huaca and the summit structure, radiocarbon dates associated with the summit structure, and ceramic and non-ceramic artifacts. The topographic survey included Cerro El Castillo, Huaca de los Chinos and the area surrounding the cerro; an area encompassing 23 hectares.

The research included 28 excavation units: two in the large plaza in front of Huaca de los Chinos, six on the southeastern side of the huaca, four associated with two of the huaca's principal access paths, and sixteen associated with *Est 1* located on the summit of the huaca. Chapter 2 presents a general description of each excavation and the relevant evidence recovered, as well as the huaca's orientation, and radiocarbon dates.

Huaca de los Chinos was an elaborate architectural work that required sophisticated technical skill, coordination, and the means to control a labor pool large enough to accomplish the construction. Chapter 3 explores the corporate labor requirement that it may have taken to build Huaca de los Chinos. The huaca was constructed over a ridge of Cerro El Castillo, and it constituted a significant portion of the huaca's volume. Several variations are presented to offer a minimum and maximum range for the construction requirement and time to construct.

Chapter 4 concerns theoretical aspects of socio-political complexity, architectural communication, rituals, and access control, and how they apply to Huaca de los Chinos.

Chapter 5 presents my conclusions regarding the chronological sequence of Huaca de los Chinos, its function, and the sociopolitical complexity that may have been associated with the site.

### Chronological and Cultural Periods in the Moche Valley

Current chronology for the north and central Peruvian coast is divided into blocks of time called periods and horizons (Table 1.1; Billman 1999: 140, 2001: 11-20, 2002: 378; Collier 1955: 22-26; S. Pozorski 1987; Strong and Evans 1952: 204-250).

Table 1.1 Time Periods/Cultural Phases for the Moche Valley, Perú (adapted from Billman 1999: 140). \*

Horizon/Period	Cultural Phase	Estimated Time Span	Year
Late Intermediate period	Late Chimú	A.D. 1350–1532	182
Late Intermediate period	Middle Chimú	A.D. 1150–1350	200
Middle Horizon	Early Chimú	A.D. 800–1150	350
Middle Horizon	Late Moche	A.D. 600–800	200
Early Intermediate period	Middle Moche	A.D. 400–600	200
Early Intermediate period	Early Moche	A.D. 200–400	200
Early Intermediate period	Gallinazo	A.D. 1–200	200
<b>Early Intermediate period</b>	<b>Late Salinar</b>	<b>200–1 B.C.</b>	<b>200</b>
<b>Early Intermediate period</b>	<b>Early Salinar</b>	<b>400–200 B.C.</b>	<b>200</b>
<b>Early Horizon</b>	<b>Late Guañape</b>	<b>800–400 B.C.</b>	<b>400</b>
<b>Initial Period</b>	<b>Middle Guañape</b>	<b>1300–800 B.C.</b>	<b>500</b>
<b>Initial Period</b>	<b>Early Guañape</b>	<b>1800–1300 B.C.</b>	<b>500</b>
<b>Late Preceramic period</b>	<b>Late Preceramic</b>	<b>2500–1800 B.C.</b>	<b>700</b>

\* The time periods and cultural phases in bold indicate the formative period.

These periods and horizon include: Late Preceramic period (2500–1800 B.C.), Initial period (1800–800 B.C.), Early Horizon (800–400 B.C.), Early Intermediate period (400 B.C.–A.D. 600), Middle Horizon (A.D. 600–1150), and Late Intermediate period (A.D. 1150–1532). *Horizons* refer to a chronological span during which there was “stylistic homogeneity over a large area” (Burger 1992). During the Early Horizon, Chavín influence (i.e., ceramic styles and religion) was widespread across the Peruvian coastal plain and the highlands. *Periods* refer to a time span when stylistic homogeneity existed over smaller areas. Pottery was introduced along the coastal plain and in the highlands during the Initial period, but stylistic homogeneity was usually confined to a single valley or several adjacent valleys.

Most of the horizons and periods are divided into cultural phases. The Initial period includes Early Guañape (1800–1300 B.C.) and Middle Guañape phases (1300–800 B.C.), while the subsequent Early Horizon corresponds to the Late Guañape phase (800–400 BC). Some archaeologists working in the Chicama and Jequetepeque valleys use the Cupisnique cultural sequence, which corresponds to the Middle and Late Guañape phases. The Early Intermediate period includes the Salinar (400–1 B.C.), Gallinazo (A.D. 1–200), Early Moche (A.D. 200–400), and Middle Moche (A.D. 400–600) phases. The Middle Horizon is composed of the Late Moche (A.D. 600–800) and Early Chimú phases (A.D. 800–1150). The Late Intermediate period includes two phases: Middle Chimú (A.D. 1150–1350) and Late Chimú (A.D. 1350–1532).

The earliest attempts to define a Peruvian chronological sequence began with Max Uhle at the turn of the twentieth century when he established a six-phase chronology for all of Peru based on excavations at Pachacamac (S. Pozorski 1987). His chronology was

accepted until Alfred Kroeber proposed a chronology based on horizon styles composed of four time periods: Early period, Middle period, Late period, and Inka period (Kroeber 1926). In 1929, Julio Tello defined the Chavín phenomenon based on his work at Chavín de Huantar, and he began promoting a Chavín horizon.

Research carried out in the 1940s extended the Andean sequence much earlier than Tello's horizon. Wendell Bennett and Junius Bird's (Bennett and Bird 1949) excavations in the Chicama and Virú valleys defined a cultural sequence for the north and central coast: Preceramic period, Early Ceramic period, Cupisnique phase, Salinar phase, Gallinazo phase, Mochica phase, and post-Mochica phase.

In 1946, the Virú Valley Project—a systematic study of the entire lower Virú Valley—used stratigraphic excavations to establish a cultural sequence spanning preceramic to colonial times (Collier 1955; S. Pozorski 1987; Strong and Evans 1952). These sequences—Preceramic (Cerro Prieta), Early Guañape phase, Middle Guañape phase, Late Guañape phase, Puerto Moorin phase, Gallinazo phase, Huanaco phase (late Moche phase), Tomaval phase, La Plata phase, Estero phase—ultimately became widely used on the north and central coast. The revised sequence replaced the Cupisnique phase and Early Ceramic period with the Guañape phases.

In the mid-1950's, John Rowe, Dorothy Menzel, and Edward Lanning began systematic efforts to modernize the chronology. Their resulting chronology included the periods and horizons described at the beginning of this section (S. Pozorski 1987).

The classification system has continued to change over the last 50 years based on additional research. Today, the system outlined in Table 1.1 is widely used by archaeologists. It is more accurate because it is based on ceramic collections associated with absolute dates.

The formative period refers to a time span of 2,500 years (2500 - 1 B.C.) that includes the Late Preceramic period, Initial period, Early Horizon, as well as the Salinar phase of the Early Intermediate period (Table 1.1). This was the time of change from hunter-gatherer societies and the emergence of monumental architecture, as well as the introduction, development and evolution of ceramics, irrigation agriculture, and sociopolitical complexity in the Moche Valley. The formative period was the cultural precursor to and foundation of the great Moche and Chimú civilizations that emerged and flourished during the first 1,400 years of the Christian era.

### **Environment**

Perú is a country with a very diverse geography that consists of three very different areas: *the Pacific coastal plain, the Andes mountains, and the Amazonian lowlands*. These areas encompass six ecological environments based on elevation, climate and vegetation: *yunga, chaupiyunga, quechua, suni, puna, and ceja de selva*. My discussion of the Peruvian and Moche Valley environmental settings are taken from the following sources unless otherwise noted (Billman 1996: 23–48; Burger 1992: 12–25; Lathrop 1970; Moran 1981; Minelli 2000: 12–14; Moseley 1975: 1–17; T. Pozorski 1976: 8–11, 1983; ONERN 1973).

#### *Coastal Plain*

The coastal plain or *yunga* is a warm, arid strip of desert that extends along the length of the Peruvian littoral. Its width varies from 20 to 50 km along the north and central coast

and is practically nonexistent along the southern littoral. Numerous small rivers—originating in the highlands of the western Andes as rainfall runoff—traverse the entire length of narrow valleys, crossing the desert coastal plain and eventually flowing into the Pacific Ocean.

The interaction of trade winds and ocean currents determines the climate along the coast. Trade winds blow across the coastal plain from the south and southwest, and are channeled northward by the Andes Mountains along a route parallel to the coastline. The major ocean current, the Humbolt Current, originates in Antarctica and flows north along the coastline of Chile and Perú. It consists of two elements: a wide offshore ocean current with a low occurrence of marine-life and a near-shore coastal current—rich in marine life—that ranges between 50 to 100 km in width. The latter current is characterized by a strong upwelling of frigid water, which brings abundant nutrients (phytoplankton) near the surface that provide food for a wide range of marine life, an important source of food for humans. Normally, southeasterly winds blow moisture laden clouds toward the western slopes of the Andes where rainfall travels as runoff in narrow rivers across the desert coastal plain to the Pacific Ocean. In the winter (June to November), less rainfall occurs in the mountains, and the coastal plain is foggy. In the summer (December to may), more abundant rainfall occurs in the mountains, causing a significant increase of runoff in the rivers.

Two opposing currents flow along the Pacific coastline of South America. A warm Equatorial Counter Current flows southward along the coast of Ecuador, and the Humbolt Current—normally strengthened by winds from the southeast—flows northward along the coast of Chile and Perú. In most years, the force of the Humbolt Current is stronger, and the warmer current is deflected away from Peru. However, several times a century, the Humbolt

current weakens and the warm Equatorial Counter Current encroaches along the Peruvian coastline. As the water along the north coast of Perú warms, phytoplankton die, and the cold water fish and sea mammals either die or move to colder water. They are temporarily replaced by warm water species of marine life. The warmer water increases evaporation while the air is over the ocean, resulting in short periods of heavy rainfall throughout the coastal plain—a phenomenon known as *El Niño*. The flooding destroys structures, irrigation canals, and agricultural land (Billman 1996: 23–27; Burger 1992: 12–16; Moseley 1975: 1–11). However, occasionally the Humbolt Current is colder than normal, causing drought on the western Andean slopes and dramatically reducing the water flow in coastal rivers (Billman 1996: 24).

The natural vegetation of the coastal plain occurs in a linear fashion that corresponds to the increasing elevation. Moseley (1975) identifies nine general resource complexes associated with the coastal plain that were exploited by humans: *open-beach sublittoral*, *rocky-shore sublittoral*, *sandy littoral*, *rocky littoral*, *coastal lagoon*, *river delta*, *river floodplain*, *desert*, and *lomas*. The *open-beach sublittoral* is the area located off the sandy beaches in deeper water that contains bountiful marine resources—fish, shellfish, waterfowl, algae, and sea mammals. Harvesting these resources required some type of water-craft.

The *rocky-shore sublittoral* was similar to the *open-beach sublittoral*, but it also included rocky areas along the shoreline such as cliffs and rocky projections. Water-craft were usually required to exploit the abundant marine resources in these areas; however, a hook and line or a net could be employed to catch fish from a rocky elevated position.

The near-shore waters and sandy areas along the littoral—*the sandy littoral*—contained a wide variety of resources; including schools of small fish, shellfish, birds, algae. Tools and techniques required to harvest these resources, included hook and line, float nets, small weapons, and hand gathering. Dead sea mammals and fish, as well as driftwood that washed up on the beach were gathered by hand.

The most abundant marine resources were found in the *rocky littoral*, which were areas that included rocky cliffs. These areas contained waterfowl roosts and sea mammal rookeries, as well as large quantities of crustaceans, shellfish and fish. Resources included birds and bird eggs, sea mammals, shellfish, fish, and various types of edible marine fauna. Although the primary means of catching fish was by hook and line, the rest could be gathered by single individuals using small baskets and other simple tools.

A few *coastal lagoons* occurred along the littoral—usually in shallow depressions behind the sand beaches. Resources were limited, but they included reeds and grasses, as well as small crustaceans and fish. Reeds and grasses were ingredients used in the construction of houses and small boats. Harvesting these resources could be accomplished with nets and a variety of simple tools.

A *river delta*—located near the mouth of each coastal river—consisted of a marshy area that had been built up over time through the natural deposition of alluvial material. Exploitable resources and methods of harvesting were similar to those of the *coastal lagoon*. Limited floodplain farming was possible near some deltas.

In the late summer, most coastal rivers reached their maximum flow and overflowed their banks along some portion of the river channel, spreading alluvial soil—rich with

nutrients—over a narrow area on each side of the river. These *river floodplains* provided fertile areas where reeds and small trees—used for fire and construction materials—could flourish. The soil was excellent for cultivation and required only simple tools, such as digging sticks, to move the soil, as well as plants that were suitable for cultivation. Most cultivatable plants were not indigenous to the coastal plain, but were brought from other parts of South America. Crustaceans, reptiles, small mammals, and deer could also be found within this catchment area.

The Peruvian coastal plain has one of the driest deserts in the world with annual moisture levels ranging from almost nonexistent to a few millimeters. Most of the moisture occurs as fog or light drizzle. In the formative period, some plants (*Tillandsia*) grew naturally in this environment, and they were used primarily as fuel for fires. The desert land is arable, but it requires irrigation. The tools needed for cultivation included implements for digging and maintaining irrigation canals, for planting seeds, and for cutting and transporting crops. Across the formative period, as irrigation agriculture became more prevalent, canals required increasingly larger labor expenditures for construction and maintenance.

*Lomas* are scattered areas—normally located within a few kilometers from the sea—that supported a variety of small plants that were sustained by the moisture laden fog during the winter months. Hunting and gathering technology and techniques were employed to collect edible seeds and to hunt deer and cameloids that foraged on the lomas plants.

The upper reaches of the coastal plain extend into the lower part of the *chaupiyunga* ecological zone, which exists from 500 to 2,500 m in elevation. This area is ideal for crops such as coca, maize, and tropical fruits.

### *Andean Mountains*

The Andean cordillera—the second highest mountain range in the world—completely bisects Perú from north to south. This range is young—dating to the Miocene—and its physical characteristics are described as high, steep, rugged, and irregular (Burger 1992; Moseley 1992; Minelli 2000). The highest elevation is Mt. Huarascan at 6,768 m (22, 205 ft.).

The temperature and rainfall in the highlands is more consistent than in the coastal plain (Burger 1992). The average daily temperature in upper highlands varies only about 3°C; although it can range from 11°C to 17°C on any given day. Heavy rainfall on the eastern Andean slopes is due to the very moist air that moves westward across the Amazon lowlands from the Atlantic Ocean. During the summer, the east-west winds are stronger and force the cloud mass over the mountain tops, and considerable rainfall occurs in the intermontane valleys.

The *chaupiyunga* ecological zone exists on the western side of the Andes at altitudes from 1,000 m to 2,500 m, extending below 1,000 m only in the intermontane valleys. This zone is warmer than the upper highland zones and is an excellent agricultural area for growing crops such as chili pepper, coca, avocado, a variety of fruits.

The *quechua* zone is also an agricultural area and is found on the floors and lower slopes of the intermontane valleys at elevations between 2,500 to 3,200 m. The principal crops include maize, squash, and vegetables.

From 3,200 to 4,000 m the steep slopes of the *suní* zone are ideal for high altitude farming. It is a very productive zone in which a variety of tubers, chenopodium, beans, and grains are grown.

The highest ecological zone for economic exploitation, the *puna* zone, exists at altitudes ranging from 4,000 to 4,800 m. It is a huge grassland area with rolling hills and high plains whose natural habitat is home to a variety of fauna: deer, vicuña, and guanaco.

### *Amazonian Lowlands*

The tropical rainforest (*selva*) exists in the lowlands on the eastern side of the Andes. These forests extend from the Amazon Basin up the eastern face of the Andes to an elevation of 2,000 to 3,000 m (Burger 1992; Minelli 2000). The higher elevation is referred to as the *ceja de selva* (eyebrow of the jungle), and it is characterized by steep slopes covered with trees and a variety of fauna. Several major Amazon tributaries—the Marañón, the Huallaga, the Pachitea, the Apurímac-Ene-Tambo, the Urubamba—originate deep in the Andean highlands, creating access paths for contact and interaction between cultures in the Amazon lowlands, the eastern and western highlands, and the Pacific coastal plain. These rivers also serve as an important source of food resources such as fish, reptiles, birds, and numerous species of mammals.

### **Environment of the Moche Valley**

The Moche Valley is located on the north coast of Perú between the Virú Valley to the south and the Chicama Valley to the north, and it is considered medium-size based on cultivatable land area and the annual volume of water flow. The Moche River originates about 60 km east of the town of Poroto, at an altitude of near 4,200 m, winding for 102 km

down the western slope of the Andes cordillera and across the coastal plain to the Pacific Ocean (Figure 1.1; Billman 1996: 23-34; T. Pozorski 1976: 8-11). According to Billman (1996) and the National Office for the Evaluation of Natural Resources (ONERN 1973), the annual median temperature and rainfall vary from 20°C (68°F) and 4 mm along the coastline to 8°C (46°F) and 4,000 mm near the valley's source.

The valley is divided into three major parts—the lower valley, the middle valley, and the upper valley (Billman 1996: 23-34; ONERN 1973:54-67). These parts encompass five ecological zones—Desert (*Desierto Pre-Marntano*; sea level to 500 m), Scrub Desert (*Matorral Desierto Pre-Mantano*; 500 to 1,600 m), Thorn Scrub Steppe (*Estepa Espinoza Desierto Mantano Bajo*; 1,600 to 2,600 m), Humid Grassland (*Pradera Humeda Mantano*; 2,600 to 3,700 m), and Very Humid Grassland (*Pradera Muy Humeda Mantano*; 3,700 to 4,200 m).

### *Lower Moche Valley*

Lying within the Desert ecological zone, the triangular-shaped lower Moche Valley is 25 km wide along the coastline, and it extends to a point near the Puente Serrano archaeological site where it narrows to no more than 2 km wide (Figure 1.1). The Moche River traverses the lower valley near the southern edge of the valley floor where the foothills of the Andes rise sharply along both edges of the valley floor to form a natural boundary.

In the formative period (2500 to 1 B.C.), the topography was primarily a sandy desert that was interspersed with a few low hills. During the first half of this period, cultivation was through floodplain agriculture; however, over the last half of the period, irrigation agriculture

was introduced, and it permitted subsequent cultures to cultivate large areas of the desert. The principal crops included cotton, gourds, squash, fruits, manioc, corn, beans, and potatoes (S. Pozorski and T. Pozorski 1979b:368; T. Pozorski 1976:121-143). There is ample evidence from excavations that *caña brava* was used in construction.

The Open Beach Sub-littoral, Mixed Rock and Sand Littoral, Sandy Littoral, Rock Littoral, River Delta, and River Floodplain ecological sub-zones were exploited by the formative period population in the Moche Valley. The Open Beach Sub-littoral—located in deeper offshore waters—was a rich source of fish. These could be obtained using small reed boats (*cabellitos*) and nets (T. Pozorski 1976: 126; Moseley 1975: 13).

A Mixed Rock and Sand Littoral was present along the shore of modern day Huanchaco Bay; located immediately north of the archaeological site of Gramalote (Figure 1.1). Shellfish (mollusks) and crustaceans found here were a source of food for fish, sea lions, and birds as well as humans (T. Pozorski 1976: 125; Moseley 1975: 13).

A particularly plentiful source of marine food was found in the Rocky Littoral, a rocky outcropping found near the Late Pre-ceramic archaeological site of Alto Salaverry. Here, mollusks, aquatic flora, fish, fish, sea lions, and shore birds could be collected by hand or obtain using simple tools (T. Pozorski 1976: 124–125; Moseley 1975: 13).

The littoral area between Alto Salaverry and Gramalote was almost entirely within the Sandy Littoral sub-zone. Using simple tools and hand-collection techniques, humans could collect a wide variety of resources: fish, shellfish, crustaceans, sea lions, and birds (T. Pozorski 1976: 125; Moseley 1975: 13).

The river delta, near the mouth of the Moche River, and the River Floodplain along both of its banks, contained a variety of natural vegetation, such as sedges, small trees, caña brava, grass, and bushes. However, freshwater fauna—fish and crustaceans—were available in limited quantities (T. Pozorski 1976: 126; Moseley 1975: 13).

### *Middle Moche Valley*

The middle Moche Valley begins near the Initial period archaeological site of Puente Serrano and rises northeastward to an altitude of 1,600 m, almost to the modern towns of Sinsicap and Otuzco (Figure 1.1). The middle valley is bounded by steep Andean foothills, and the cultivatable valley floor varies in width up to 1.5 km. The rugged terrain of the foothills is cut by numerous dry ravines (*quebradas*) whose mouths open onto the valley floor (Billman 1996:23-48; T. Pozorski 1976:121-143).

The Moche River flows down the center of the lower half of the middle valley and divides the arable land of the valley floor into equal parts. In the upper portions of the middle valley, the Andean foothills severely impinge on the valley floors of the Moche, Sinsicap, and La Cuesta Rivers, dramatically reducing the available arable land.

During the early Initial period, most of the coastal populations resettled into the middle Moche Valley, probably to expand the amount of cultivatable land through irrigation technology. Pozorski (1976:130) suggests that the emphasis on irrigation agriculture “was probably motivated by population pressure.” Expanding the amount of arable land in the desert, whose gradient was shallow, would have required huge labor investments to construct and maintain extensive canal systems that could provide sufficient volumes of water. On the

other hand, the Moche River in the middle valley had a much steeper gradient, and short, easy-to-construct canals could provide a sufficient volume of water to irrigate a large area.

The middle valley is located mainly in the Scrub Desert ecological zone, although the Desert zone overlaps into its lower reaches. Agricultural activity here produced fruits, manioc, corn, beans, and coca. Most of the coca was produced on the eastern side of the Andes; however, some areas of the upper part of the Moche Valley were among the few coca producing areas on the western slope of the Andes (Plowman 1986: 18-19).

### *Upper Moche Valley*

The upper Moche Valley lies within the Thorn Steppe, Humid Grassland, and Very Humid Grasslands ecological zones. The uppermost part of the Scrub Desert zone overlaps into the lower areas of the upper Middle Valley (ONERN 1973).

The topography of the Thorn Steppe zone is very steep and the terrain is extremely rugged. Rainfall agriculture is only possible in a few areas of this zone because of the limited annual rainfall—200 to 500 mm or 8 to 20 in—and the steep topography. Crops that can be cultivated include potatoes, corn, and fruits. Some low quality pastureland is available for raising livestock.

The topography and gradient of the Humid Grassland zone—lying between 2,600 and 3,700 m—are much less steep and rugged than the Thorn Steppe zone. Annual rainfall here ranges from 500 mm (20 inches) to 1,000 mm (40 inches). The combination of increased precipitation and flatter topography provide an adequate environment for rainfall farming, which permitted the cultivation of a variety of crops that include corn, potatoes, and olluco. This zone contains large areas of pastureland that are used to raise livestock.

The Very Humid Grassland zone lies at an altitude of 3,700 to 4,200 m, which is within the wider Suni and Puna ecological zones. It is primarily an area of vast pastureland and rolling hills. The temperature ranges between 5°C to 10°C and is too cold for agriculture, except in the valley bottoms that extend down into the Suni zone. The principal crop is potatoes. However, with an annual rainfall of 1,000 mm (40 inches) to 1,400 mm (55 inches), 60% of this zone is covered in lush grasslands that provides plentiful food to raise livestock (ONERN 1973; Burger 1992). During the formative period, wild camelids, deer, fish, and waterfowl were abundant, and there is evidence that domesticated llama were raised (Burger 1992:19).

According to Burger (1992: 23-25), the Peruvian climate during the Pleistocene (1.6 m.y.a.–9000 B.C.; Kottak 2000: 221) was much colder than the modern climate, but had changed to a point equal with today's temperatures by the middle of the Holocene (3000 B.C.). This warming and runoff from melting glaciers caused the level of the Pacific Ocean to rise, resulting in significant encroachment onto the coastal plain along the entire Peruvian littoral.

The climate in the Moche Valley was variable throughout the Initial period and the Early Horizon. There were periods of small drops in temperatures that adversely affected cultivation in the higher ecological zones of the highlands (Burger 1992: 24; Eddy 1977).

### **Cultural Development in the Moche Valley**

The coast of Peru was one of only six or seven areas of the world in which early, complex, pristine civilizations developed: Mesopotamia, China, the Indus Valley, Egypt,

Perú, and Mesoamerica (Billman 1996, 1999, 2001; Burger 1992: 9; Feldman 1985, 1987; Fung Pineda 1988; Haas 1982, 1987a, 1987b; Moseley 1975, 1982, 1985, 1992; S. Pozorski and T. Pozorski 1979; T. Pozorski 1976, 1983; T. Pozorski and S. Pozorski 1994, 1996; Williams 1971, 1980, 1985). For this dissertation, I consider that sociopolitical complexity is the degree to which institutionalized social inequality and political centralization are present, which results in the unequal access to power, resources, and status (Isbell and Silverman 2002; Price and Feinman 1995). This includes control by leaders of one or more aspects of a society such as trade, wealth, tribute, the means of production and subsistence, ideology and access to the supernatural, the symbols of power, labor, and the construction and use of public monuments (Isbell and Silverman 2002; Moore 1996a).

#### *Late Preceramic Period*

The origins of the civilization along the central and northern coast of Perú can be traced to the Late Preceramic period (2500–1800 B.C.). This period in the Moche Valley involved a transition from a hunter-gatherer to a sedentary fishing-farming economy, the first appearance of public architecture, the emergence of social differentiation, and a lack of warfare (Billman 1996, 1999; 2001; S. Pozorski and T. Pozorski 1979).

Most of the population aggregated in villages along the coastline, and their economy was primarily supported through fishing and floodplain farming. Only three of this period's sites have been identified and studied by archaeologists—Padre Alban, Alto Salaverry, and a cemetery near Alto Salaverry (Billman 1996, 1999; S. Pozorski 1976; S. Pozorski and T. Pozorski 1979). Padre Alban was located near the northern boundary of the lower Moche Valley and a few hundred meters south of the modern town of Huanchaco and Huanchaco

Bay and the Initial period archaeological site of Gramalote (Figure 1.1). It was interpreted as a small fishing village (100 m<sup>2</sup>) based on evidence of cotton netting and the predominance of marine food evidence found in the archaeological record.

Alto Salaverry was located near the southern boundary of the lower Moche Valley about 400 m inland from the ocean (Figure 1.1). It was much larger (19,200 m<sup>2</sup>) than Padre Alban and contained three distinct architectural areas—domestic, public, and ceremonial (S. Pozorski and T. Pozorski 1979). The nine small structures found there were interpreted as domestic dwellings. The two large structures containing multiple rooms and platforms were interpreted as communal storage facilities for dried fish and other food surpluses. A circular sunken court measuring 9 m in diameter by 1.8 m in depth was situated at the edge of the site about 80 m northeast of the domestic area. It was interpreted as a community ceremonial area. The Pozorskis (1979) have suggested that the presence of communal storage facilities and ceremonial architecture were evidence of elementary social inequality and of leaders who were beginning to exercise some control over critical resources and ideology.

### *Initial Period*

The Initial period (1800 - 800 B.C.; Early and Middle Guañape phases) was a time of dramatic cultural change in the Moche Valley. Most Late Preceramic coastal sites were abandoned, and the population shifted inland into the middle valley (Figure 1.1). There was a large increase in the number of habitation sites, significant construction of large-scale public architecture, and a continued lack of warfare, as well as the emergence of ceramic production, irrigation agriculture, and increased political centralization. Current knowledge of these changes comes primarily from studies of regional settlement patterns (Billman 1996;

Moseley and Day 1982), irrigation systems (Billman 1989, 1996, 2001, 2002; Farrington 1974; Ortloff et al. 1985), and the Caballo Muerto complex (Moseley 1982, 1992; S. Pozorski 1987; T. Pozorski 1976, 1982, 1983).

During the Early Guañape phase, the coastal population increased dramatically and migrated into the middle Moche Valley. Pozorski (1976) has suggested that increasing population prompted the need for irrigation agriculture. The shift away from the littoral into the middle valley most likely occurred because the narrow valley floor and the steeper grade meant that short canals could irrigate a much wider area. Canals in the lower valley would have to be much longer to irrigate the same area—requiring a significantly larger labor investment for construction and maintenance. Irrigation—beginning in the middle valley in the Early Guañape phase—was extended into the south side of the lower Moche Valley during the Middle and Late Guañape phases. By the end of the Late Guañape phase, much of the land north of the river was under cultivation (Billman 1999: 142–143, 2002: 378–380).

Throughout the Early and Middle Guañape phases, political centralization increased, and “the relationship between leaders and the general population changed dramatically (Billman 1999: 142).” This is indicated in several ways: the introduction and expansion of irrigation, multitiered settlement hierarchies, the materialization of power through the investment in monumental public architecture that was concentrated at a few sites; and a multitiered architectural hierarchy within sites (Billman 1999: 140–146). Settlement pattern studies (Billman 1996; Moseley and Day 1982) have shown that a three-tiered hierarchy of centers existed in the Moche Valley as large, medium, and small sites with ceremonial architecture.

Within ceremonial architecture, a three-tiered hierarchy of space existed (Billman 1996, 2002). There were large plazas—usually at ground level—that could accommodate large numbers of people (T. Pozorski 1976, 1980, 1982). The upper levels of ceremonial mounds normally contained intermediate-size plazas that permitted small groups of participants. Small ceremonial areas were located on mound summits that accommodated even smaller numbers of people. Access to these upper areas were progressively restrictive. Thomas Pozorski (1976: 161–163, 1980: 108–109) suggests that movement into the uppermost part of Huaca de los Reyes began in the large plaza and progressed along the central axis through several smaller plazas that decreased in size. He suggests that the progressive decrease in the size of ceremonial areas and restrictive access suggests a hierarchy of public displays and restricted access to certain ritual activities.

Materialization of power during the Early and Middle Guañape phases was primarily focused on large-scale construction of ceremonial architecture that was concentrated at the principal sites of Menocucho, the Caballo Muerto complex, Puente Serrano, and Huaca de los Chinos (Billman 1999: 143). The function of monumental ceremonial architecture was to legitimize the leaders' position and power and control of ideology. Table 1.2 shows that the volume of new monumental ceremonial architecture constructed during the Early Guañape phase increased significantly from that of the previous Late Preceramic period. This pattern of new construction continued throughout the Middle Guañape phase, increasing in volume seven to tenfold (Billman 1996: 167–119). Billman (1996: 183–184) has suggested that the size of ceremonial centers in the Moche Valley and the volume of ceremonial architecture contained in them were significantly greater than any valley north of the Casma Valley. This

would suggest that the Moche Valley sites were perhaps regional centers and the focus of pilgrimages by people from the neighboring valleys. By the end of the Middle Guañape phase, interest in this form for the materialization of power peaked and began to decline.

Table 1.2 Volume of public architecture constructed during the formative period (adapted from Billman 1996: 167–179, 1999: 140–146).

Period	Phase	Volume (m <sup>3</sup> )
Late Preceramic Period	Late Preceramic Period	115
Initial Period	Early Guañape	33,000
Initial Period	Middle Guañape	282,800–318,700
Early Horizon	Late Guañape	64,800–100,500
Early Intermediate Period	Salinar	15,000

How were Initial Period leaders able to mobilize the general population to construct such a large volume of monumental architecture, and how were they able to finance these projects over such a long time span? Billman (1996, 1999: 140–146, 2001, 2002: 386–393) has proposed that leaders in the Moche Valley were able to gain control of two important resources—agricultural surpluses and access to water for irrigation—which enabled them to exercise considerable control of ideological power. This may have been accomplished by trading access to these important resources in return for the labor required to carry out the extensive projects to construct the monumental public architecture.

During the Initial period, a fishing and marine processing center, Gramalote, developed near the location of the Late Preceramic village of Padre Alban and the modern village of Huanchaco (T. Pozorski 1976: 141–142, 1982:228). Gramalote continued to grow and thrive throughout the Initial period, and it was an important source of marine food

resources for inland sites. Evidence from excavations at Gramalote and Caballo Muerto suggest that a symbiotic relationship existed between these two sites for the exchange of marine resources and agricultural products (Figure 1.1; T. Pozorski 1976: 141–142, 1982:228). Archaeological research has not yet established this link between Gramalote and other large Initial period sites in the Moche Valley.

Archaeological evidence from this period shows that there was an absence of evidence of warfare in the Moche Valley. There are three principal evidential markers for this conclusion—all major sites were in non-defensible locations, none had fortifications or defensive architecture, and larger ceremonial sites were located on the valley floor or in Quebradas (dry ravines).

### *Early Horizon*

Over the course of the Early Horizon (800–400 B.C.; Late Guañape phase) political centralization in the Moche Valley began to break down from a single polity into smaller polities (Billman 1999: 146). All sites were located in the middle valley between the site of Caballo Muerto and the confluence of the Sinsicap and Moche Rivers (Figure 1.1), and no sites remained along the littoral.

At the beginning of the Early Horizon (800–400 B.C., Late Guañape phase), political centralization was still manifested by a three-tier hierarchy of sites and spatial hierarchy of ceremonial architecture within sites. Construction of monumental architecture remained the principal material manifestation of power. Architectural expansion was carried out at the older centers of Caballo Muerto, Puente Serrano, Huaca de los Chinos and Cerro Petroglifo, and four new ceremonial centers were constructed (Billman 1996: 176).

By the middle of the Early Horizon, many of the Initial period centers had been abandoned, and the political structure in the Moche Valley had declined, most likely breaking down into several smaller individualized chiefdoms. The form of materialization of power changed from an emphasis on the construction of monumental public architecture to an emphasis on irrigation canals and ceramic production.

The investment in irrigation for cultivation continued to increase. The maximum extent of arable land in the middle valley was reached, and irrigation agriculture was expanded into the upper end of the lower valley between the Moche River and Caballo Muerto—an area encompassing approximately 500 ha (Figure 1.1; Billman 1996, 2002: 378–380; Farrington 1974; Moseley and Deeds 1982; T. Pozorski 1976). By the end of the Early Horizon, the area of land cultivated using systems of irrigation canals reached 3,562 ha (Table 1.3; Billman 2002: 380-382).

A lack of evidence of warfare and violence continued throughout the Early Horizon.

Table 1.3 Area of land cultivated by systems of irrigation canals during the Initial period, Early Horizon, and beginning of the Early Intermediate period (Early, Middle, and Late Guañape phase and Salinar phase; Billman 2002: 379-382, Figure 1.2).

Area of Moche Valley	Hectares	Cultural phase
Middle valley	2,262	Early and Middle Guañape
Lower valley–North side	1,300	Middle and Late Guañape
Lower valley–South side	500	Late Guañape
Lower valley–South side	3,200–3,750	Salinar *

\* These total hectares include the 500 ha. under cultivation in the Late Guañape.

### *Early Intermediate Period (Salinar Phase)*

The Early Intermediate period (400 B.C.–A.D. 600) covers several local phases: Salinar, Gallinazo, Early Moche and Middle Moche. For this dissertation, I will discuss only the Salinar phase, since it comprised the final 400 years of the formative period. By the start of the Salinar phase (400–1 B.C.), all Guañape phase centers in the Moche Valley had been abandoned. The Salinar phase was characterized by a huge population increase, resettlement into the lower valley, a concentration of the population into large clusters, a significant expansion in and emphasis on irrigation agriculture into the lower valley, a dramatic change in political centralization, and the ubiquitousness of violent conflict (Billman 1996: 187–235, 1999: 137–159, 2002: 371–395; Moseley 1992: 161–167; T. Pozorski 1976).

In the Early Salinar, a few small clusters were formed; however, by the end of the Late Salinar, there were nine clusters from the coastline to the upper reaches of the middle valley (Figure 1.2). The largest cluster was Cerro Arena, which most likely functioned as the paramount site in the valley, exercising some loose control over the rest. The secondary clusters were Pampa Cruz, Cerro Virgen de Galindo, MV-632, Cerro Oreja, Puente Serrano, MV-91, Sinsicap, and MV-372. The Pampa Cruz cluster developed near the modern site of Huanchaco and the Initial period site of Gramalote, and was the second largest Late Salinar phase site (Billman 1996: 199). The Cerro Arena cluster was abandoned by the end of the Late Salinar phase, and the Cerro Oreja cluster—which continued to increase in size and importance—became the dominant site during the subsequent Gallinazo phase.

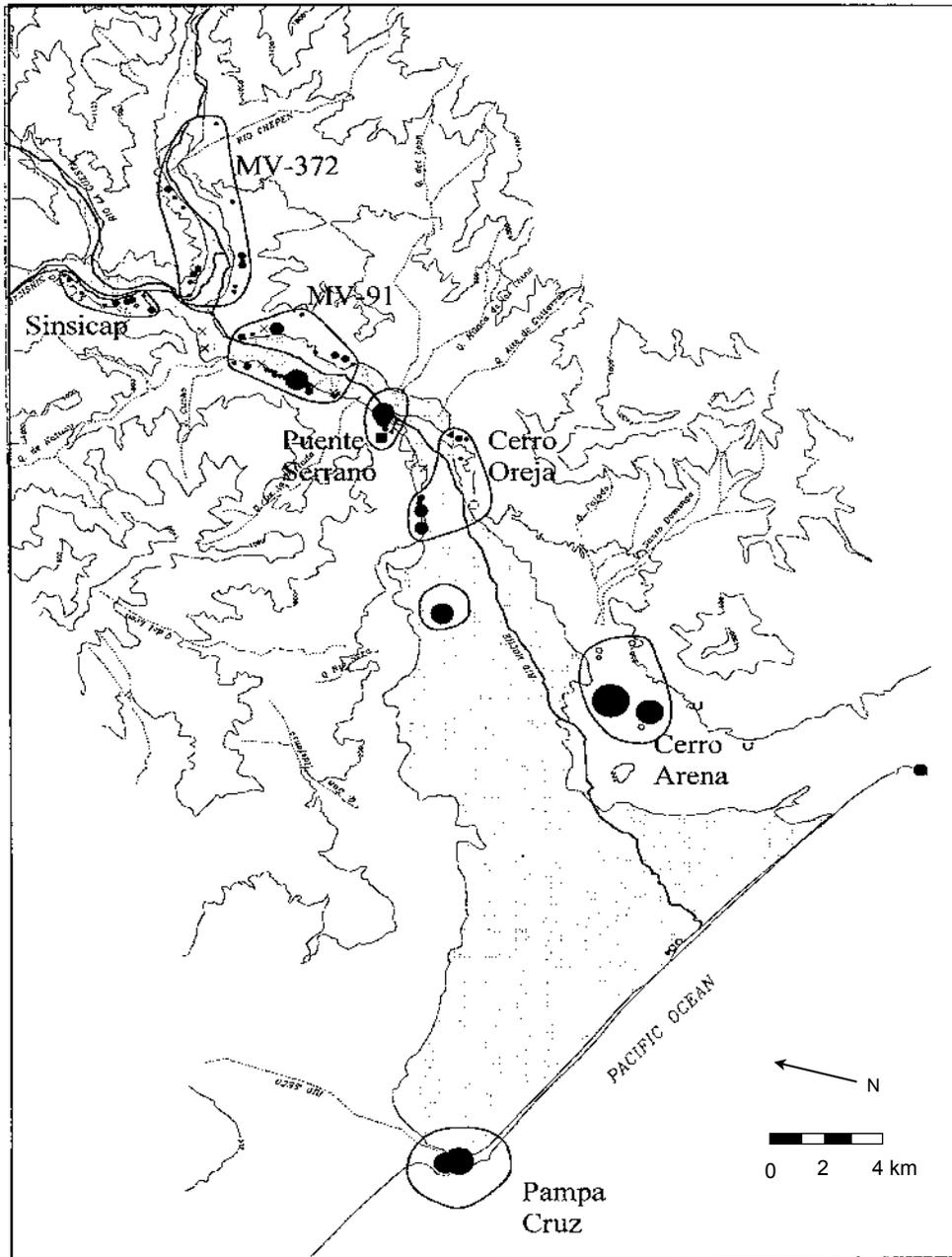


Figure 1.2 Map showing the location of the population clusters in the Moche Valley during the Salinar Phase (adapted from Billman 1999: 149).

The number of habitation sites in the Moche Valley increased at a rate of 2,000% during the Salinar phase (Billman 1996: 202–203). Billman stated that it was unrealistic to attribute this rate of increase only to indigenous population growth. He suggested the plausibility that a large number of people emigrated from the Virú Valley into the Moche Valley during the Salinar phase. This corresponds well with the dramatic drop in the number of Salinar phase sites in the Virú Valley noted by Willey (1953). Perhaps Cerro Arena was the recipient of emigrants from the Virú Valley (Billman 1996: 203). If the decline in the Virú Valley noted by Willey was factored into the overall increase in the Moche Valley, the remaining Salinar phase population increase in the Moche Valley could be accounted for through indigenous population growth (Billman 1996: 203).

There was a significant increase in violent conflict throughout the Salinar phase, and leaders had to develop strategies for dealing with it (Billman 1996: 187–235, 1999: 131–159; 2002: 380–390; Moseley 1992: 161–166). The violence was most likely an important reason why the population concentrated into clusters with uninhabited natural areas between each cluster. New settlements were constructed in defensive positions on ridges or hilltops, and many contained defensive architecture such as walls and ditches. The conflicts were both internal between clusters in the Moche Valley and external with groups originating in the highlands and/or the Virú Valley.

Leaders' strategies relating to materialization of power changed during the Salinar phase (Billman 1999: 146–130). The emphasis shifted away from new construction of monumental ceremonial and public architecture and toward the construction of irrigation canals, fortifications, and smaller ceremonial and public architecture. Irrigation agriculture

continued to expanded into the lower valley, and by the end of the Salinar phase all arable land was cultivated through irrigation (Billman 2002: 380). This part of the valley had much less gradient than the middle valley, which required a greater investment in canal construction and maintenance.

New architectural construction consisted of terraced hilltop complexes, small mounds, hilltop platforms, elite dwellings, enclosed plazas or rooms attached to elite dwellings, and small rectangular meeting halls (Billman 1996, 1999: 146–150, 2002: 389–390). A fundamental change occurred in the function of ceremonial architecture. The monumental architecture of the Initial period and Early Horizon served to legitimize leaders' position and power, as well as their control over ideology. In the Salinar phase, leaders focused on expanding irrigation agriculture, which they could control, on providing communities with fortifications for their protection, and on ceremonial architecture that served small groups of elites.

### **Previous Formative Period Research in the Moche Valley**

General investigations of prehistoric cultures in the Moche Valley began as early as the eighteenth century. Baltasar Jaime Martinez Compañon (1936), Archbishop of Trujillo, visited many of the prehistoric sites in the valley and made drawings and watercolors of their remains. Nineteenth century explorations were carried out by Hutchinson (1873), Middendorf (1894, 1973), Rivero and Ustariz and Tschudi (1851), Squier (1877), and Weiner (1874). Early general explorations and excavations were carried out in the twentieth century by Bennett (1939, 1950), Bird (1948), Horkheimer (1944, 1965), and Kroeber (1926, 1939).

Horkheimer identified many prehistoric sites throughout Perú and produced an inventory of the most important sites.

During the last half of the twentieth century, numerous detailed studies, including excavations, were carried out at formative period sites in the Moche Valley. Shelia and Thomas Pozorski studied the Late Preceramic period sites of Alto Salaverry and Padre Alban (S. Pozorski 1976; S. Pozorski and T. Pozorski 1979; T. Pozorski and S. Pozorski 1994). Their work there produced evidence of emerging political centralization.

Research at Initial period and Early Horizon sites included Caballo Muerto (T. Pozorski 1976, 1980, 1982, 1983; Moseley and Watanabe 1974; Watanabe 1976), Puente Serrano (Watanabe 1976), Huaca de los Chinos (Watanabe 1976; Schaedel 1951; Miñano Lezcano 2001), Huaca Menocucho (Watanabe 1976), Gramalote (Billman, Briceño and Ringberg 2006; S. Pozorski 1976; S. Pozorski and T. Pozorski 1979) and Cerro Oreja (Billman, Briceño and Ringberg 2004, 2005, 2006). The most detailed research was carried out at the Caballo Muerto site by Michael Moseley and Luis Watanabe (1974) and Thomas Pozorski (1976). It was a complex consisting of eight U-shaped platform mounds, of which, Huaca de los Reyes is the best preserved and most architecturally complex. Ceramics and radiocarbon dates (uncalibrated) from this research suggest a chronological sequence from 1500 to 400 BC. There is evidence that Caballo Muerto represents a ranked society, and it was most likely the center of a chiefdom. This is based on the sequential construction of the mounds, multiple construction phases, the site planning and corporate labor required, the use of artisans, an association with nearby smaller subsidiary sites, and internal site stratification in the form of a multi-tier hierarchy of space and restricted access to ritual. Iconography as

adobe friezes and sculpture at Huaca de los Reyes suggests that religion was based on ancestor worship.

The Huaca de los Chinos site and its major architectural component—Huaca de los Chinos—have been studied by several archaeologists over the past 60 years. Most of this work consisted of surface collections and analysis of the ceramics collected, test pits, and drawings of the site and the architecture. In 2001, Linda Miñano Lezcano carried out research that included limited excavations. For my dissertation research in 2006, I carried out a detailed study of Huaca de los Chinos—a large, multilevel, stone mound—that included topographic survey and mapping, controlled surface collection, extensive excavation, photographic analysis (1900 photographs), and laboratory analyses that included ceramic analysis, 13 radiocarbon dates, and elemental characterization analysis of nine paint samples from the temple on the summit of the huaca. The research objective was to understand the function and chronological sequence of the huaca, as well as the existence and nature of social inequality and political centralization that existed and how that may have changed during its active life. This dissertation presents conclusions regarding each of these issues.

Recent, extensive, long-term research at the sites of Gramalote and Cerro Oreja has been carried out by Brian Billman, Jesús Briceño, and Jennifer Ringberg in 2005, 2006, 2007, and 2008. The research is currently ongoing.

Previous research at Puente Serrano and Menocucho has been mostly cursory: primarily encompassing surface collection and ceramic analysis, test pits, and architectural drawings and site mapping.

During the Late Salinar phase, the site of Cerro Arena became the largest site and cluster in the lower and middle valleys. It was probably the paramount site, and may have exercised some form of loose control over the eight other clusters (Billman 1996: 215, 234). Curtiss Brennan (1978, 1980a, 1980b) carried out extensive research at Cerro Arena.

Four separate excavation projects have been conducted at Pampa Cruz, the second largest Salinar phase site, by Donnan, Mujica, Ricktenwald (Chan Chan–Moche Valley Project), and Barr (Instituto Nacional de Cultura), but no data have been published to date from these excavation (Billman 1996: 199).

In addition to site-specific studies, significant research has been done on subsistence and irrigation (Billman 1989, 1996, 1999, 2001, 2002; Brennan 1978; Farrington 1974, 1985; Moseley and Deeds 1982; Ortloff et al. 1985; T. Pozorski 1976, 1980; S. Pozorski and T. Pozorski 1979a; Rodriguez Suy Suy 1973), settlement pattern studies (Billman 1996; Moseley and Deeds 1982), the ceremonial and religious nature of Quebrada Alto de Las Guitarras (Campana D. 2006; Sharon, Briceño and Noack 2003), and prehistoric roads of the Moche Valley (Beck 1979).

### **Huaca de los Chinos Site**

The remains of the Huaca de los Chinos archaeological site (MV481) are located in the middle Moche Valley, in the Poroto District, province of Trujillo, department of La Libertad, approximately 30 km from the coast and 7 km northeast of the Caballo Muerto archaeological complex. The site's known extent covers 23 hectares. It is situated at latitude 8° 04' 50" south and longitude 78° 50' 20" west (from the National Inventory of

Archaeological Monuments) at 221 m above sea level (WGS84 datum, WGS84 ellipsoid, UTM projection).

During the formative period, Huaca de los Chinos was strategically situated in the mouth of Quebrada (dry ravine) Alto de Las Guitarras at its intersection with the middle Moche Valley and 1 km south of Quebrada León. These two quebradas were the principal access routes between the middle Moche Valley and the Middle Virú Valley to the south, as well as the Carabamba Plateau to the northeast. The location of Huaca de los Chinos also provided easy access by way of the lower Moche Valley to the coastal areas of the Virú Valley to the south.

Huaca de los Chinos is near two modern towns: Cerro Blanco at 1 km to the west and Quirihuac at 2 km to the north. The local people refer to the site and the huaca as El Castillo, but in the archaeological literature they are referred to as Huaca de los Chinos, and I refer to them as Huaca de los Chinos as well.

The most visible above-ground features on the site are a large, multilevel, flat-topped stone mound, a large square plaza (*Plaza A*) directly in front of the huaca that is surrounded by architecture, a small architectural complex consisting of a square plaza (*Plaza B*) surrounded by four stone platforms, a small plaza (*Plaza C*) abutting the southeastern side of the huaca, a large open area adjacent to the northwestern side of the huaca (*Plaza CH*), and various stone walls that delimit the site area (Figures 1.3, 1.4).

Huaca de los Chinos was constructed as a three-sided, stepped, flat-topped mound consisting of six levels. Each level was a smaller platform that was superimposed on a larger platform. The huaca was faced with large to medium-sized stones and filled with stone and

clay-mud plaster. It was difficult to capture the huaca's original dimensions due to damage, looting, the presence of extensive architectural rubble, and past pilfering of stone for modern construction. Its current dimensions measured 97 m across the front, 95 m on each side, and 21 m in height. It was constructed on top of and around a large ridge that protruded from the northeastern side of a hill called Cerro El Castillo. The huaca was positioned so that its backside coincided with and became a part of the cerro. Portions of the ridge protruded from the front and both sides of the huaca, and were incorporated as an integral part of it. Its builders constructed various types of structures (i.e., walls and stairs) on and around these projections, so that these areas functioned as platforms, access paths, staircases, and boundaries (Figure 1.4). On the huaca's northwestern side, the natural rock of the cerro formed the boundaries for the staircase named *Ent 9* and Cemetery 2 (*Cem 2*), and terraces 1 and 2 (*Ter 1*, *Ter 2*). Some of the flat tops of the natural rock projections were used as platforms, and several staircases (*Ent 5*, *6*, *7*, *8*, *10*) provided access between them and other areas on this side of the huaca. In other words, the huaca was a part of and an extension of the cerro, and the cerro was an integral part of the huaca.

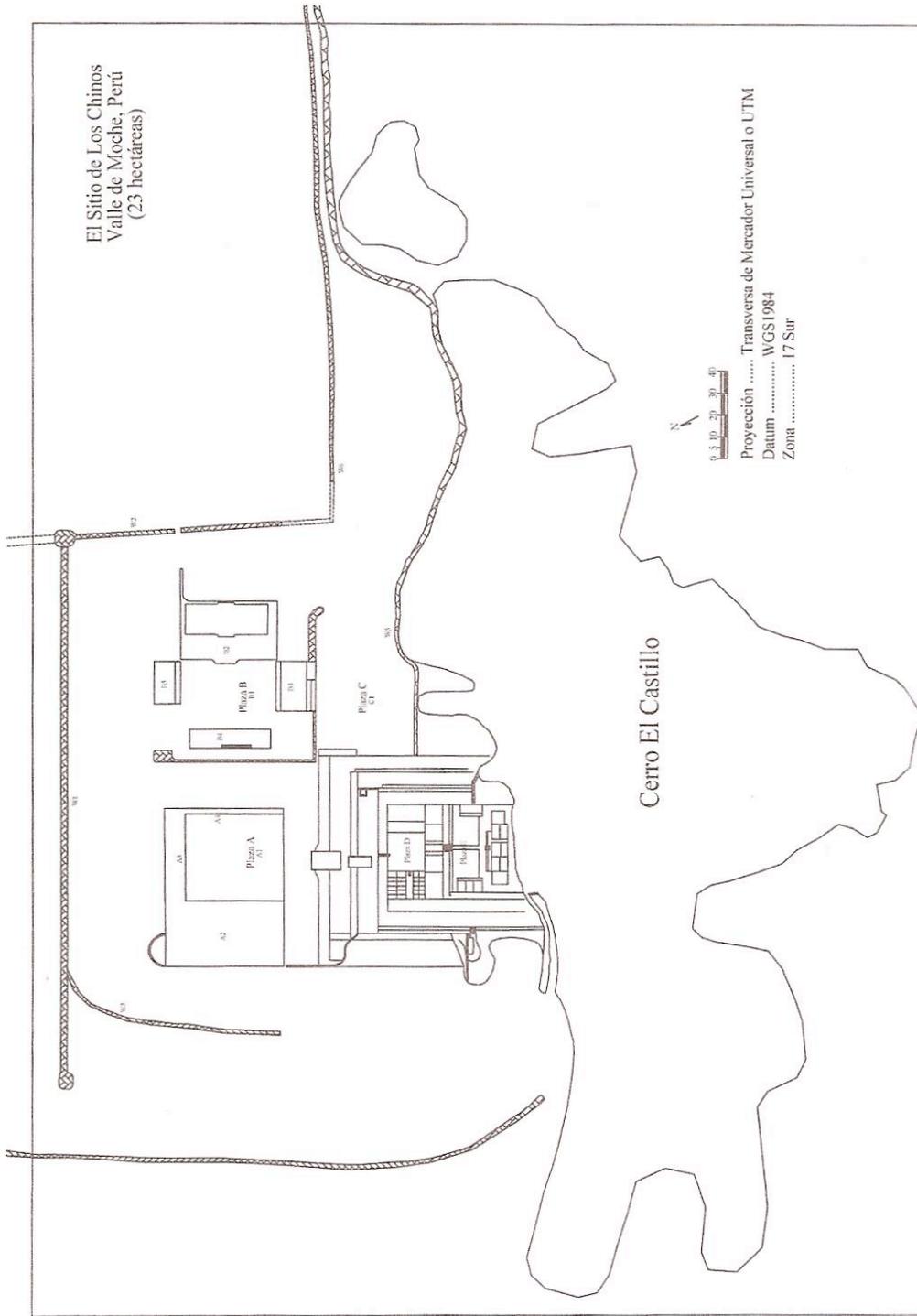


Figure 1.3. Map of the Huaca de los Chinos site showing Huaca de los Chinos, the plazas and their associated architecture, and the limits of the topographic survey (adapted from Billman 1992:153; Burger 1992:189, and drawing made by John Pleasants 2001).

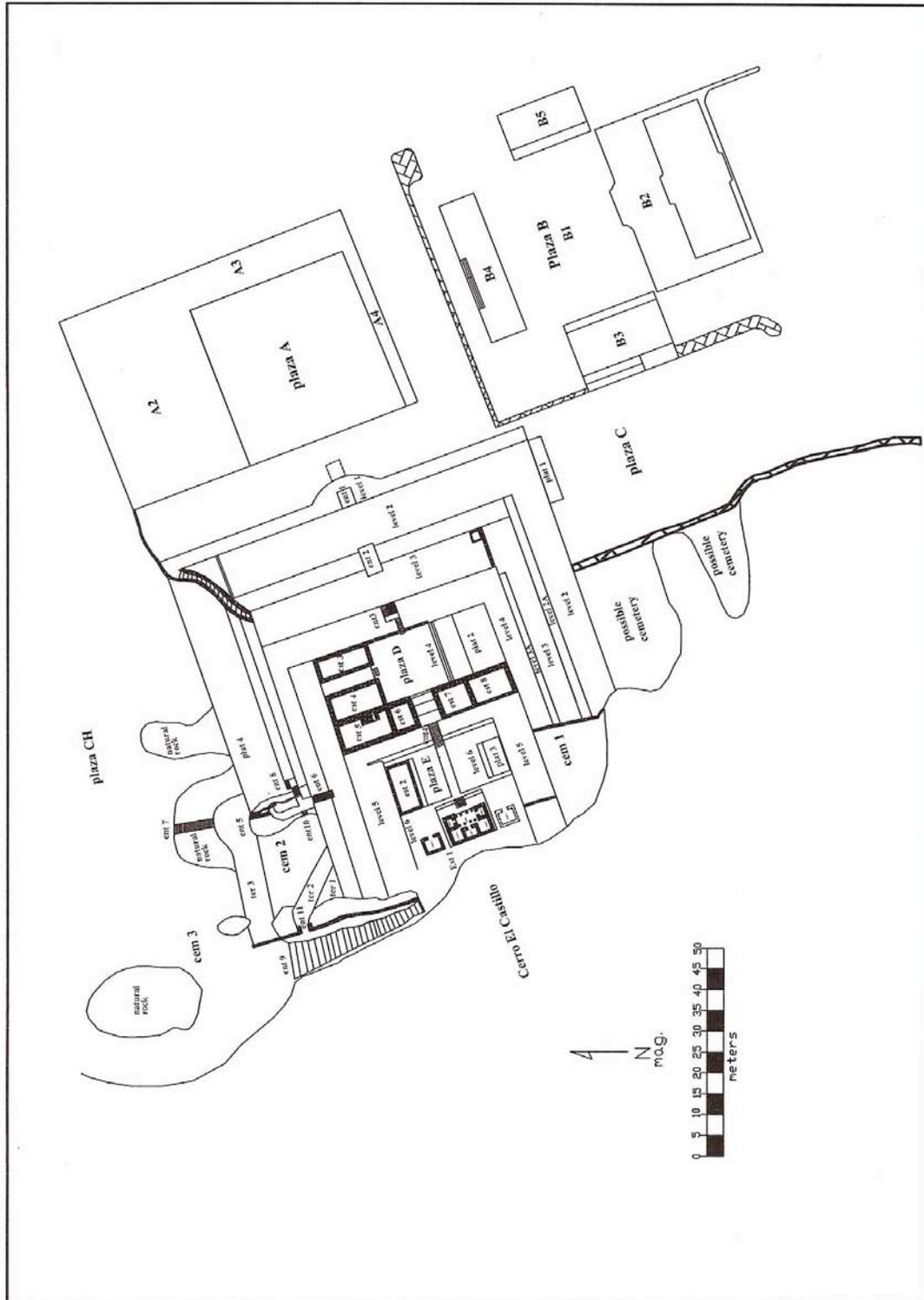


Figure 1.4. Map of Huaca de los Chinos.

The northeastern (front) and southeastern sides of the huaca were symmetrical in design with each other (Figure 1.4). However, the northwestern side had a different design. It was dominated by Platform 4 (*Plat 4*) and the part of the huaca that incorporated the natural rock outcroppings, *Cem 2*, *Cem 3*, *Ter 1*, *Ter 2*, and *Ent 9*. Levels 4 and 6 of the huaca were also asymmetrical. Level 4 consisted of a small plaza (*Plaza D*) that was surrounded by six structures and a small stone platform. Two multi-room structures were located on the northwestern side (*Est 3 and 4*), and were separated by a narrow passageway. Directly across the plaza to the southeast was a small, two-level stone Platform (*Plat 2*). Along the southwestern side of the plaza were four single-room structures (*Est 5, 6, 7, and 8*).

The *Ent 4* staircase provided access from the *Plaza D* complex to the *Plaza E* complex of the huaca. Level 5 of the huaca not only provided the foundation for Level 6, but also provided access to large horizontal areas that overlooked the northwestern and southeastern sides of the the huaca, as well as *Plazas C and CH*. Level 6, the summit of Huaca de los Chinos, consisted of *Plaza E*, a multi-room structure on the northwestern side, a small, two-level stone platform on the southeastern side, and Structure 1 (*Est 1*), which was a small temple.

*Est 1* was a stone structure—12 m x 10 m—that was situated on the summit of Huaca de los Chinos at the southwestern side of *Plaza E* (Figure 1.4; Figure 1.5). It was composed of an atrium or patio—4 m x 5 m—that was surrounded by five rooms on three sides. The patio contained the remains of eight columns arranged in two rows of four columns across its width. Some conical adobes were recovered in the fill excavated from the patio. The central

axis of *Est 1* passed up the front staircase, down the central aisle between the eight columns, and through the center of Room 1 (Figure 2.55). The architecture patterns on both sides of the axis were mirror images; making the structure bilaterally symmetrical. A sixth and seventh room were located 1 m from the northwestern and southeastern sides of *Est 1* and were considered part of *Est 1* (Figure 1.5). Substantial evidence suggests that the entire huaca—including *Est 1*—had been covered by a fine plaster during its active life, and all exterior and interior surfaces of *Est 1* had been painted using red, white, and black paint. It is interesting that while the architecture of *Est 1* was bilaterally symmetrical, the rest of Huaca de los Chinos was asymmetrical.

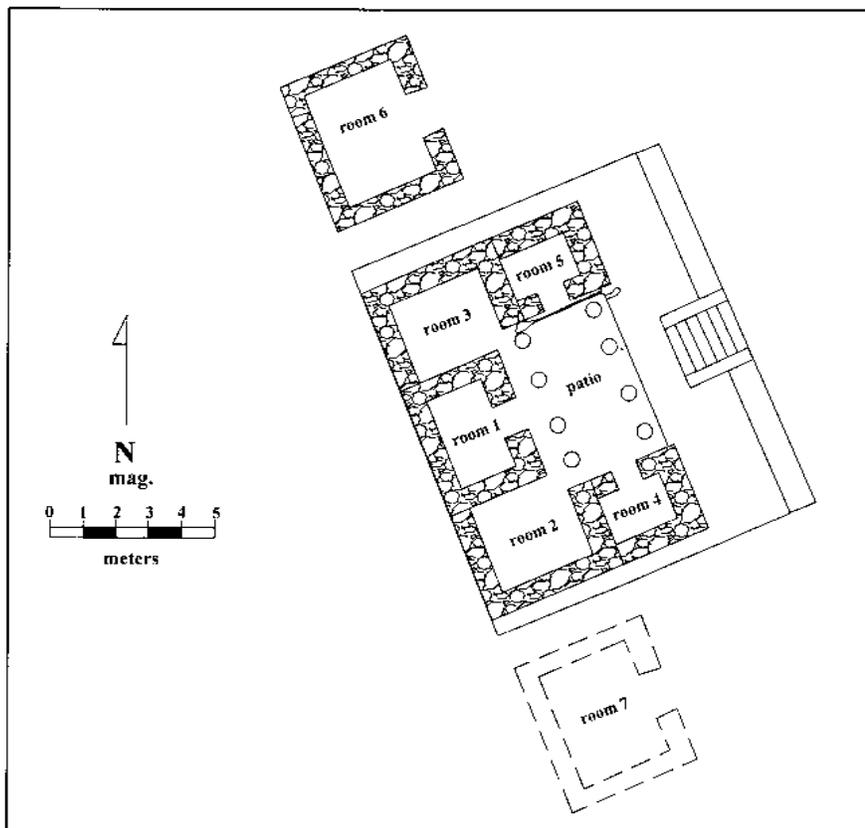


Figure 1.5. Drawing of the structure on the summit of Huaca de los Chinos (*Est 1*).

In front of the huaca was a large square plaza (*Plaza A*)—40 m x 40 m long (Figure 1.4). This plaza was surrounded on three sides by two stone platforms and a stone retaining wall, which gave it a “U” shape. It should be noted that the architecture surrounding *Plazas D* and *E* also gave each complex a “U” shape. Excavations at the southeastern border of *Plaza A* confirmed that it was a sunken plaza.

Immediately to the east of *Plaza A* was an architectural complex that consisted of four raised, stone platforms around a plaza that measured 38 x 38 m (*Plaza B*; Figure 1.4). Platforms B3 and B4 were single-level structures, while B2 and B5 each had two levels.

*Plaza C* measured 43 x 70 m, and it was located contiguous with the southeastern side of Huaca de los Chinos (Figure 1.4). The southwestern boundary of this plaza was formed by a wall that ran from the southeastern side of the huaca around the base of Cerro El Castillo, while the wall of Platform B3 surrounding *Plaza B* delimited the northeastern boundary.

A large agricultural field is situated adjacent to the northwestern side of the huaca and directly in front of Platform 4 (*Plat 4*). Clearly it was an area where people interacted with activities associated with *Plat 4*. I named it *Plaza CH* (Figure 1.4).

### **Research Objectives**

My research centered on collecting evidence to determine the chronology and function of Huaca de los Chinos, as well as the presence and nature of sociopolitical complexity and how it may have changed during the huaca’s active life. The huaca dominated the Huaca de los Chinos site, and I realized that understanding it would be the key to understanding the site.

## **Research Methods**

The methodology employed to gather evidence about these anthropological issues included: (1) topographic survey and mapping; (2) controlled surface collection; (3) selected excavation; and (4) analysis of ceramic and non-ceramic artifacts that were recovered in the field. Written documentation (field notes and various forms associated with each field and laboratory process), a GIS spatial database, a data base of diagnostic ceramic attributes, and digital photographs, were integral parts of the research.

### *Topographic Survey and Mapping*

My strategy combined Geographic Information System (GIS) technology and selected excavation to collect spatial data regarding the architectural design of Huaca de los Chinos, the surrounding architecture, and architectural access patterns and orientation of the huaca. These data were used to prepare maps of the site and architecture. Daily, the spatial data collected in the field were downloaded into an IBM laptop computer located in the field headquarters in Huanchaco. The data from the general topographic survey and from the excavations were merged into a single data base.

Although the architectural preservation was good, much of Huaca de los Chinos was covered by architectural rubble due to seismic activity, El Niño events, looting, and more than 2,000 years of disuse. Selected excavations were used to clear rubble from certain areas to expose architectural detail, which improved the accuracy of the architectural spatial data and subsequent mapping (Figures 1.6, 2.1; UE01, UE02, UE03, UE04, UE07, UE08).

### *Controlled Surface Collection*

Surface collection strategy focused on the major architectural areas: Huaca de los Chinos and the architecture surrounding *Plaza A* and *Plaza B* (Figure 1.4). Eighteen collection units were delimited with string on Huaca de los Chinos. Two crews of three persons each made 100% collections of artifacts found within the unit. After finishing a unit, the artifacts were classified into broad groups and placed in plastic bags with identification tags. After all eighteen units were completed, the huaca and the architecture around *Plaza A* and *Plaza B* were divided into large sections, and the same two crews collected all diagnostic ceramics found in each area. All fragments found in each area were placed in plastic bags with identification tags. Daily, these bags were transported to the laboratory in the field headquarters in Huanchaco, and the information from the identification tag was entered in the log of artifacts received at the laboratory.

### *Excavations*

Twenty-eight excavations were carried out between March 29 and June 9, 2006. All were on Huaca de los Chinos except two, which were on the southwestern border of *Plaza A* directly in front of the principal staircase leading from the ground level to Level 2 of the huaca (Figure 1.6; UE05 and UE06).

An excavation unit was considered to be open from the time its initial boundaries were defined with string until it was returned to its original state by filling it in. All excavations were filled-in after the last unit (UE28) was finished and final photographs and total station measurements were taken.

Before excavating each unit, its corners were defined with nails, and the boundaries were delineated with yellow or white cord. Each unit was excavated by arbitrary levels of 10 or 20 cm depending on the amount of looting activity that was present in the unit. The final 10 cm of fill above the first floor and each floor were excavated as separate levels. Dirt removed from an excavation unit was sifted through a 1/8-inch screen. Artifacts from the sifters were sorted and placed in a plastic bag with an identification tag. Each level of a single excavation unit was processed separately. After completing each excavation level, photographs were taken, the geographic coordinates and elevations of corners and the center were determined, and a drawing was prepared. This standard process was followed for all excavation units.

#### *Laboratory Analysis*

Bags of artifacts recovered in the field were transported daily to the field headquarters in Huanchaco where they were prepared for analysis. Ceramics were kept separated by provenience and then returned to the appropriate bag after processing. Non-ceramic artifacts were cleaned if necessary and returned to the appropriate bag. All artifacts were placed in a cardboard box by type of artifact, and a current inventory was maintained of the contents of each box, which became the official inventory for each box at the end of the field season.

Final field analyses of artifacts, including attributes of diagnostic ceramics, as well as drawings and photographs of key artifacts, were undertaken from June 9 to August 20, 2006 at the field headquarters in Huanchaco. After returning to the United States, interpretations of the data were made at the University of North Carolina at Chapel Hill.

Samples of organic material recovered from the lower excavation levels and paint samples from various parts of *Est 1* were exported to the United States for scientific analysis.

## CHAPTER 2

### TOPOGRAPHIC SURVEY, MAPPING, EXCAVATIONS, ORIENTATION, RADIOCARBON DATES

During the topographic survey, a small team consisting of myself, my codirector and two assistants took spatial measurements throughout an area of 23 hectares that encompassed Cerro El Castillo, the fields around the cerro (hill), Huaca de los Chinos, and the architecture surrounding *Plaza A* and *Plaza B* (Figures 1.3 and 1.4). I used a Leica total station equipped with an external data collector (HP48 calculator) to measure the geographic values of points marked by two prisms. At the University of North Carolina at Chapel Hill, I used *Autodesk Civil Series* GIS software to analyze the spatial data and to produce maps of the site and Huaca de los Chinos.

The survey and mapping provided evidence related to the function of the huaca and the presence and nature of sociopolitical complexity. Relevant features documented by the survey include the detailed form of two of the principal stairways (Figure 1.4; *Ent 3* and *4*), the existence and form of three cemeteries that appear to be integrated into the design of the huaca (*Cem 1, 2 & 3*), the architectural form and details of the summit structure (*Est 1*; Figure 1.5), architectural clarification of the other structures (*Est 2–8*) and the two platforms (*Plat 2 & 3*) on Levels 4 and 6 of the huaca, Platforms 1 and 4 (*Plat 1 and 4*), numerous other access paths, and a more detailed understanding of how the projecting portions of the ridge that underlie the huaca have been integrated as part of the huaca's architectural design (Figure 1.4). On the northwestern side of the huaca, several stairways and walls (Figure 1.4;

*Ent 5, 6, 7, 8, 9 & 10*) were constructed on the natural rock of the cerro and served to integrate the huaca and the cerro together.

Structures 2–8 (Figure 1.4; *Est 2–8*) were structures that were associated with *Plaza D* and *Plaza E*. These rooms were mapped with the total station, but none of them were excavated. *Est 2* was a rectangular room located on the northwestern side of *Plaza E*. It measured 11 x 5 m with outside walls that were 50 cm thick. A 1 m-wide bench or step extended across the entire front of the structure. In drawings shown in several publications (Burger 1992, 1995; Billman 1996) and from my observations in 2001, *Est 2* appeared to have three interior rooms. However, by 2006, looters had knocked down most of the outside walls, and the inside of the structure was so destroyed that it was not possible to determine the pattern of interior rooms without complete excavation.

*Plaza E* measured 13 x 16 m, and it was bisected along the main axis of the huaca by a 2 m-wide sunken pathway that ended directly in front of the summit structure (*Est 1*). Across *Plaza E* from *Est 2* was a small platform (*Plat 3*), which had sustained considerable damage from past looting activity. It was a two-level stone platform. Level 1 measured 6 x 8 m and Level 2 measured 4 x 8 m.

*Plaza D* measured 15 x 15 m, and it formed the central ceremonial area around which *Est 3–Est 8* and *Plat 2* were situated. *Est 3* and *Est 4* were located on the northwestern side of the *Plaza D* complex, and measured 12 x 4 m and 12 x 5 m respectively. They were separated by a narrow corridor and originally contained multiple interior rooms. Some of these were observed in 2001, but a complete pattern within each structure was not

discernible. By 2006, many of the exterior walls had been severely damaged, and the interior room patterns were impossible to understand without excavating these structures completely.

The four structures along the southwestern side of Plaza D (Figure 1.4) appeared to be large single-room structures. *Est 5* was a rectangular structure that measured 12 x 6 m with exterior walls 1 m thick. A raised stone platform was present along the interior of the northeastern wall of the structure. This platform contained a short passageway, which provided an entrance into *Est 4*. It appeared that the functions of these two rooms may have been linked.

The dimensions of *Est 6* are 5 x 4 m with exterior walls 1 m thick, and it was located adjacent to the southeastern side of *Est 5* with which it shared a common wall. There was no evidence of an entrance into *Est 6* or *Plaza D* or the area between *Est 6* and *Est 7*. Perhaps a future excavation will clarify this.

*Est 7* and *Est 8* measured 5 x 6 m and 5 x 9 m respectively, and their exterior walls were 1 m thick. They were contiguous with each other and with *Plat 2*. *Est 7* and *Est 8* seemed to open directly onto Level 1 and Level 2 of *Plat 2*, respectively.

Two terraces (Figure 1.4; *Ter 1* & *2*) were located immediately above Cemetery 2 (*Cem 2*). These terraces were accessed from stairway 9 (*Ent 9*), which was the main access route between *Est 1* on the summit and Cemeteries 2 and 3 at the base of the huaca. Cemetery 3 was located at the base of the huaca and the cerro, and extended toward the northwest. Cemetery 2 was located 2 m above Cemetery 3, and it was incorporated into the body of the huaca. It was overlooked by terraces 1 and 2 (*Ter 1*, *Ter 2*) and the ridge projecting from the huaca, and was separated from Cemetery 3 by two levels of architecture.

Cemetery 1 (*Cem 1*) was situated on the other side of the huaca at its southeastern corner. It was 12 m above the Huaca's base and 11 m above the level of Cemetery 2. It was only 8 m directly below the summit structure. Examination of looter pits in all three cemeteries showed a significant difference in elaboration of grave construction between *Cem 1* and the other two cemeteries. *Cem 1* graves were built as square or rectangular units delineated by stone walls while graves in the other two cemeteries appeared to be simple pits that lacked this type of elaboration. The cemeteries appeared to have a three-tier spatial hierarchy.

Two other possible cemeteries were situated at the base of the southeastern side of the huaca (Figure 1.4). These were at the same level as *Cem 3* on the northwestern side of the huaca.

Generally, two units were excavated simultaneously, and the laser total station was positioned so that points could be measured in each unit. Points were measured at the corners and center of a unit when it was initially established and after the completion of each level. The specific locations of significant artifacts and features were measured individually.

### **Excavations**

During the period between March 29 and June 9, 2006, 26 excavations were realized on Huaca de los Chinos and two were carried out in *Plaza A* on its border that is directly in front of the huaca (Figures 2.1). The purpose of these 28 excavations was to recover evidence of the chronological occupational sequence of the huaca, its function, and the existence and nature of socio-political complexity that existed during its active life. Excavation units UE05 and UE06 were located on the central axis of the huaca, and they

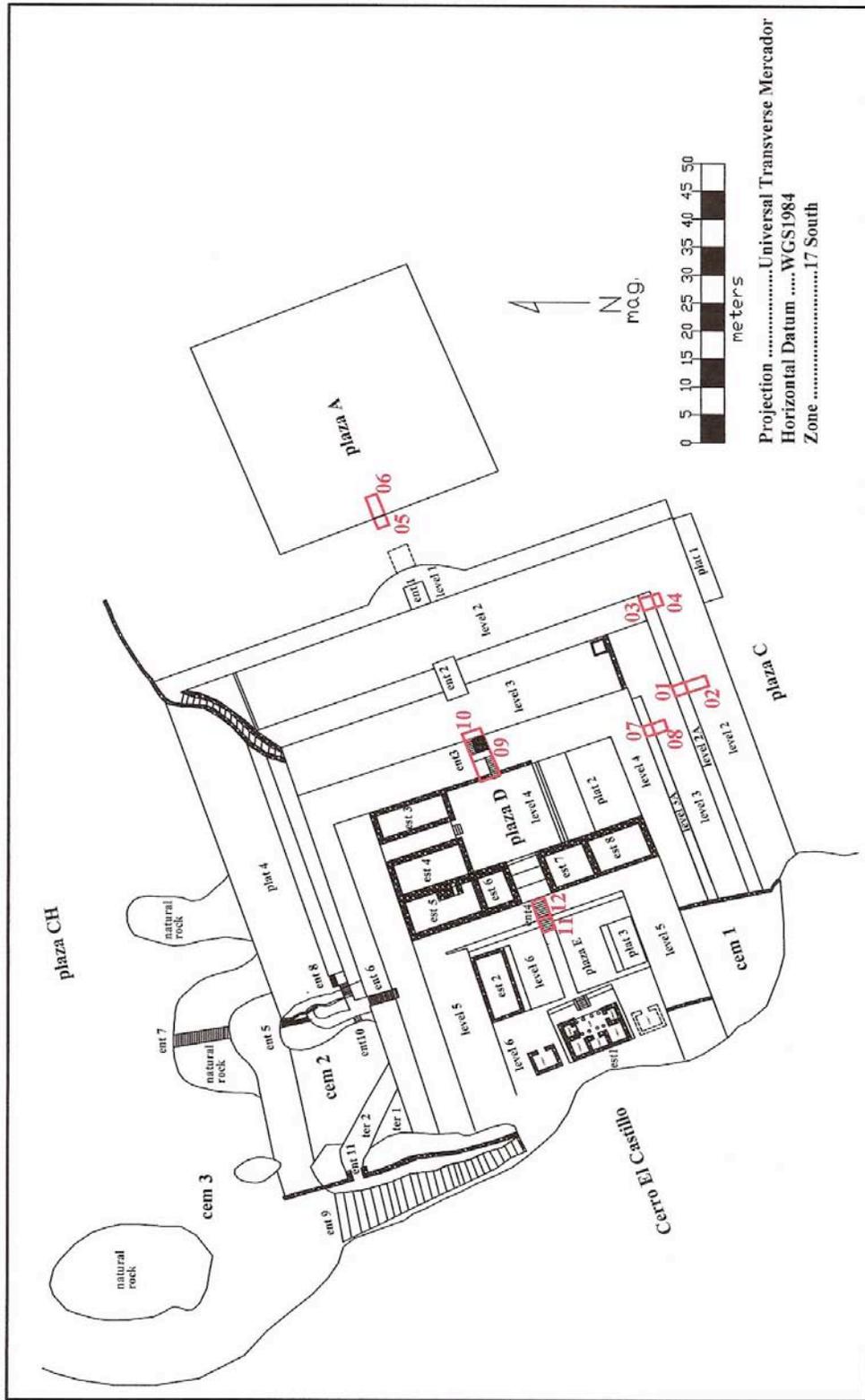


Figure 2.1. Map of Huaca de los Chinos showing the locations of UE01–UE12.

Table 2.1. Summary of excavation unit dimensions, area, and location (Figure 2.1).

Excavation			
Unit No.	Dimensions (m)	M <sup>2</sup>	Description
UE01	2.00 x 2.20	4.40	Southeastern side of the huaca
UE02	2.00 x 4.00	8.00	Southeastern side of the huaca
UE03	2.00 x 2.00	4.00	Southeastern side of the huaca
UE04	2.00 x 1.75	3.50	Southeastern side of the huaca
UE05	2.00 x 2.00	4.00	Plaza A
UE06	2.00 x 4.00	8.00	Plaza A
UE07	2.00 x 4.00	8.00	Southeaster side of the huaca
UE08	2.00 x 4.00	8.00	Southeaster side of the huaca
UE09	3.00 x 2.60	7.80	Access path (Ent 3)
UE10	3.00 x 2.60	7.80	Access path (Ent 3)
UE11	2.00 x 2.00	4.00	Access path (Ent 4)
UE12	2.00 x 3.00	6.00	Access path (Ent 4)
UE13	3.00 x 2.00	6.00	The patio of Est 1
UE14	2.50 x 4.00	10.00	The patio of Est 1
UE15	3.00 x 3.00	9.00	Room 2
UE16	3.00 x 2.50	7.50	Room 1
UE17	1.30 x 1.50	1.95	The patio of Est 1
UE18	3.00 x 2.00	6.00	Room 3
UE19	2.00 x 2.00	4.00	The patio of Est 1
UE20	2.50 x 2.00	5.00	The patio of Est 1
UE21	1.20 x 5.00	6.00	The facade of Est 1
UE22	0.60 x 0.60	0.36	Column 5
UE23	3.00 x 5.00	15.00	Room 6
UE24	2.00 x 2.50	5.00	Staircase in the facade of Est 1
UE25	2.00 x 2.50	5.00	Staircase in the facade of Est 1
UE26	0.60 x 0.60	0.36	The offertory on the patio of Est 1
UE27	0.85 x 1.50	1.28	Room 4
UE28	1.00 x 0.85	0.85	Room 5
Total		156.80 m <sup>2</sup>	

were intended to determine if *Plaza A* was a sunken plaza. The objectives of UE09, UE10, UE11, and UE12 were to clarify the construction design and functions of the primary access paths between Levels 2 and 3 (*Ent 3*) and Levels 3 and 4 of the huaca (*Ent 4*). The remaining

16 excavation units (UE13 - UE28) were used to expose the entire summit structure (*Est 1*). The following discussion will describe each excavation and discuss the relevant evidence recovered.

### **The Southeastern Side of Huaca de los Chinos**

Excavation Units UE01, UE02, UE03, UE04, UE07 and UE08 were designed to expose and clarify the original architecture at various locations on the southeastern side of the huaca (Figure 2.1A).



Figure 2.1A. Photograph of the southeastern side of Huaca de los Chinos showing the locations of UE01, UE02, UE03, UE04, UE07, UE08

### *Excavation Unit 1 (UE01)*

The objectives of this excavation were to expose part of the vertical face of the wall and associated niche that formed Level 3 of the huaca (Figures 2.1. 2.2; Features 1 and 1.01 respectively), to determine if the niche was of the type associated with tenon heads at Chavín de Huantar or was an architectural elaboration similar to those at Sechin Bajo, and finally to excavate the horizontal top portion of the wall (Feature 2) that formed Level 2A in order to examine its construction (Table 2.1; Figure 2.1). Table 2.1A provides a list of cultural features referred to throughout chapter 2.

This unit was excavated in six levels. Level 1 measured 2 x 2.20m (Figure 2.2) and consisted of clearing considerable architectural rubble from the horizontal part of Wall 2A (Feature 2). Levels 2 through 6 each measured 75 x 2 m, and were focused on the northeastern half of the unit. The exposed vertical wall of Level 3 of the huaca (Feature 1) was constructed of oval and rectangular stones placed in layers. These stones ranged in size from 20 x 20 cm to 85 x 30 cm. Spaces between large stone were filled with small stones. The face of the niche (Feature 1.01) measured 70 x 70 cm, and it was recessed 40 cm into the wall. Portions of other niches were visible in a horizontal line along the southeastern side of the huaca. The niches were approximately 3m apart. No tenon-head sculpture was found in the rubble of the excavation unit.

Table 2.1A. List of Cultural Features.

Feature No.	Description	UE No.	Datum No.
1	Wall 3 - Southeast side of Huaca	UE01, UE03	DE01, DE03
1.01	Niche in wall 3 - Southeast side of Huaca	UE01	DE01
2	Wall 2A - Southeast side of Huaca	UE02, UE04	DE02, DE04
3	Area paved with plaster between Plaza A and the Huaca	UE05	DE05
4	Retaining wall associated with Plaza A and feature 5	UE06	DE05
5	Steps leading to the floor of Plaza A	UE06	DE05
6	Plaza A	UE06	DE05
7	Wall 4 - Southeast side of Huaca	UE07	DE07
8	Wall 3A - Southeast side of Huaca	UE08	DE08
9	Wall 4 - Northeast side of Huaca (front)	UE09	DE09
10	Staircase between levels 3 and 4 of the Huaca ( <i>Ent 3</i> )	UE09	DE09
11	Ramp and small raised area contiguous with fea. 9 & 10	UE10	DE10
12	Staircase between levels 4 and 5 of the Huaca ( <i>Ent 4</i> )	UE11, UE12	DE11, DE12
13	Column 1	UE13	DE13
14	Column 2	UE14	DE14
15	Room 1	UE16	DE16
16	Room 2	UE15	DE15
17	Room 3	UE18	DE18
18	The patio of <i>Est 1</i>	UE13 - 14, 17, 19 - 20	DE13 - 14, 17, 19 - 20
18.01	Drain on the Northwest side of the patio	UE14, UE20	DE14, DE20
19	Column 3	UE14	DE14
20	Column 4	UE14	DE14
21	Deleted		
22	Column 5	UE17	DE17
23	Column 6	UE19	DE19
24	Column 7	UE20	DE20
25	Column 8	UE20	DE20
26	Primary wall of the façade of <i>Est 1</i>	UE21	DE21
27	Lower wall of the façade of <i>Est 1</i>	UE21	DE21
28	Room 4	UE27	DE17
29	Room 5	UE28	DE14
30	Room 6	UE23	DE23
31	Main staircase of <i>Est 1</i>	UE24, UE25	DE24
32	Offertory	UE26	DE16

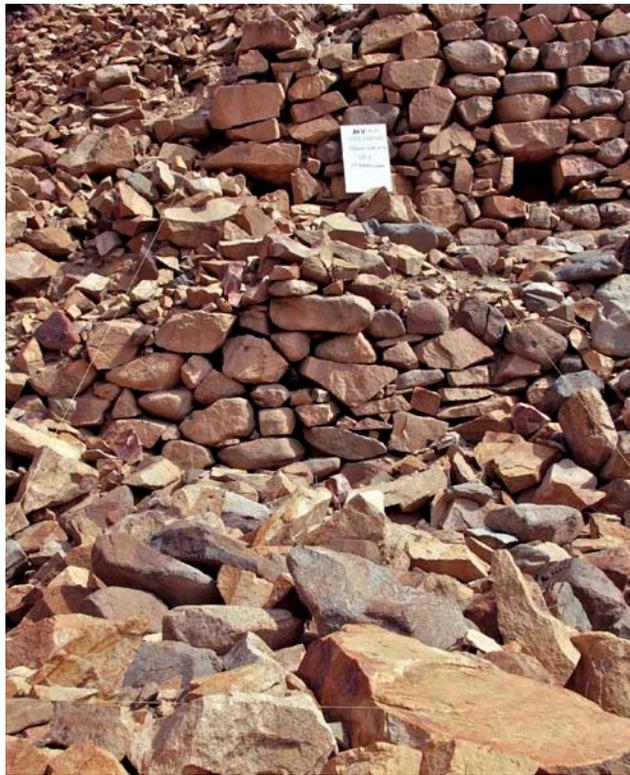


Figure 2.2. Photograph of UE01 before excavation showing the wall 3 (Feature 1) and the niche (Feature 1.01) in the background and Wall 2A (Feature 2) in the foreground.

Excavation Levels 2 through 4 revealed three superimposed floors with the surface of each being composed of a fine plaster (floors 1, 2, 3). Each floor was 3 cm thick and had a color of yellowish brown (Munsell 10YR 5/4). Beneath the earliest floor (Floor 3) was a 6 cm thick foundation layer consisting of small white pebbles approximately 1.5 x 3 cm in size. Radiocarbon datable material was found in the screened residue of each floor. Underneath the foundation layer were the large stones that comprised the entire wall of huaca Level 2A (Figures 2.3, 2.4, 2.5).

A 10 cm thick band of plaster extended across the excavation unit at the juncture of the front wall of huaca Level 3 (Feature 1) and the wall forming huaca Level 2A (Feature 2). It rose vertically up Feature 1 to about 10 cm above Floor 1 (Figure 2.3). This was the first indication that Huaca de los Chinos might have been covered with plaster. There was a 20 cm wide gap between the back part of Feature 2 and the front wall of Feature 1. The width of this gap was consistent across the entire excavation unit. At this time, the purpose of the gap is unknown.

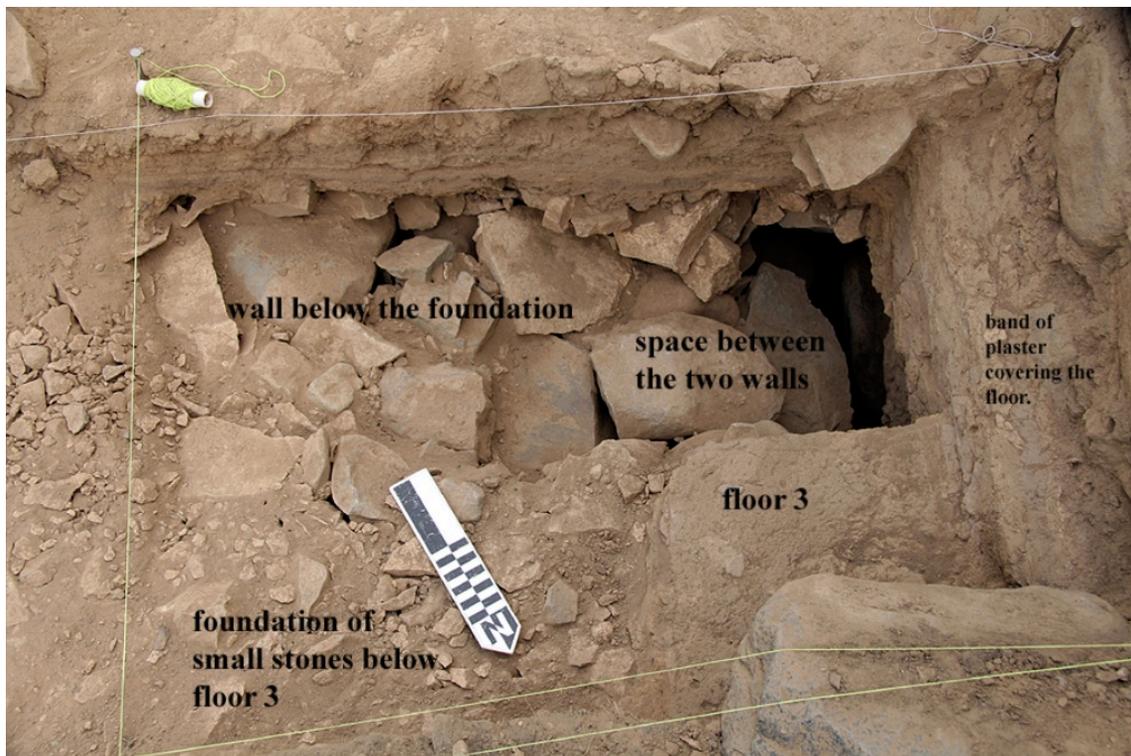


Figure 2.3. Photograph of UE01 after excavation. The figure shows part of Floor 3, the foundation of small white pebbles under Floor 3, the large rocks of Wall 2A (Feature 2), the 10 cm wide band of plaster that covered Wall 3 (Feature 1), and the 20 cm space between Wall 2A and Wall 3.

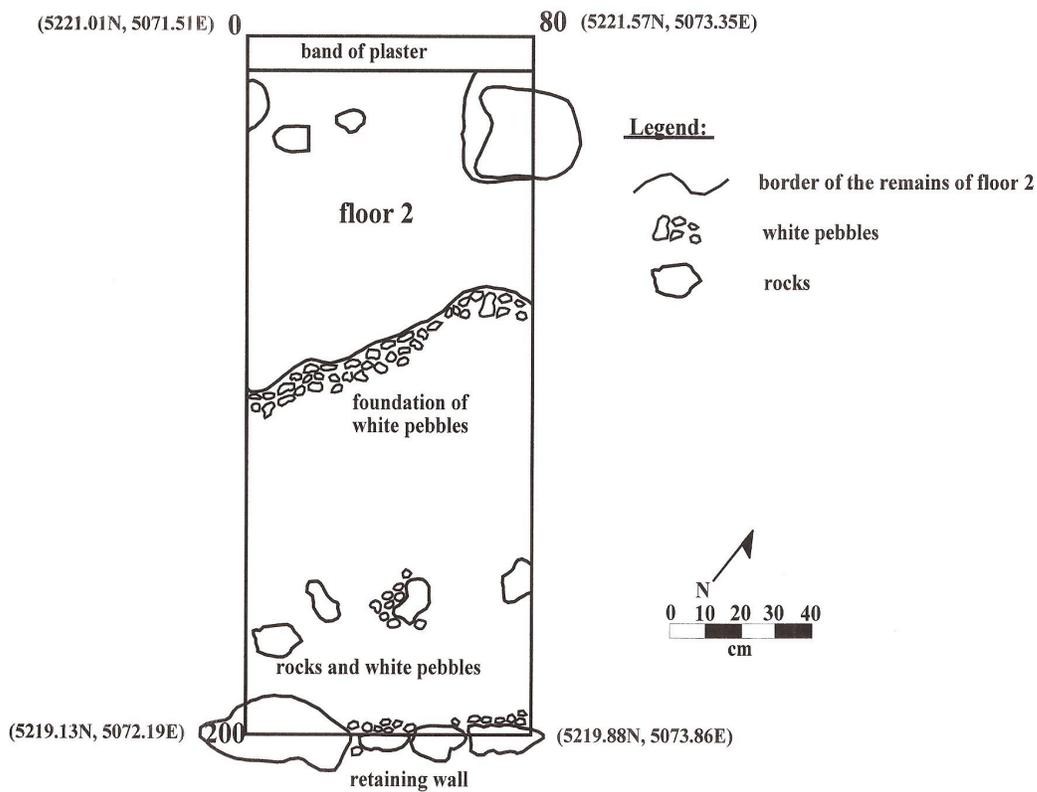


Figure 2.4. Excavation Unit 01 (UE01), Level 3 located on the southeastern side of Huaca de los Chinos. The drawing shows the remains of Floor 2, the small pebbles that formed the foundation beneath the floor, the retaining wall, and the band of plaster that coated the huaca during its active life.

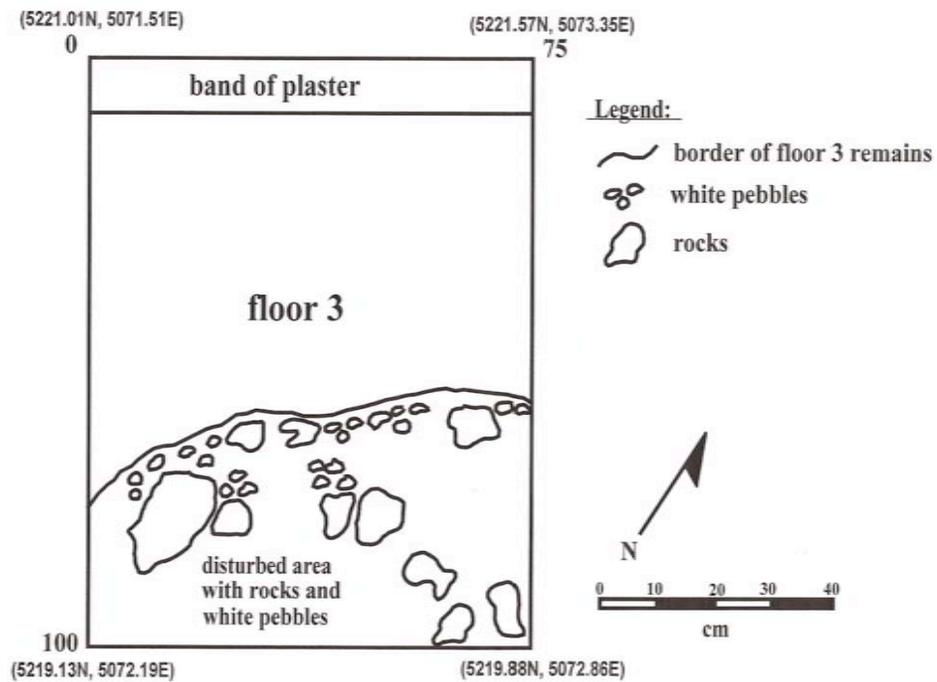


Figure 2.5. UE01, Level 4 on the southeastern side of Huaca de los Chinos showing Floor 3, the band of plaster that covered the huaca, and the foundation of white pebbles.

### *Excavation Unit 2 (UE02)*

UE02 was located on the southeastern side of Huaca de los Chinos and just below UE01, and it measured 2 x 4 m (Figure 2.1). The purposes of this unit were to expose the front wall of huaca Level 2A and to look for a tenon-head sculpture. To achieve these objectives we only needed to remove the large amount of architectural rubble that covered this area, and this was accomplished with a single level of excavation.

Examination of this wall (Feature 2) showed that it was constructed of layers of oval and rectangular-shaped stones that ranged in size from 20 x 20 cm to 85 x 30 cm. Spaces between layers were chinked with smaller stones (Figure 2.2). Abundant supplies of these stones were available in the adjacent Quebrada Alto de las Guitarras. No “tenon-head” sculptures were found.

### *Excavation Unit 3 (UE03)*

After completing UE02, we decided to carry out a similar excavation pattern on the same level as UE01 and UE02 to verify the evidence found in these first two excavation units.

UE03 measured 2 x 2 m, and it was located 14 m to the northeast of UE01 (Figure 2.1). The excavation was realized in 5 levels. Excavation Level 1 focused on the removal of architectural rubble (Figure 2.6). The remaining levels measured 80 cm x 1 m, and they confirmed the evidence found in UE01 and UE02, which were: the existence of three superimposed plaster floors (floors 1 - 3; Munsell 10YR5/4); a foundation of small white stones beneath Floor 3; the large stones that formed Feature 2 underneath the floor foundation; a 10 cm thick layer of plaster across the entire width of the unit that extended 40

cm - 50 cm vertically up Feature 1; and a 20 cm wide gap between the back part of Feature 2 and the front wall of Feature 1 (Figure 2.7). Although there is no clear evidence for the function of the gap, it is possible that it was a construction feature that permitted some movement of Feature 1 during an earthquake without destroying Feature 2. This would be consistent with the regular occurrence of earthquakes in this area and with the precise and complex nature of the construction of Huaca de los Chinos. No tenon-head sculpture was found in this unit. The construction of Feature 1 in this unit was identical with that portion exposed in UE01. The 10 cm-thick layer of plaster that still covered part of Feature 1 was considered strong evidence that the external surfaces of Huaca de los Chinos had been entirely covered with a plaster layer in the same manner as the monumental architecture at Sechín Bajo.



Figure 2.6. Photograph showing UE03 and UE04 before excavation.



Figure 2.7. Photograph of UE03, Level 4 showing the foundation of small white pebbles beneath Floor 3.



Figure 2.8. UE03 and UE04 after excavation. Wall Feature 2 is in the foreground and wall Feature 1 is in the background. The band of plaster that extends up Feature 1 is visible.

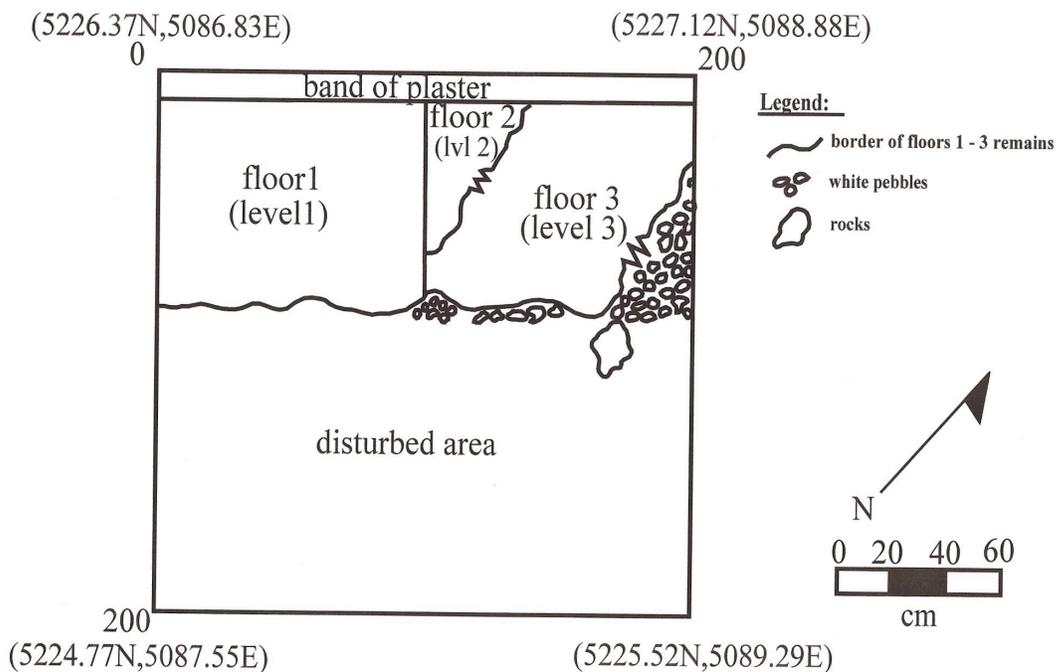


Figure 2.9. UE03, Levels 1 - 3 on the southeastern side of Huaca de los Chinos showing the band of plaster that covered the huaca, floors 1 - 3, and the foundations of white pebbles.

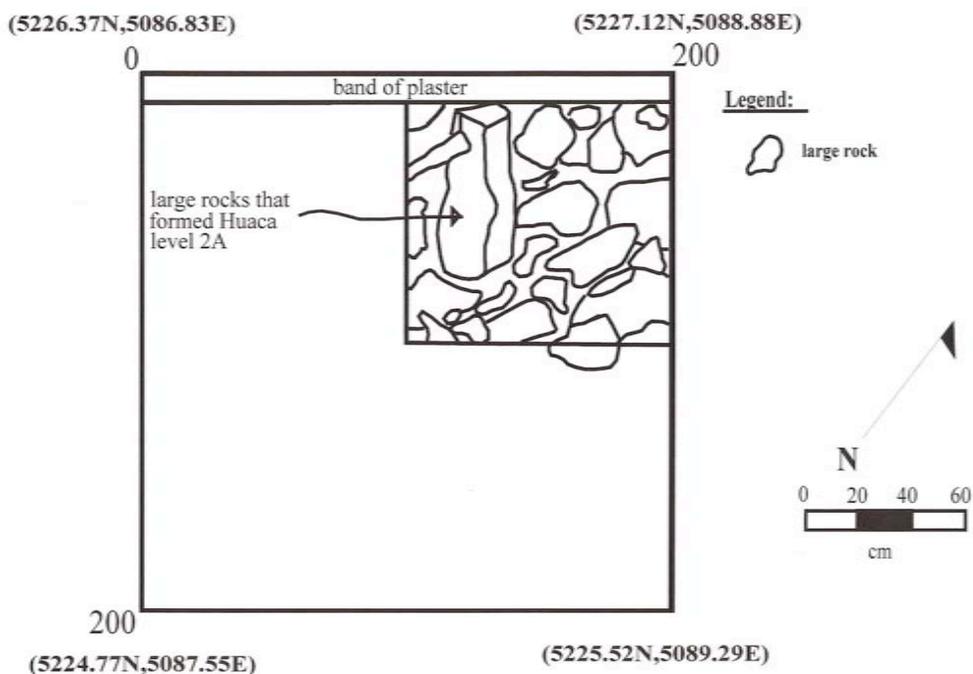


Figure 2.10. UE03, Level 5, southeastern side of Huaca de los Chinos, large rocks below Floor 3 and its foundation of small white pebbles that formed Wall 2A (Figures 1.4, 2.1).

#### *Excavation Unit 4 (UE04)*

This excavation unit—measuring 2 x 1.75 m—was located below and contiguous with UE03 on the southeastern side of Huaca de los Chinos (Figures 2.1, 2.6, 2.7, 2.8). Its objective was to expose this portion of Feature 2 and to examine its construction, to facilitate the mapping of this portion of the huaca, and to look for evidence of a tenon-head. These goals were achieved by single-level excavation unit in which only the architectural rubble was removed. The construction of this portion of Feature 2 located in UE04 was identical to that in UE02.

As with UE01, UE02, and UE03, no tenon-head sculpture was found in this unit. Therefore, I concluded that the niches along the southeastern side of Huaca de los Chinos did not function in the same manner as the niches at Chavín de Huantar, but were architectural elaboration like those found at Sechín Bajo in the Casma Valley.

#### *Excavation Unit 5 (UE05)*

Directly in front of Huaca de los Chinos were the remains of a 40 x 40 m plaza (Figure 2.11). It was important to discover if it was a sunken plaza, since this was an important architectural feature associated with the Initial period on the coast of Perú. Therefore, the objectives of UE05 and UE06 were: (1) to determine if the 14 m area between *Plaza A* and the huaca was covered with a plaster floor or natural earth and (2) to determine if *Plaza A* was a sunken plaza.

UE05 measured 2 x 2 m overall, but it was excavated in two halves, northeastern and southwestern (Figures 2.12, 2.13, 2.14). Each half-unit measured 2 x 1 m. The southwestern half was excavated in two levels, but only one level of the northeastern half was excavated.

These excavations revealed the existence of a single 5 cm thick plaster floor supported by a foundation layer of small white stones. The color of the floor was yellowish brown (Munsell 10YR 5/4). I interpreted this as evidence that the entire 14 meter-wide area between the plaza and the huaca had been a plastered surface. At the northeastern boundary of the excavation unit where UE05 and UE06 were contiguous, the excavation exposed a line of stones that appeared to be part of a wall. The excavation of UE06 confirmed the presence of a retaining wall.



Figure 2.11. *Plaza A* is the area under cultivation.



Figure 2.12. UE05 before excavation.



Figure 2.13. UE05 after excavation showing the plastered area and the foundation of stones beneath it.

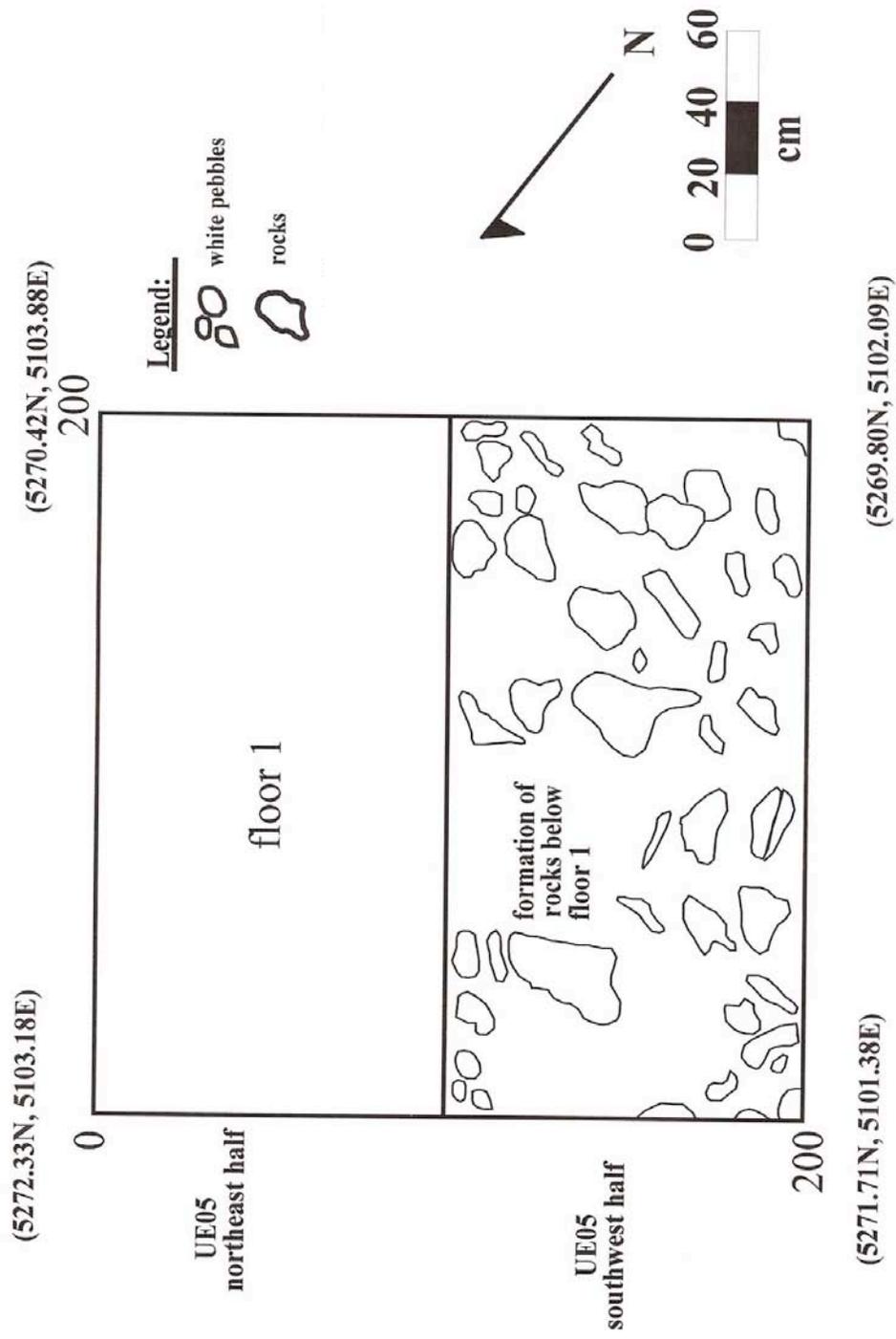


Figure 2.14. UE05, levels 1 and 2, floor 1 and the foundation beneath it.

### *Excavation Unit 6 (UE06)*

UE06 measured 2 x 4 m, but its was excavated in two 2 x 2 m halves: northeastern and southwestern (Figures 2.15, 2.16, 2.17). Excavation of the southwestern half was carried out in four levels, and the northeastern half excavation was realized in six levels. These excavations exposed a retaining wall (Feature 4) and two steps (Feature 5) that led down to a plaster floor that was supported by a foundation layer of small white stones (Figures 2.16, 2.17).

The retaining wall (70 cm thick) was constructed of medium-size stones. Its damaged condition was due to the cultivation in the plaza and from more than two millennia of disuse.



Figure 2.15. UE06 before excavation



Figure 2.16. The retaining wall and two steps at the border of *Plaza A* in UE06.

Approximately 20 cm below the northeastern side of Feature 4, the first of two steps that led to the floor of *Plaza A* was uncovered. Each step measured 50 cm horizontally and 20 cm vertically, and both consisted of a core of small to medium-size stones that were covered with a fine plaster (Figures 2.16, 2.17). These steps clearly provided access between the level of UE05 to the floor of *Plaza A*, but it was not known if they extended across the full width of the southwestern side of the plaza or if they were part of a central staircase.

The floor (Floor 1) of the plaza was located 70 cm below the modern surface. It consisted of a very fine plaster, was 6 cm thick, and was supported by a 14 cm-thick foundation layer composed of the same type of small white pebbles that composed the floor foundations in the other excavation units (Figure 2.17, 2.18, 2.19).

In the east corner of UE06—northeastern half—there was a circular area of reddish colored soil. When it was excavated, the reddish soil penetrated the floor to a depth of 2 cm

(Figures 2.20, 2.20A). All of this soil was recovered, placed in a plastic bag, labeled and transported at the end of the day to the field headquarters in Huanchaco. This sample will be stored for future chemical analysis.

*Plaza A* was clearly a square sunken plaza of the type that was ubiquitous along the central and north coast of Perú during the Initial period.



Figure 2.17. UE06 after excavation. The retaining wall, two steps and the floor are visible in the photograph.

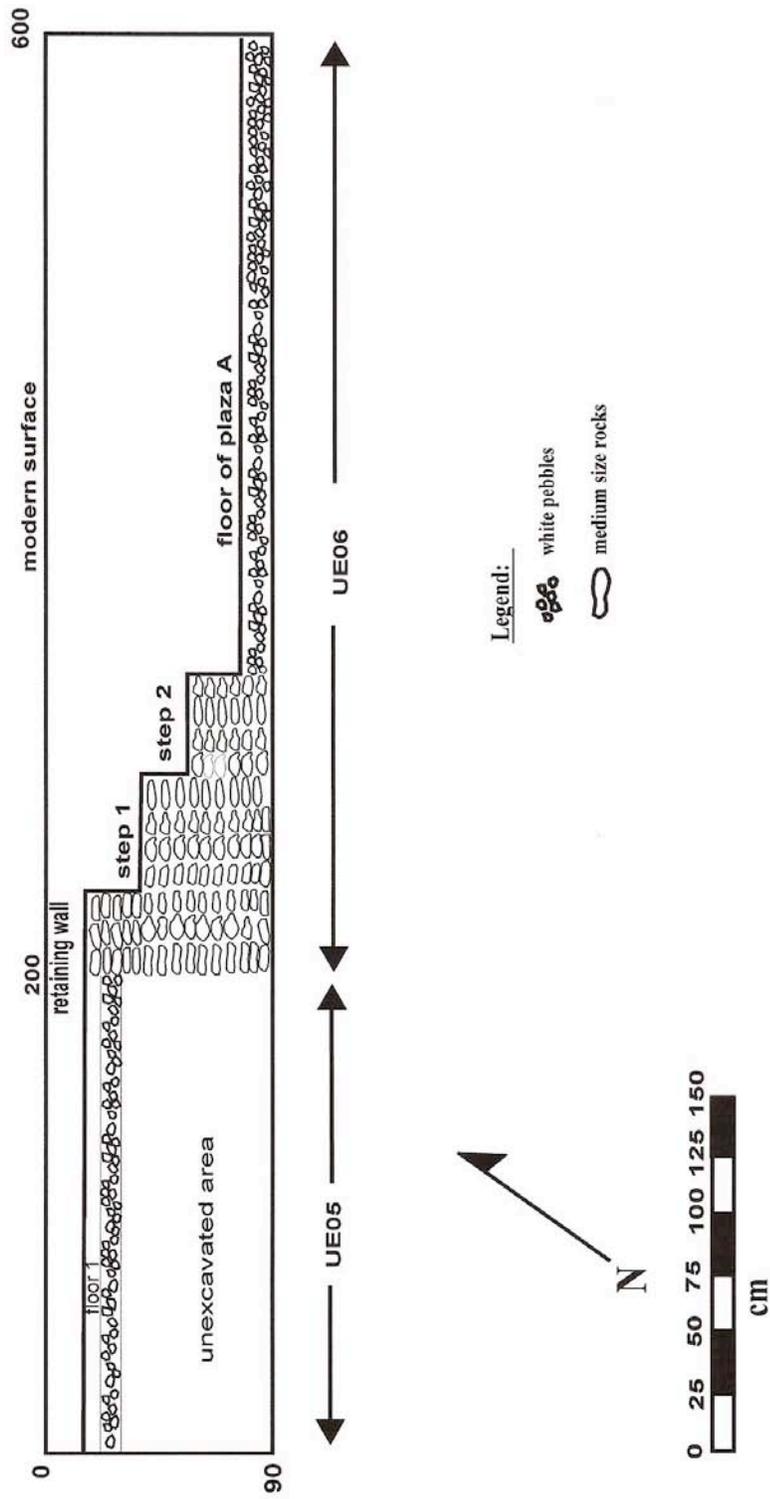


Figure 2.18. Profile drawing of UE05 and UE06.

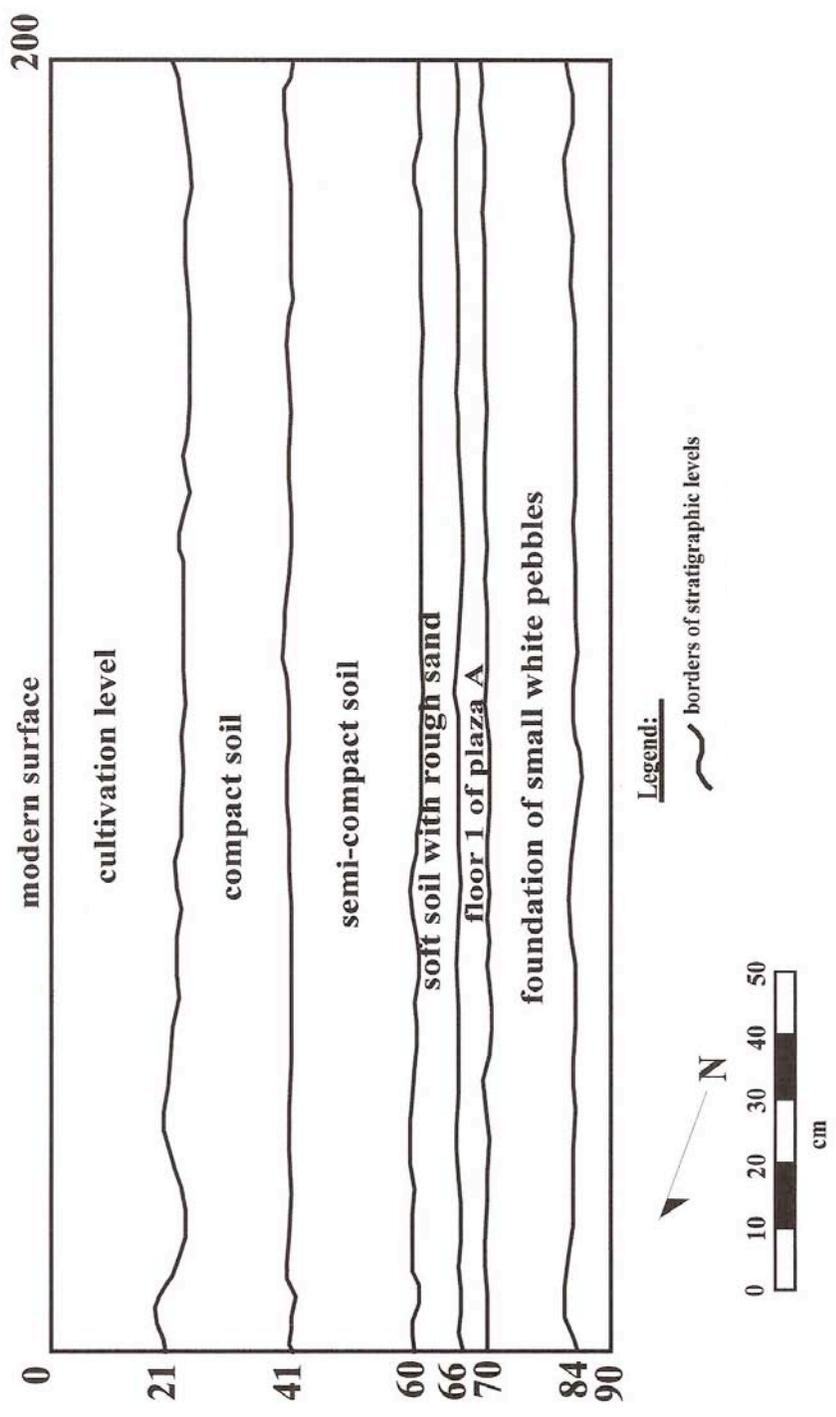


Figure 2.19. UE06, profile drawing showing the stratigraphy of the northeastern wall of the unit.



Figure 2.20. The circular area of reddish soil found in the floor of *Plaza A* (UE06).

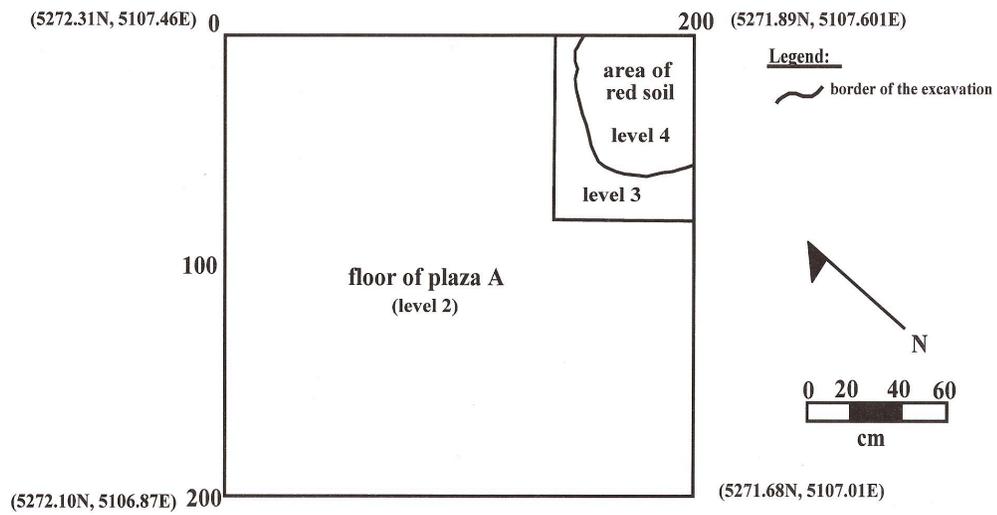


Figure 2.20A. UE06, Levels 2, 3, 4 excavation drawing showing the floor of Plaza A and the area of red soil.

#### *Excavation Unit 07 (UE07)*

Excavation Units UE07 and UE08 exposed the original architecture of the southeastern face of the Wall 4 (Feature 7) and the southeastern face of Wall 3A (Feature 8; Figures 2.1, 2.21). Feature 8 appeared to be an architectural elaboration between Levels 3 and 4 of the huaca of the same type as Wall 2A (Figures 1.4, 2.1). The two objectives of these excavations were: (1) to examine the walls' construction and (2) to clarify the architectural lines of these two walls for mapping with the laser total station.

UE07 measured 2 x 2 m, and was excavated in a single level to remove the architectural rubble, exposing the original architecture of Feature 7. Construction of Feature 7 appeared to be the same as Feature 1 in UE01 and UE03. This vertical wall was constructed of oval and rectangular stones placed in layers. The stones ranged in size from 20 x 20 cm to 85 x 30 cm. Spaces between large stones were filled with small stones.

#### *Excavation Unit 8 (UE08)*

UE08 exposed the wall of Feature 8 and the horizontal part huaca Level 3 (Figure 2.21). The latter extended to the southeast from the face of Feature 7 to form a long platform about 2 m wide. UE08 exposed the face of this wall. It confirmed the same construction design, technique, and materials as Feature 1 (UE01, UE03), Feature 2 (UE02, UE04), and Feature 7 (UE07). It also clarified the direction of the architectural line of the wall for mapping. Since only the architectural rubble was removed, it was not possible to observe whether plastered floors existed on the horizontal portion of Feature 8 or if the wall faces were covered with plaster. However, it is likely that the evidence may have been consistent

with the that found in UE01 and UE03, since Walls 2A and 3A seemed architecturally identical.



Figure 2.21. UE07 and UE08 after excavation. Feature 7 is visible in the background (UE07), and Feature 8 is visible is in the foreground (UE08).

### *Excavation Unit 09 and Unit 10 (UE09, UE10)*

These excavation units were situated over entrance 3 (*Ent 3*)—a staircase—which was the main access path from Level 3 to Level 4 on the front of Huaca de los Chinos (Figure 1.4). Their objective was to expose the architecture of the access path so that its form, construction, and function could be examined.

UE09 measured 3 x 8 m and was situated over the upper part of the entrance. The excavation consisted of one level of excavation whose purpose was to remove the extensive architectural rubble that covered the entrance. After clearing the rubble, the architectural form of the entrance was clear without any further excavation (Figures 2.23, 2.24). The access route had a zigzag shape that was comprised of three elements: (1) a staircase that ascended from huaca Level 3 up the northwestern side of the entrance to a horizontal walkway; (2) a horizontal walkway that extended from northwest to southeast across the complete width of the entrance; and (3) a second staircase that ascended from the horizontal walkway up the southeastern side of the entrance ending on huaca Level 4 a few meters inside of *Plaza D* (Figures 1.4, 2.23, 2.24, 2.27). All three elements were 1 m wide, which provided sufficient space for only a single file of people to move between Levels 3 and 4. The access path was constructed in a manner so that as its height increased it was progressively recessed into the face of the wall (Feature 9) that formed Level 4 of the huaca (Figure 2.24). From Level 3 of the huaca to the top of the lower staircase, only the staircase was recessed. Feature 9 was a continuation of the large wall that formed the front of Level 4 of the huaca. The area above the horizontal walkway was completely open so that people walking across the walkway and ascending the upper staircase were completely visible from

below. The area from the northeastern edge of the walkway to the edge of Feature 9 formed a flat 2 x 3 m area.



Figure 2.22. UE09 before excavation.



Figure 2.23. UE09 after excavation. The zigzag pattern of the staircase is visible in the center of the photograph.



Figure 2.24. A frontal view of the staircase that led from huaca Level 3 to huaca Level 4, as well as the wall (Feature 9) that was associated with it.

UE10 was contiguous with the base of UE09 and extended directly to the northeast of it. Its purpose was to explore the nature of the area directly in front of *Ent 3*. The excavation unit measured 3 x 2.6 m, and it was excavated in 5 levels.

The architectural rubble covering the entire width of UE10 to the level of the horizontal walkway was removed during the excavation of Level 1 (Figure 2.25). Once this was done, Feature 9 was visible. Although this wall was inside the vertical boundary of UE09, it was not visible until the rubble in UE10 was cleared; exposing the bottom part of the lower staircase including the first step (Figures 2.25, 2.26). The wall forming Feature 9 was an extension of the primary front wall of huaca Level 4. However, it did not extend vertically to the full height of the primary front wall, but was open above the level of the horizontal walkway exposed by UE09.

The next four excavation levels were carried out in the northwestern half of the unit, which was in front of the lower staircase (Figures 2.26, 2.27). These units measured 1.3 x 2.6 m. The excavation of these four levels revealed a small shallow-angled ramp that led from the floor of huaca Level 3 to a plaster-covered stone step 60 cm in front of the lower staircase. This created a 1 x 60 cm flat area that led to the initial step of the staircase. Since this flat area was wider than the lower staircase, it may have extended across the total width of Feature 9. This would have given access to the stairway, and would have provided ample space for the officials who were controlling access to the stairway.

The function of this access path was interpreted as a mechanism to control and restrict who was permitted access to the top three levels of Huaca los Chinos and to the rituals that were carried out there.



Figure 2.25. UE10 before excavation.



Figure 2.26. UE10 after the architectural rubble was cleared.

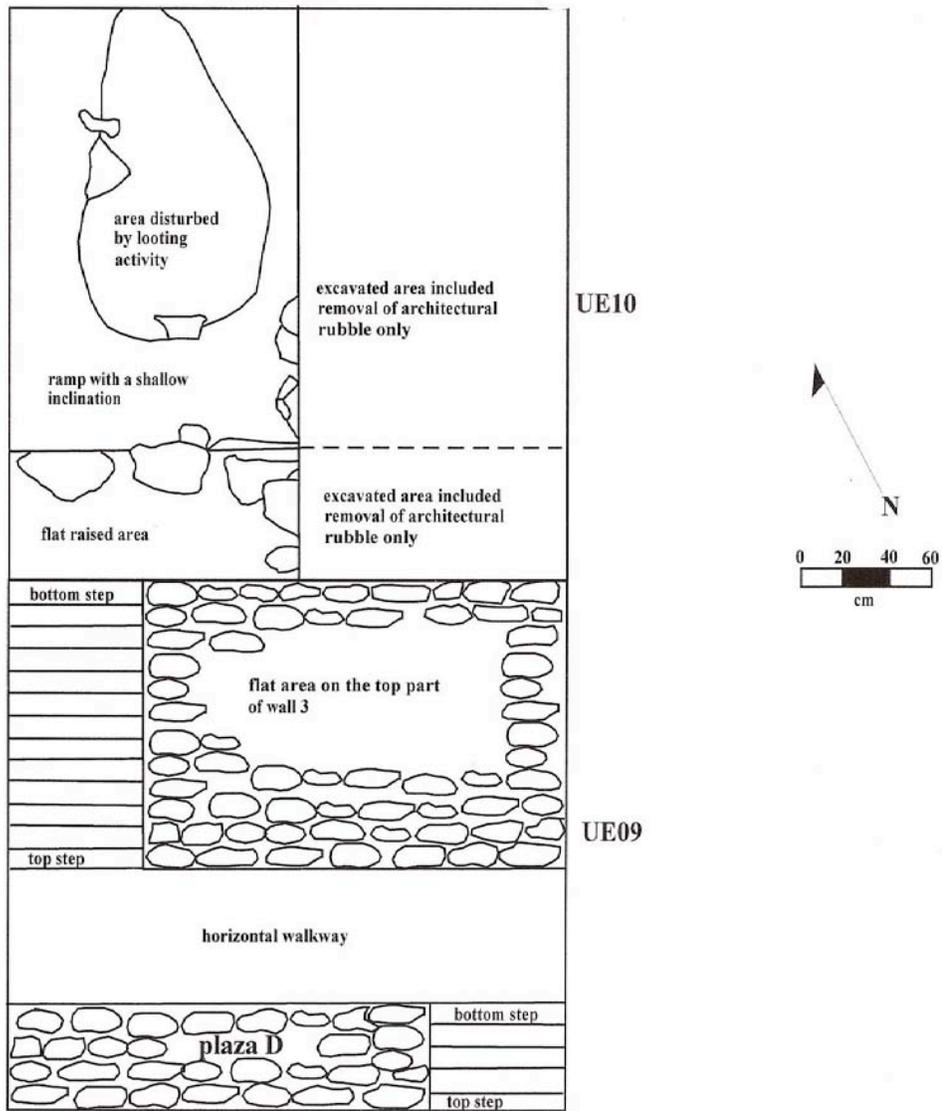


Figure 2.27. UE09 & UE10, excavation drawing showing the zigzag pattern of *Ent 3*, the staircase access from huaca Level 3 to Level 4 (Plaza D).



Figure 2.28. UE10 after excavation.

#### *Excavation Units 11 and 12 (UE11, UE12)*

These excavation units were designed to uncover Entrance 4 (*Ent 4*), which was the primary access route between Levels 4 and 6 of Huaca de los Chinos (Figure 1.6). UE11 and UE12 measured 2 x 2 m and 2 x 3 m, respectively, and they were excavated in a single level, which consisted of the removal of the considerable architectural rubble that covered the entrance (Figure 2.29). After removing the rubble from UE11 and UE12, the architectural form of the entrance was clearly discernible. It was a staircase (Feature 11) consisting of stone steps with stone retaining walls on each side, and it appeared to be designed to provide direct access between Plazas D and E. There was sufficient width to permit 3 or 4 persons to ascend it while walking abreast (Figures 2.29, 2.30, 2.31).

Its form suggests that entrance 4 functioned to facilitate interaction between the activities being conducted on huaca Levels 4 and 6, such as processions that began in the

*Plaza D* complex and then progressed by means of the staircase onto the *Plaza E* complex (Figures 2.1, 5.13) and perhaps onto *Est 1*. I would argue that *Ent 3* was used to restrict access to the top three huaca levels, whereas *Ent 4* facilitated interaction between the rituals associated with *Plazas D* and *E*.



Figure 2.29. UE11 and UE12 before excavation.



Figure 2.30. UE11 and UE12 after removing the architectural rubble. The walls that formed the side borders of the staircase and portions of the steps are visible in the photograph.

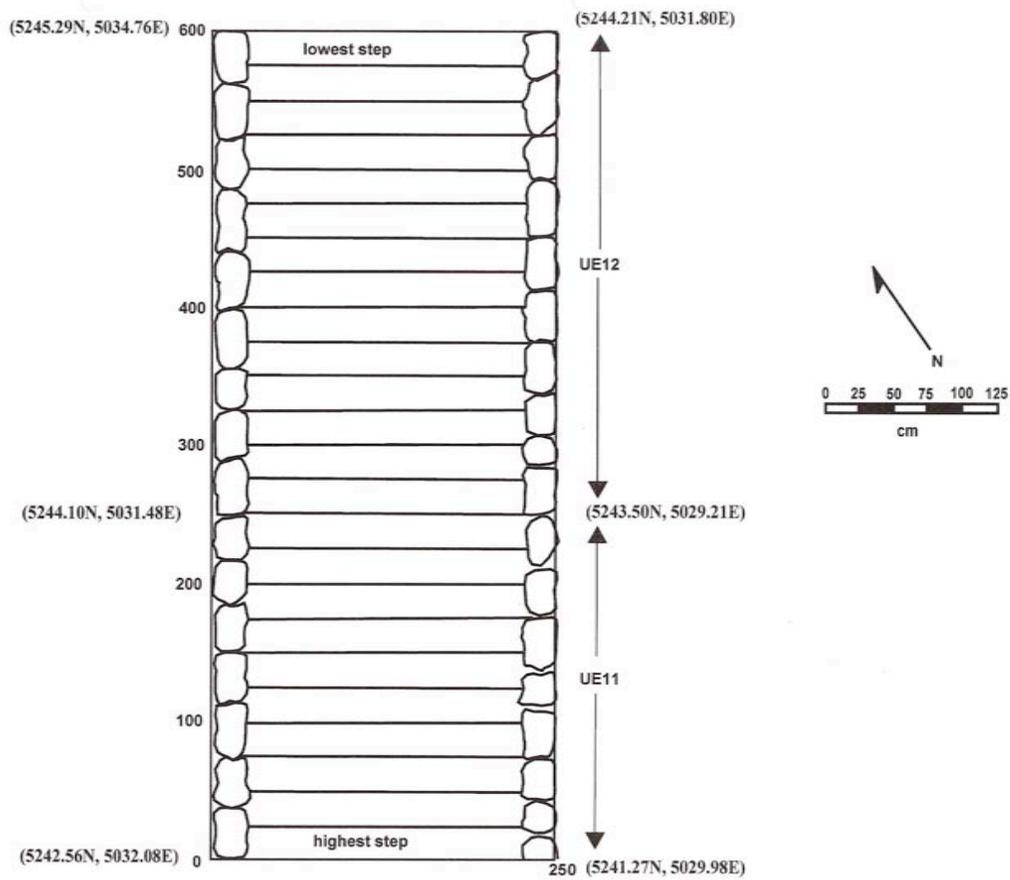


Figure 2.31. UE11 & UE12, excavation drawing of the staircase access from Plaza D to Plaza E.

### *The Summit Structure (Est 1)*

*Est 1* was a small temple located on the summit of Huaca de los Chinos on the southwestern side of *Plaza E* (Figures 1.4, 1.5). It was composed of five rooms around a patio that contained two rows of four columns, as well as two rooms that flanked the main structure on its northwestern and southeastern sides (Figure 2.32). Its form was exposed by the last sixteen excavations of the field season (UE13–UE28). The original plan was to carry out a few excavations on this structure and on several of the structures on Level 4 of the huaca. However, during an inspection on the first day of the field season, I discovered that there had been significant destruction by looting activity on the top three levels of the huaca since my visit in 2001. I prepared a written report to the Director of the National Institute of Culture (INC) in Trujillo, and requested that one of the INC's archaeologists inspect the site with me so that the destruction could be documented before any excavations began. This was done within a few days.

After completing excavations UE13, UE14, UE15, and UE16, it became apparent that *Est 1* could provide substantial evidence for each of my research objectives. Also, I realized that there was a good possibility that future looting activity could destroy the structure. Therefore, after consulting with my team and archaeologist Luis Yopez, the INC's representative for the project, I decided to excavate the entire summit structure to document it in detail. The excavations associated with *Est 1* and the significant evidence discovered will be described in the following pages.

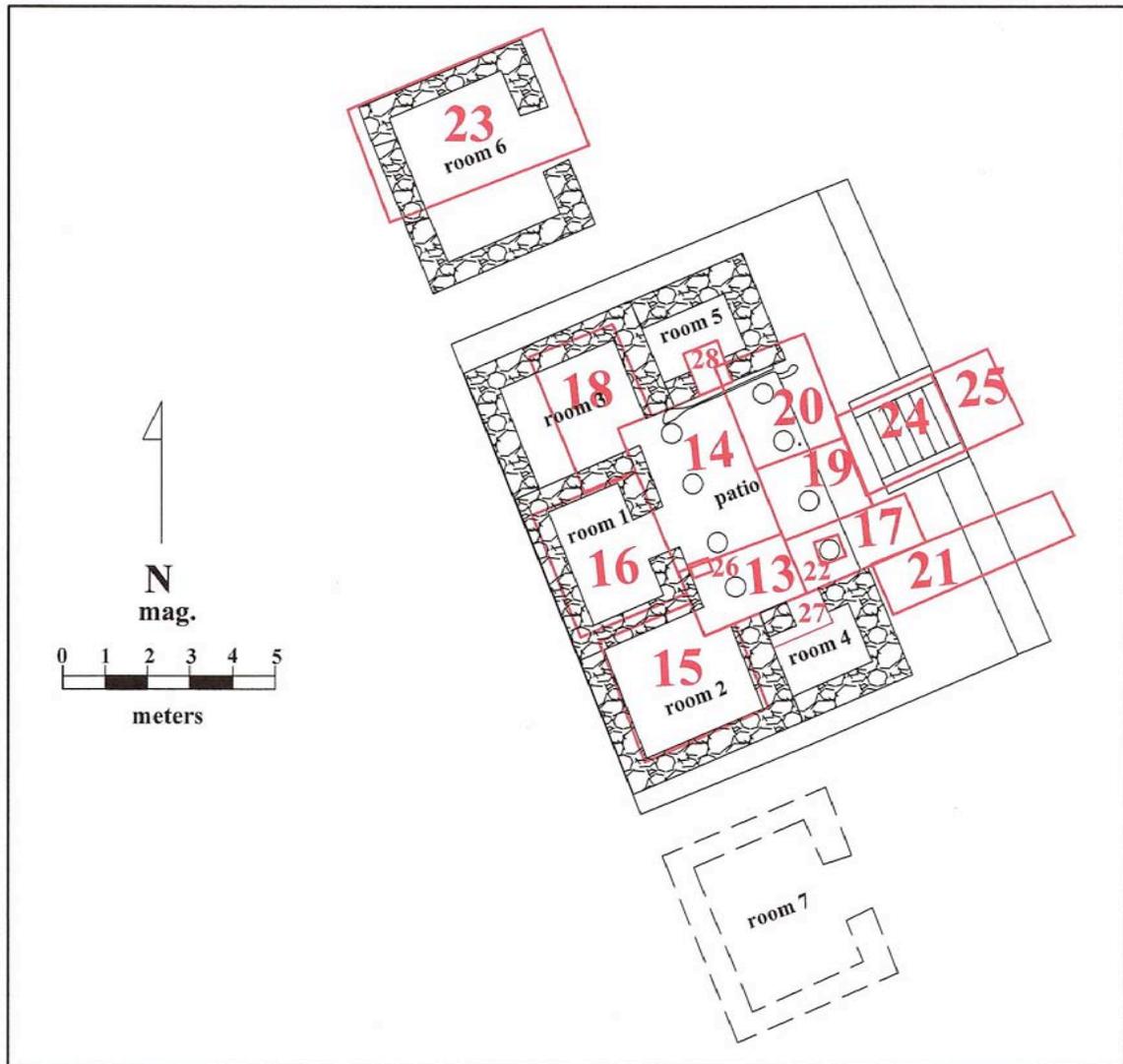


Figure 2.32. The structure (*Est 1*) on the summit of Huaca de los Chinos. The drawing shows the location of each excavation unit in red.

#### *Excavation Unit 13 (UE13)*

UE13 was located on the southeastern side of the patio adjacent to UE15, UE16, and UE14 (Figure 2.32). Its dimensions were 3 x 2 m. This unit was excavated in 5 levels and revealed

a finely plastered floor, the remains of a column (Feature 13), the remnants of paint on the walls and floor, the northwestern wall of Room 4 (Feature 12), and part of the outline of the top of an offertory (Feature 34; Figures 2.33, 2.34).

Feature 13 was the remnant of the base of a column. It was 46 cm in diameter and 26 cm tall, and it contained the remains of black and white paint (Figures 2.33, 2.34, 2.35). It was the first of eight columns that were discovered during the excavations of this structure. The column appeared to be constructed of a clay-mud mixture and small rocks with a coating of fine plaster around the circumference. The paint was applied to the exterior surface of the column.

The southeastern side of UE13 exposed a portion of the northwestern wall of Room 4 (Feature 12; Figures 2.33, 2.34). Its core was constructed of layers of medium-size stones, and the wall was covered with a thick layer of plaster. The outermost surface was coated with a fine plaster of the same quality as the floor. Remnants of black paint were observed on the wall and adjacent floor.

On the southwestern side of UE13 an oblong area of disturbed earth was observed in the floor of the patio beside the northeastern wall of Room 1 (Feature 15; Figures 2.33, 2.124). Because it was partially in UE13 and UE14, it was not excavated as a part of either unit, but was excavated later as a separate unit (UE26). At the time UE13 was excavated, we speculated that it was either a votive offering or a place for burning offertory. It will be further described in the UE26 section.



Figure 2.33. UE13 after excavation. The photograph shows the remains of Column 1 (Feature 13; UE13), Column 2 (Feature 14; UE14), and the possible offertory area, which is located in both excavation units.



Figure 2.34. UE13, Column 1 (Feature 13) after excavation. The remains of black paint are visible around the column.



Figure 2.35. UE13, Column 1 (Feature 13) with the remains of white on black paint.



Figure 2.36. UE13, Column 1 (Feature 13) with remains of white on black paint.

### *Excavation Unit 14 (UE14)*

The overall dimensions of UE14 were 2.5 x 4 m, but it was excavated in two halves: southeastern half and northwestern half. These sub-units measured 2.5 x 1.8 m and 2.5 x 2.2 m, respectively, and each half was excavated in two levels. The soil in Level 1 had been greatly disturbed by looters down to 10 cm above the floor of the patio. These last 10 cm were excavated as Level 2, and, fortunately, damage by looting activities had intruded only in a few places within this level.

The floor that was discovered in UE13 also extended across the entire area of the UE14 (Figure 2.37). Remnants of black and white paint were found on the floor along the wall adjacent to Room 1 (Feature 15, UE16; Figure 2.38) and on walls and the floor in the entrance to Room 3 (Feature 17).

Three more columns were discovered (Features 14, 19, and 20; Figures 2.37–2.41). They were 46 cm in diameter, protruded from the floor at various heights, and were various distances apart. Features 14 and 19 were 1 m apart. Remnants of black and white paint were found on each column. Once UE13 and UE14 were completely excavated, it began to appear that *Est 1* consisted of several rooms positioned around a patio that contained painted columns.

One half of a drain (Feature 21) was uncovered at the northwestern border of UE14 (Figure 2.37). However, its function wasn't understood until UE20 had been excavated, and this feature will be discussed with that excavation unit.

Excavation Level 1 contained a large area of fill situated on the northwestern border of UE14 that consisted of compact soil, medium-size rocks, and what appeared to be adobe

bricks (Figures 2.42, 2.43). Ultimately, three conical adobes were recovered from this fill, and two conical adobes were recovered from the fill in the entrance to Room 3 (Figure 2.75). One of the adobes was whole while the rest had varying degrees of damage. The whole adobe had a top diameter of 10 cm, a base diameter of 13 cm, and a length of 20 cm. Its color was 10YR 5/4 yellowish brown (Munsell), which was consistent across *Est 1* for adobes, floors, columns, and wall plaster.

There was considerable evidence in this excavation unit that *Est 1* was burned. This evidence included fire-reddened portions of the room and floor, large portions of the roof or wall that had collapsed onto the floor, and a large quantity of charcoal found between the roof or wall and the floor. The interior side of these remains had numerous remnants of black, white, and red paint, while the opposite side had impressions of the cane and some of the string that was used to tie the canes together (Figure 2.44).

Conical adobes, elaborately painted columns, and plaster-coated, and painted structures are widely considered architectural characteristics of the Initial period (Burger 1995; Moseley 1992; Pozorski 1976).



Figure 2.37. UE14 after excavation. Columns 2, 3, and 4 (Features 14, 19, 20) and an additional area of the patio floor were exposed.



Figure 2.38. White on black paint at the juncture of the patio floor and the base of the northeastern wall of Room 1. The paint extends onto the patio floor.



Figure 2.39. Column 2 (Feature 14) in UE14. Black paint is visible in the lower center and at the base of the column.



Figure 2.40. Column 3 (Feature 19) in UE14. Black paint is visible near the top edge of the column.



Figure 2.41. Column 4 (Feature 20) in UE14.



Figure 2.42. The area of fill in UE14 that contained three conical adobes.



Figure 2.43. The largest of the conical adobes that were found in UE14.



Figure 2.44. Roof fragments showing cane impressions on one side and the remains of red, black, and white paint on the interior side. The two images at the top are different sides of the same fragment.

### *Excavation Unit 15 (UE15)*

UE15 (Room 2) was located in the southeastern corner of *Est 1* (Room 2; Feature 16; Figures 2.45, 2.46). The dimensions of the excavation unit were 3 x 3 m, and it was excavated by halves, southwestern and northeastern. Since the soil in the southwestern half had been very disturbed by looting activity, Level 1 was excavated to the bottom of the disturbed soil, which extended down to the level of the floor (Floor 1). The floor had been superficially disturbed only in a few places, and was in surprisingly good shape. The northeastern half had been much less disturbed, and it was excavated in 2 levels—from the surface to 10 cm above the floor and the last 10 cm above the floor (Figure 2.46).

The floor found in UE13 and UE14 continued throughout UE15. Areas of grey or faded black paint were present on all four walls and on the floors along the bases of these walls (Figure 2.47).

Two metal beads and three gold ornaments were recovered within the last 10 cm above the floor in the northeastern half (Figures 2.48–2.50). One of the metal ornaments was diamond-shaped and had a face etched into it. A small hole had been made in the bottom part just beneath the mouth. The other two golden artifacts were round discs.

A 1 m x 45 cm unit was excavated in the southwestern half of UE15 adjacent to the northwestern wall in order to examine the construction of the floor and to clarify if there were other floors beneath Floor 1 (Figures 2.46, 2.51, 2.52). This excavation revealed evidence of three floors (floors 1, 2, 3). Floor 2 was 13 cm above Floor 3, the earliest floor. A layer of clay-mud fill and a foundation of the small white pebbles were found beneath Floor 2 (Figure 2.51). Floor 1 was simply superimposed over Floor 2 without any supporting

foundation, and it may simply have been a remodeling or repair of the floors across structure

1. The relationship between floors 2 and 3 suggests a different type of construction episode.



Figure 2.45. UE15 (Room 2; Feature 16) before excavation.



Figure 2.46. UE15 (Room 2; Feature 16) after excavation.

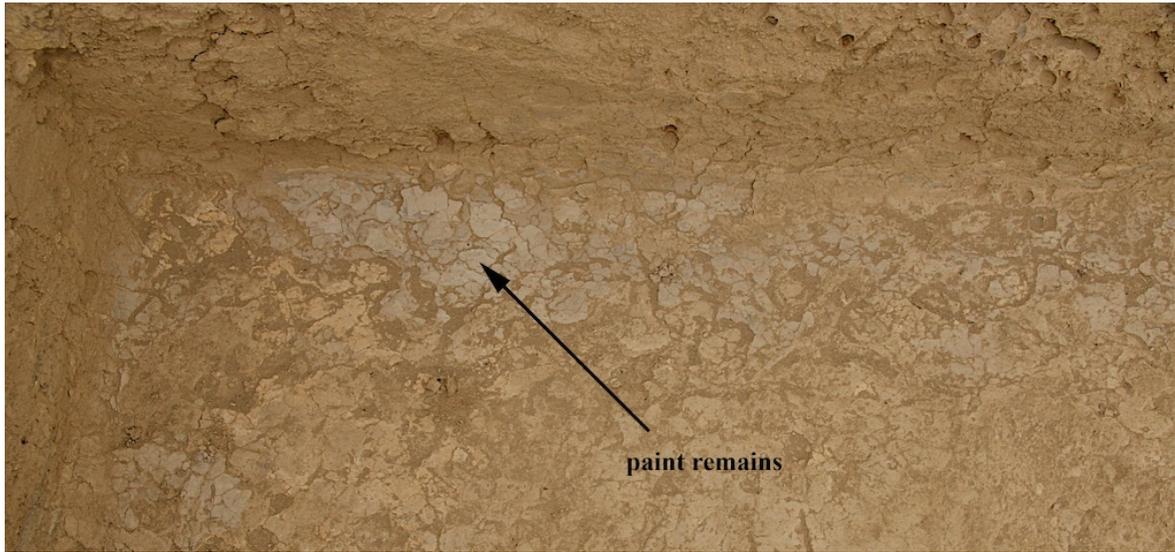


Figure 2.47. A view of the paint remains on the floor of Room 2 (UE15; Feature 16).



Figure 2.48. Metal beads recovered from UE15.



Figure 2.49. A gold artifact with an embossed face that was recovered from UE15. It measured 18 mm from point to point across the face.



Figure 2.50. Two gold discs found in UE15.

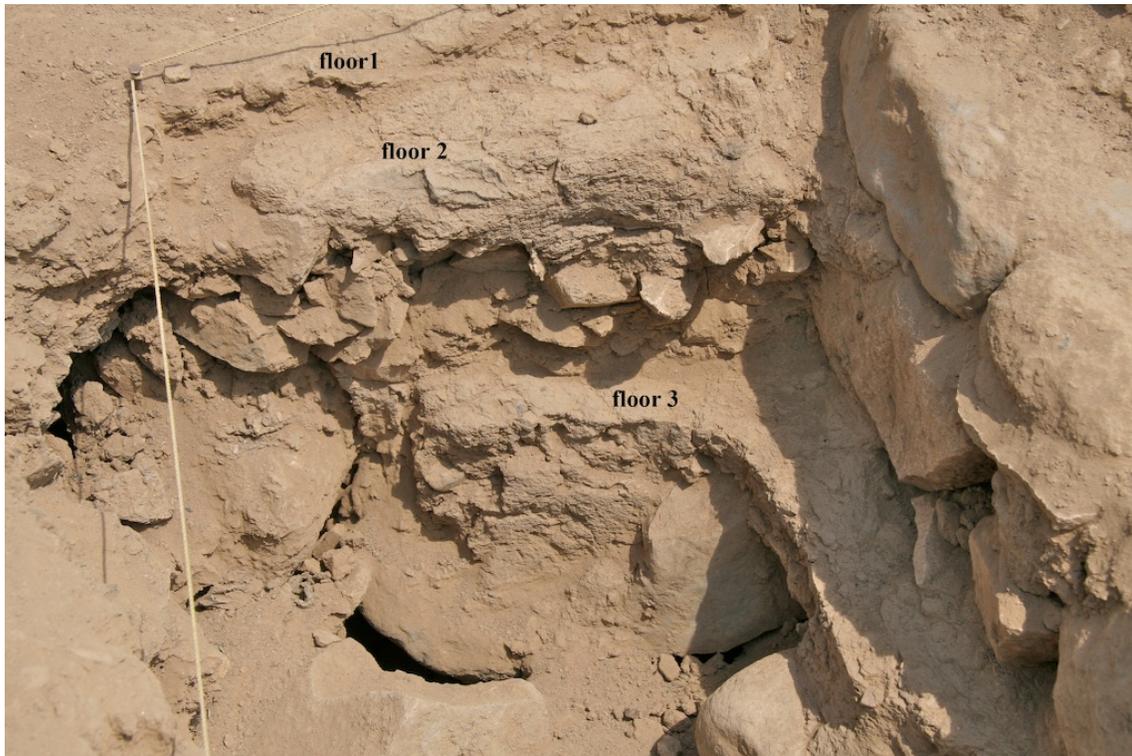


Figure 2.51. Three floors were found in UE15. Floor 1 was superimposed on Floor 2, but there was a foundation of small white stones and a layer of mud between floors 2 and 3. Also visible in the photograph are some of the larger rocks that formed the foundation of *Est 1*.

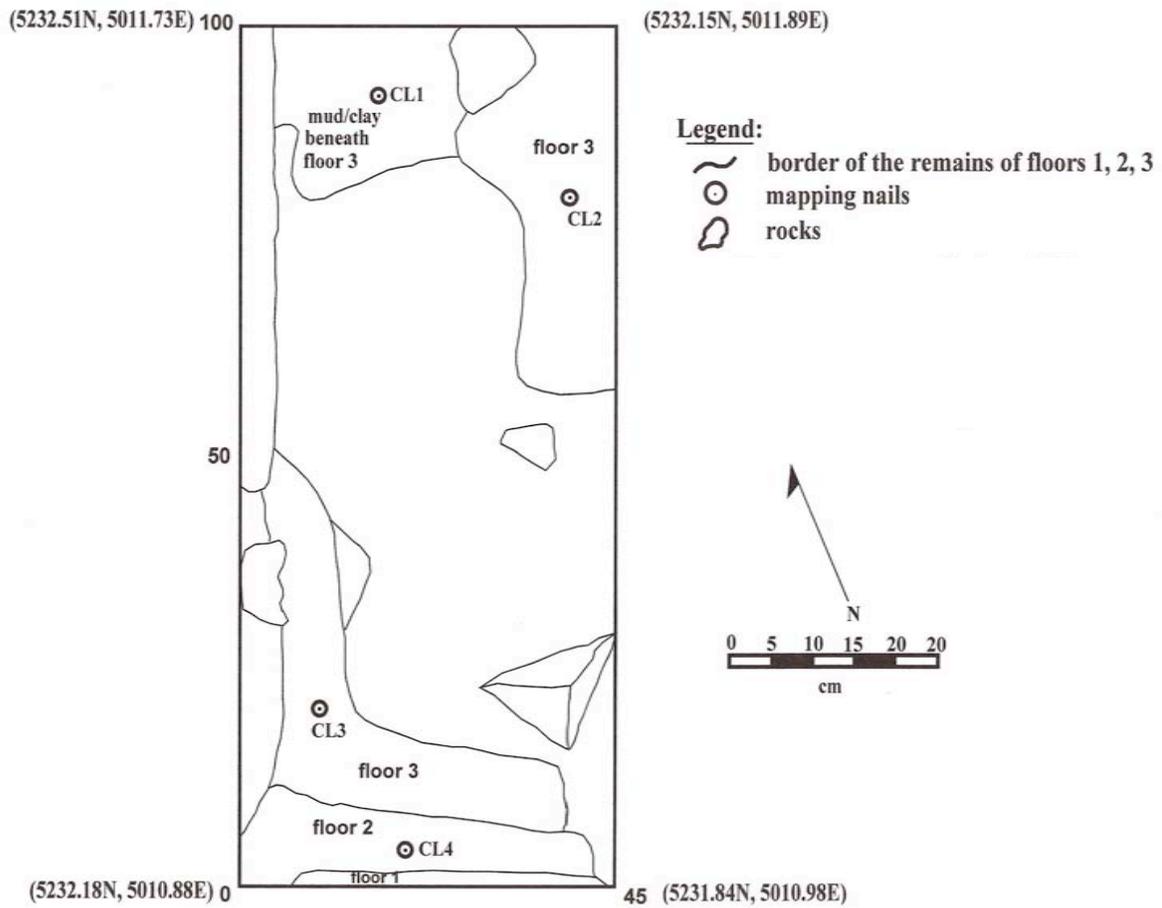


Figure 2.52. UE15, Level 2, excavation drawing showing floors 1, 2, and 3.

#### *Excavation Unit 16 (UE16)*

UE 16 exposed Room 1 (Feature 15), which was located in the middle of the southwestern wall of *Est 1* between and adjacent to Room 2 (Feature 16) and Room 3 (Feature 17; Figures 2.32, 2.53, 2.54). The excavation unit was 3 x 2.5 m and was excavated by halves, northwestern and southeastern. The northwestern and southeastern halves were excavated in one and five levels, respectively.

Feature 15 was the principal room of *Est I*. A path along its central axis led up the central staircase of *Est I*, across the patio between the four most central columns and directly through the entrance to Room 1 (Figure 2.55).

UE16 yielded evidence of multiple floors. The excavation of the northwestern half of the unit revealed a plaster floor (Floor 2) that was 60 cm below the level of Floor 1, which was exposed during the excavation of the southeastern half of UE16 (Figure 2.56). Looting activity had destroyed any evidence of Floor 1 in the northwestern half of UE16. The profile of UE16 shows three levels of material: small white stones immediately beneath Floor 1, clay-mud plaster, and large and small stones that appeared to be thrown in as fill rather than layered (Figures 2.56, 2.57). Beneath Floor 2 is a level of small white stones and the large stones that served as the foundation for the entire structure. Floor 2 in UE16 was at the same level as the Floor 3 in UE15. There was no floor in UE16 that corresponded to floors 1 and 2 in UE15. Floor 2 in UE16 and Floor 3 in UE15 represent construction Episode 1 of *Est I*, and floor 2 in UE15 represent construction Episode 2. This pattern also appeared in UE17, UE22, UE27, and UE28.

Evidence of construction Episode 3 associated with *Est I* comes from UE16 and UE19. At some point, the Episode 2 summit structure was destroyed by fire (UE14, UE20), and a new floor was constructed that was 60 cm higher than the Episode 1 floor in UE16 (Floor 2), in UE15 (Floor 3), and in UE22 (Floor 3). The new floor extended across the entire structure, and it is represented by Floor 1 in UE16. Evidence for this comes from UE16 and UE19. Room 1 (UE16) was filled in and covered by the new floor. There was a large remnant of the new floor (Floor 1) in Room 1 (Figures 2.56, 2.57). Another remnant of this

floor is present in the top portion of previous entrance to Room 1, which was filled in by construction Episode 3 (Figures 2.54, 2.59, 2.60). Remains of this floor were also found in UE19. Floor 1 and the filled-in entrance of UE16 and the remnant of the floor from UE19 are all at the same elevation (Figures 2.60, 2.61). The interior walls of Room 1 had evidence of multiple construction episodes. These are represented by seams in the architecture and very different construction materials and technique. There was a seam in the wall on each side of what had been the Episode 2 entrance to Room 1 (Figures 2.54, 2.59, 2.60). Figures 2.57 and 2.59 show that the core material used to construct the Episode 3 foundation consisted of rubble that was not placed in a systematic manner, whereas the Episodes 1 and 2 walls were constructed of medium-size stones of similar size that were placed in rows with clay-mud mortar used in between the layers. It appears that the Episode 3 construction lacked the precision and technique of previous episodes, and it consisted of rubble that was capped by a plaster floor, which buried the prior burned structure. Floor 1 in UE16 had significant remnants of black and red paint in several areas (Figures 2.57, 2.58).



Figure 2.53. UE16 (Room 1; Feature 15) before excavation.



Figure 2.54. UE16 (Room 1) after excavation. The photograph was taken facing to the north.



Figure 2.55. The relationship of the central axis of *Est 1* to the entrance of Room 1. The photograph was taken facing to the northeast.



Figure 2.56. Floors 1 and 2 in Room 1 (UE16).



Figure 2.57. UE16, the fill between floors 1 and 2, an area on Floor 1 with paint.



Figure 2.58. UE16, close up of the area of black and red paint from Figure 2.57.



Figure 2.59. UE16, the fill of construction Episode 3 in the previous entrance to Room 1 from construction Episode 2. A seam is visible between the Episode 2 and 3 construction. The photograph was taken facing to the northeast.

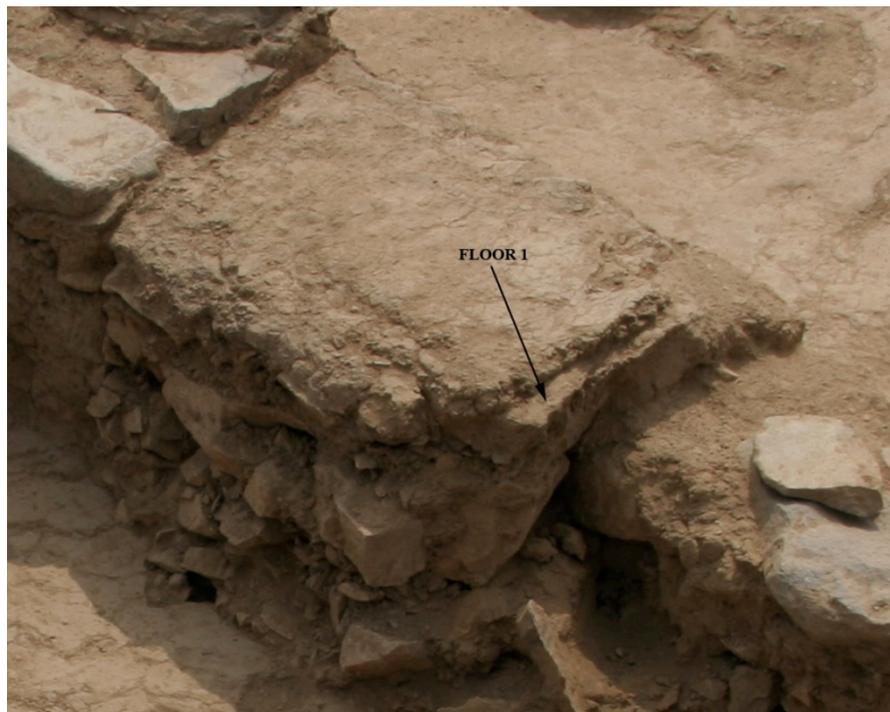


Figure 2.60. Evidence of Floor 1 of Room 1 in the remains of Episode 3 construction.



Figure 2.61. The remains of the construction Episode 3 floor found in patio (UE19) and in the entrance to Room 1 (UE16) were at the same elevation. The remains of Floor 1 in Room 1—visible behind archaeologist Flor Díaz (yellow shirt)—were also at the same elevation.

#### *Excavation Unit 17 (UE17)*

UE17 was located contiguous to the northeastern side of UE13, and its purpose was to expand the excavation of the patio toward the northeast (Figure 2.32). It was excavated in two halves—southwestern and northeastern—with each half consisting of 2 and 3 excavation levels respectively. The overall size of the unit was 1.3 x 2.5 m, and each half measured 1.3 x 1.5 m (Figures 2.62, 2.63).

Significant aspects of *Est 1* were revealed in this excavation. Floor 1 had been raised 15 cm above the level of the original floor, and another column was exposed. The last 3 m of

the original floor formed a platform across *Est 1*'s width that extended from the boundary of the patio to the front edge of *Est 1* (Figures 2.63, 2.64).

Excavation of the southwestern half of the unit revealed the existence of a fifth column (Feature 22; Figure 2.63). It had been destroyed by looting activity down to the level of Floor 1 (Figure 2.64). It measured 45 - 47 cm in diameter, but no part of it existed above the floor.

The level 3 excavation was a 1.2 m x 67 cm unit in the northeastern most part of UE17. Its purpose was to examine the foundation underneath the floor and the profile. This portion of the unit had been disturbed by looter activity down to the level of the medium-to-large rocks that comprise the foundation of the total structure (Figure 2.65). Figure 2.66 shows this unit in profile, and there appears to be only one floor supported by small rocks that rest on the main foundation of the entire structure.

The evidence associated with the front platform in UE17 appears to corroborate the notion of three construction episodes for *Est 1*. The floor of the platform was at the same level as the original floor of *Est 1* found in UE15 (Room 2, Floor 3) and UE16 (Room 1, Floor 2). Fifteen centimeters of plaster and pebble foundation separated Floor 3 and Floor 2 in UE15. This was the difference separating the floor of the front platform and the top floor of the patio, and it places the floor of the original construction at the same level as the front platform floor, which most likely extended from the front of *Est 1* throughout the patio and all rooms without a raised portion. Subsequently, during construction Episode 2, the length of the patio was shortened, and the floors in Rooms 1, 2, and 3, as well as the patio, were raised 15 - 17 cm. This would have created a raised patio and a platform across the width of

the front of *Est 1*, which overlooked Plaza E and its associated architecture (Figures 1.5, 2.32, 6.1, 6.2).

Green ornamental beads (Figure 2.67) were recovered in Level 2, as well as from several parts of the roof or wall that contained impressions of cane and remnants of red, white, and black paint.



Figure 2.62. UE17, southwestern half (top) and northeastern half (bottom) before excavation.

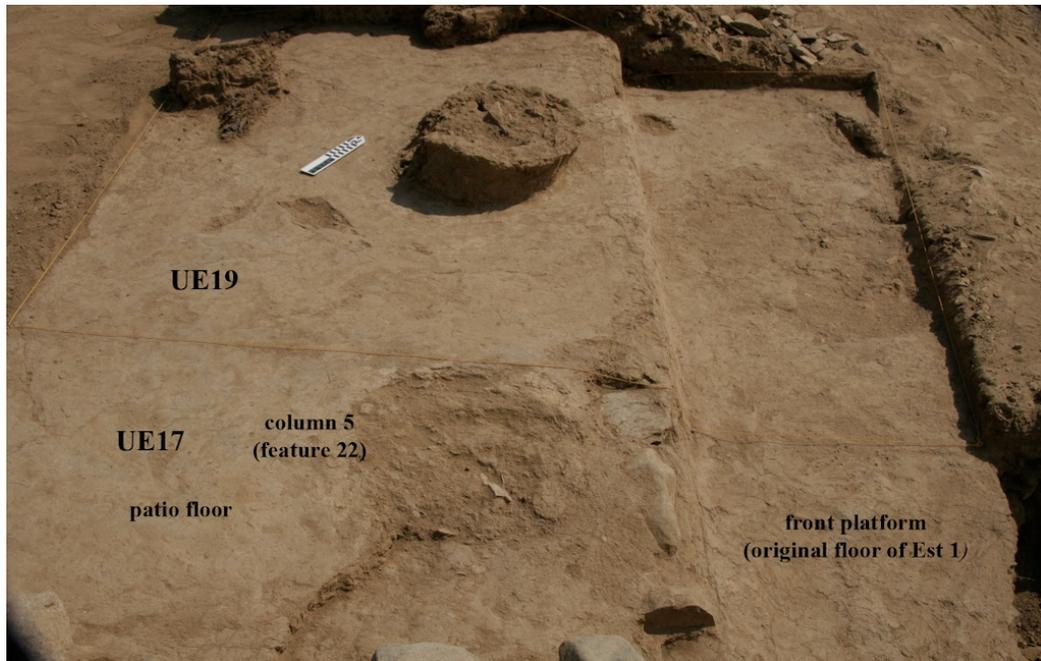


Figure 2.63. UE17 after excavation.



Figure 2.64. UE17, the remains of Column 5 (Feature 22). The photograph is a close-up of Column 5 from Figure 2.63.



Figure 2.65. UE17, rocks that formed the foundation of *Est 1*.



Figure 2.66. Profile of UE17, northeastern half, showing the platform floor, the foundation of small white rocks, and the medium-to-large rocks that formed the foundation of *Est 1*.



Figure 2.67. A green bead recovered from UE17.

#### *Excavation Unit (UE18)*

UE18 (Room 3, Feature 17) was located in the southwestern corner of *Est 1*, and it was contiguous with Room 1 (Feature 15) and Room 5 (Feature 28; Figure 2.68). The objective was to expose the northeastern half of Room 3. The southwestern half could not be excavated because a large hole from looting activity extended under the floor from the base of the southwestern wall to the middle of the feature. Even though we filled it with rocks, excavation in the southwestern half could have caused the floor to collapse (Figures 2.69, 2.70). UE18 measured 3 x 2 m, and it was excavated in 2 levels.

The floor of Feature 17 was the same type, material, and construction as the floor of the patio, platform, and Features 15 and 16 (Rooms 2 and 1). It sloped slightly downward from the southeastern to the northwestern side of the room, producing a difference in height from one side to the other of 11 cm. The walls were constructed with a core of medium-size stones laid in rows with mud between each layer. The walls were covered with a thick layer of plaster (Figure 2.71). Numerous areas of black paint were present on the floor and interior surface of the walls.

A whole vessel was found 30 cm above the floor (Figure 2.72). The vessel was a small olla that had a vertical neck and a rounded, slightly flared, externally reinforced lip. Its wall was 7 mm thick and its orifice diameter measured 9 cm.

The temper consisted of a fine grained sand that also included andesite, quartz, and mica. The exposed cross section from a broken section on one side of the olla showed that it had been fired in an oxidized environment. A few areas with a grey-blackish color may be scorch marks from the fire that destroyed the Episode 2 structure. The external surface appeared to have been smoothed, but the interior surface was of a rough texture.

Decoration appeared in two forms. First, the lip was finger pressed into an appliqué band that had been molded around the exterior edge of the lip (Figure 2.73). Second, the neck and body of the vessel had been painted with a red slip or paint.

The form was similar to a Late Guañape phase vessel in the Larco Museum in Lima, Perú, but the decoration around the lip is similar to the finger-pressed lip decoration associated with the Early and Middle Guañape phases ceramics from the Virú Valley study and from Huaca de los Reyes in the Moche Valley (T. Pozorski 1983: 7-28, Figure 13e, page 24; Appendix E this volume, Figures E.11, E.41, E.45 b). This style of decoration was not found in the Late Guañape phase (Appendix E, Figure E.9). Chronologically, I would place this vessel very late in the Middle Guañape phase (Initial period) or very early in the Late Guañape phase (Early Horizon).

A circular hole in the bottom of the olla appeared to have been punched through from the outside (Figure 2.74). This was consistent with the practice of ritually “killing” a vessel before ceremonially burying it, but the hole also may have been made by a looter’s probe.

Non-ceramic artifacts were recovered including conical adobes, small beads and a large white bead, gold ornaments of various shapes, and several areas of paint. Four conical adobes were found in the fill of the doorway to Room 8 (Figure 2.75).

A cluster of 13 small beads were recovered together (Figure 2.76). Most were green, one was white, and three were brownish. Five additional circular beads were also recovered from this excavation (Figure 2.76). Two were green, two were made from conch, and one was ceramic. A large white pendant made from calcium carbonate and measuring 1.5 cm on the small end, 2 cm in diameter at the large end, and 2.5 cm in length, was found in the fill from excavation Level 2 (Figures 2.77, 2.78). A hole 5 mm in diameter ran through the center of the pendant for its entire length. The texture of the large end was rough as if it had been broken (Figure 2.67). Small areas on the large end and on one side seemed to be painted with white paint (Figure 2.77). Furthermore, the interior of the hole had an amber color similar to the coloration of a meerschaum pipe after it has been smoked over a long period (Figure 2.79).



Figure 2.68. UE18 (Feature 17), Room 3 before (left) and after (right) excavation.



Figure 2.69. UE18, looter hole under Room 3.



Figure 2.70. UE18, looter hole filled with rocks to support the floor in Room 3.



Figure 2.71. UE18, thick layer of plaster on the walls of Room 3.

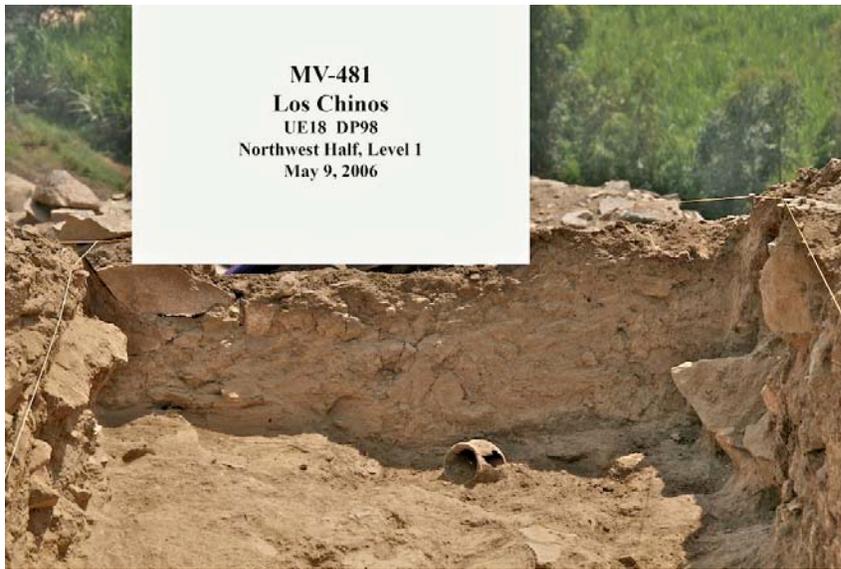


Figure 2.72. UE18, whole vessel found in situ.

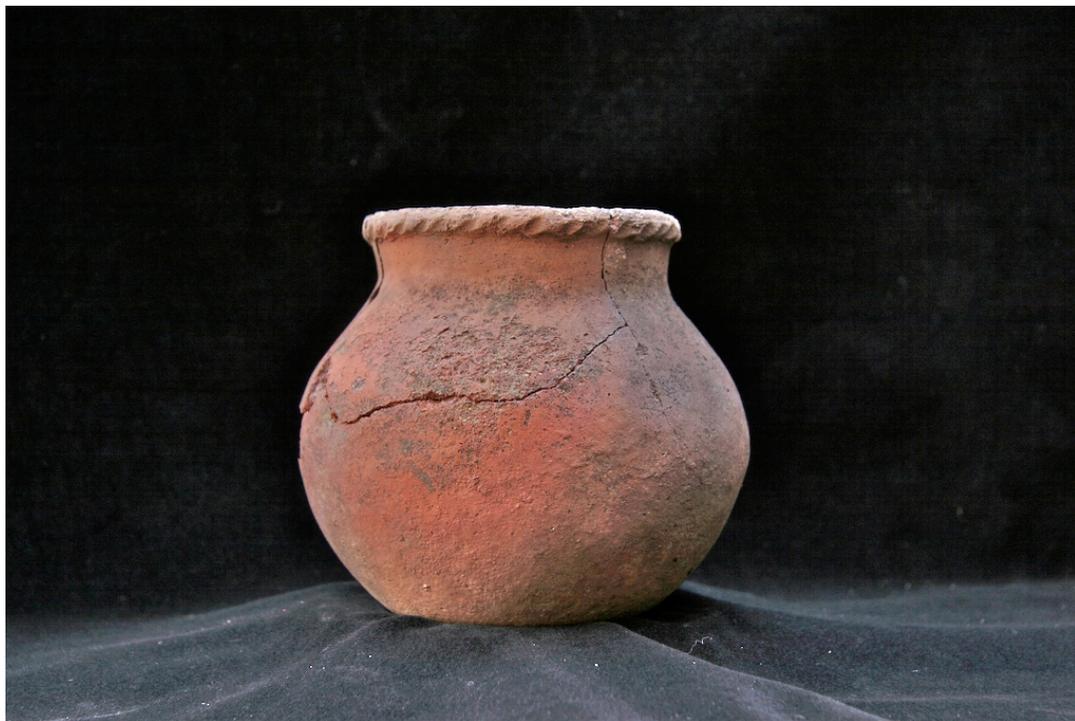


Figure 2.73. Whole vessel recovered from UE18.



Figure 2.74. Circular hole in the bottom of the vessel recovered from UE18.



Figure 2.75. UE18, conical adobes in the fill within the doorway.

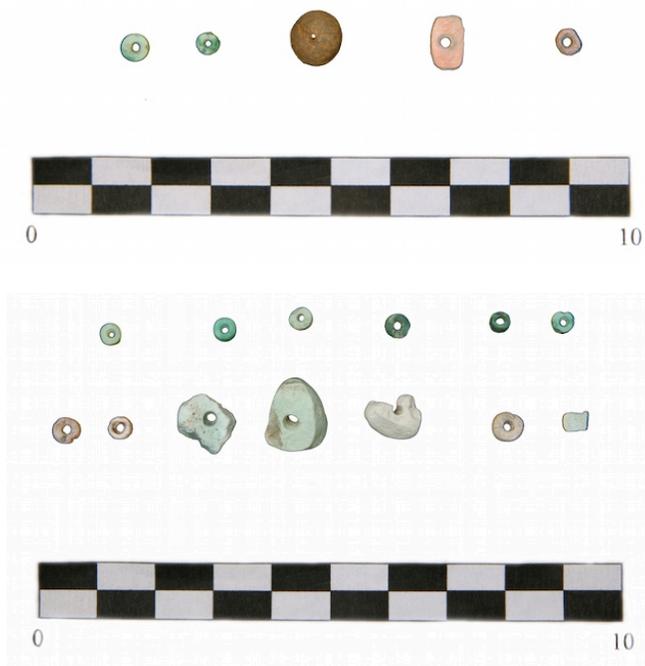


Figure 2.76. UE18, ornamental beads (scale in cm).



Figure 2.77. UE18, white pendant (scale in cm).



Figure 2.78. UE18, large white pendant (scale in cm).



Figure 2.79. UE18, large white pendant (scale in cm).

### *Excavation Unit 19 (UE19)*

UE19 was situated on the northeastern edge of the patio, and was adjacent to UE13, UE14, UE17, UE20, and UE24 (Figures 2.32, 2.80, 2.81). It was established as a 2 x 2 m unit, and it was excavated in two levels. UE19's objective was to continue to expose the architecture of the patio. Significant evidence was recovered by means of this excavation, and these included two floors, conical adobes, beads, burned wood, Column 6 (Feature 23), an incised ceramic fragment found next to Column 6, and red pigment.

Two plaster floors were uncovered during UE19. The first was interpreted as a remnant of the floor associated with construction Episode 3 of *Est 1*, since it was found to be at the same level as Floor 1 in Room 1 and the floor remnant found in the entrance to this room (Figure 2.61). Floor 2 of UE19 was that of the patio, which was linked to construction Episode 2 of *Est 1*.

During the excavation of Level 1 of UE19, a group of 11 conical adobes were found together (Figure 2.82). The adobes in this group were lying on their sides as if they had been intentionally placed there. The dimensions of these adobes are shown in table 2.2).

Table 2.2. Dimensions of the adobes recovered from UE19.

Adobe No.	Base (cm)	Point (cm)	Length (cm)
1	19	14	25
2	15	7	36
3	17	7	27
4	21	7	26
5	17	11	29
6	21	13	27
7	17	5	30
8	19	11	28
9	21	10	29
10	16	8	22
11	15	7	28

A small, light green, disc-shaped, ornamental bead was recovered from excavation Level 2 (Figure 2.83). It was a fragment that represented perhaps 60% of the original bead. A small recessed hole had been drilled through its center.

At the top and bottom of excavation Level 2, four lengths of wood or cane were found close to Column 6 (Table 2.3). Two of these were 10-12 cm above the floor and two were in contact with the patio floor. One piece of wood was found 10 cm above the floor, but it was in seven segments (Figure 2.84). The remaining pieces had disintegrated into a line of fragments (Figure 2.85).

Table 2.3. Measurements of the wood found in UE19

Segment Number	Location with regard to floor	Length (cm)	Width (cm)
1	within 10 cm above	20	5
2	within 10 cm above	24	3
3	in contact with	34	7
4	in contact with	26	7

Column 6 (Feature 23) was exposed 80 cm northwest of Column 5 (UE17; Figures 2.63, 2.81, 2.86). It was approximately 46 cm in diameter and 20 cm in height above the patio floor and appeared to be constructed of mud and stone with an outside coating of a fine plaster. Remnants of black and white paint were present around the circumference of the column (Figure 2.87).

A small diagnostic ceramic fragment was imbedded in the patio floor next to Column 6. It had a broad-line incision, and it was painted with graphite paint over its entire surface and then polished (Figure 2.88). Chronologically it was interpreted as Cupisnique (Middle to Late Guañape phase). Another fragment from the Guañape phase had a fine-line incision on the exterior just below the lip and a band of graphite paint around the exterior of the lip (Figure 2.89). Several Ancón Fine Line fragments from Guañape phase were also found (Figure 2.90). In total, 32 diagnostic ceramic fragments were found in UE19. Most came from the last 10 cm above the patio floor or were in contact with it. Chronologically, 30 appeared to be associated with the Guañape phase. Several fragments of red pigment were present in the last 10 cm above the patio floor (Figure 2.91).



Figure 2.80. UE19 before excavation.



Figure 2.81. UE19 after excavation.



Figure 2.82. UE19, 11 conical adobes.



Figure 2.83. UE19, a small green bead with a recessed hole through its center.



Figure 2.84. UE19, wood found near Column 6.



Figure 2.85. UE19, wood and cane found in contact with the patio floor near Column 6.



Figure 2.86. UE19, Column 6 (Feature 23).



Figure 2.87. UE19, black paint on the exterior surface of Column 6.



Figure 2.88. UE19, a diagnostic fragment 1265 found imbedded in the patio floor next to Column 6. It appears to have a broad-line incision and be painted with black paint or graphite.



Figure 2.89. UE19, a ceramic fragment decorated with an incision around the lip and a band of graphite paint or black slip just below the lip.



Figure 2.90. UE19, several fragments with fine-line incisions.



Figure 2.91. UE19, red pigment.

### *Excavation Unit 20 (UE20)*

UE20 was established adjacent to UE14 and UE19 with dimensions of 2.5 x 2 m, and it was excavated in two levels (Figures 2.92, 2.93). The objective of this excavation was to continue to expose the architecture of the patio. Key evidence recovered from this unit included two more columns (Features 24 and 25), ornamental beads, a gold ornament, red pigment, a ceramic penis, the second half of the drain, fragments of the roof and/or walls, a circular hole beside Column 7 (Feature 24), diagnostic ceramic fragments, and evidence that *Est 1* burned.

Columns 7 and 8 (Features 24 and 25; Figure 2.93) were exposed in line with those found in UE17 and UE19, which complete a second line of four columns 2 m to the northeast of the line found in UE13 and UE14. Column 7 was almost destroyed by past looting activity (Figure 2.94). Only a small part on the northeastern side of the column remained above the level of the patio floor. Although most of the column was level with the patio floor, an outline of its circumference was clearly visible. Traces of black paint were visible around the base of the portion of the column that rose above the patio floor (Figure 2.95). Column 7 was 46 cm in diameter.

The remains of Column 8 were situated approximately 78 cm northwest of Column 7. It measured 46 cm in diameter, and rose 30–40 cm above the patio floor (Figures 2.93, 2.96). Remnants of black paint were visible at various points around its circumference and base, but especially on its west side (Figure 2.96). This column and others that formed the line of columns toward the front of the patio are parallel to the line of columns across the back part

of the patio. The central axis of *Est 1* runs between the four central columns (columns 2, 5, 7, and 3) and passes through the center of the entrance to Room 1 (Figure 2.55).

The northeastern half of the drain mentioned in the section describing UE14 was exposed during UE20 excavation (Figure 2.97). It was cut into the northwestern side of the patio and ran approximately 3 m in length from the entrance to Room 3 to the front edge of the patio (Figure 1.5). In front of the northeastern end of the drain, there is a curved raised area that projects about 50 cm onto the platform in front of the patio (Figures 2.99). Its function appeared to be for channeling water off of the patio, around Room 5 and over the northwestern side of *Est 1*. The drain's construction was much less precise and elaborate than the rest of Episode 2 construction. Perhaps it was built quickly during a period of heavy rain such as an El Niño event.

A large area of red paint or pigment was located on the front platform in front of the drain on the northwestern corner of UE20 (Figure 2.99). It appeared to be the remains of a portion of the floor of the platform that had been painted red.

A small, rectangular, gold ornament was recovered from Level 1 of UE20 (Figure 2.100). It measured 10 mm x 3 mm.

Two parts of a ceramic penis were recovered from the bottom of excavation Level 1 about 10 cm above the patio floor (Figure 2.101). It was broken in half and most likely had been broken off from a larger vessel which we did not find. It was lying horizontally and parallel to the patio floor as if it had been intentionally placed rather than randomly falling into this position. The artifact appeared to be painted with a black slip and polished.

About 13 cm from the northeastern side of Column 7 (Feature 24) was a small circular hole 5 cm in diameter and 4 cm deep (Figures 1.5; Figure 2.102). There is no evidence to support its function; however, it appears to be a hole that supported something that was placed inside of it. The location was at the entrance to *Est 1* and next to its central axis. Its position almost assured that the object placed there would be seen by everyone who passed between columns 6 and 7 after they had ascended the main staircase of *Est 1*. Perhaps some type of culturally meaningful, small object, such as a figurine, was placed there, since the hole is not deep enough to support something tall.

Substantial evidence was observed and recovered in this unit that *Est 1* had been burned. This evidence included burned portions of the room and floor, large portions of the roof that had collapsed onto the floor, burned cane, and substantial amounts of charcoal between the roof or wall and the floor (Figures 2.103, 2.104, 2.105). The evidence from this excavation unit corroborates the evidence from UE14 that *Est 1* was burned.



Figure 2.92. UE20 before excavation.



Figure 2.93. UE20 after excavation.



Figure 2.94. UE20, Column 7 (Feature 24).



Figure 2.95. UE20, Column 7 showing traces of black paint around its base.



Figure 2.96. UE20, the remains of black paint on Column 8 (Feature 25).



Figure 2.97. UE20, the drain on the northwestern edge of the patio.

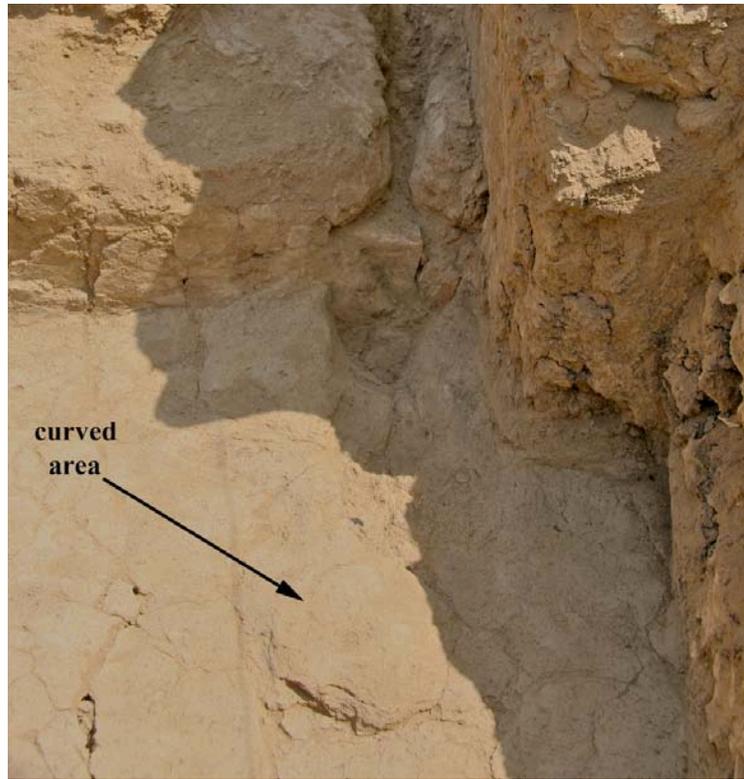


Figure 2.98. UE20, curved area that projected from the northeastern end of the drain.



Figure 2.99. UE20, area with red pigment on the platform in front of the drain.



Figure 2.100. UE20, a rectangular gold fragment, embossed. It measured 10 mm x 3 mm (scale in cm).



Figure 2.101. UE20, two fragments of a ceramic penis found 10 cm above the patio floor.



Figure 2.102. UE20, a small circular hole next to Column 7.



Figure 2.103. UE20, a portion of the roof or wall of *Est 1* that had collapsed onto the floor of the patio. The impressions of cane are visible.



Figure 2.104. UE20, a fragment of the roof or wall with evidence of burning.



Figure 2.105. UE20, burned cane found between the roof and the floor.

### *Excavation Unit 21 (UE21)*

UE21 was located on the southeastern corner of the northeastern side (front) of *Est 1* (Figures 2.32, 2.106, 2.107). It measured 1.2 x 5 m, and was excavated by halves—northeastern and southwestern. Each half consisted of two excavation levels. The objective was to expose a portion of the facade of *Est 1* so its original architecture could be examined.

The excavation revealed a façade consisting of three architectural elements (Figure 2.107). The first element was the front wall of *Est 1* (Feature 26), which was capped by the floor of the front platform and extended across the entire front of *Est 1*. Element 2 was a wall (Feature 27) that was constructed 24 cm below the floor of element 1. Its horizontal surface was covered with a plaster floor, and it projected horizontally from element 1 for 78 cm. Element 3 was the floor of Plaza E, which was 70 cm below the floor of element 2. Element 2 ran from the southeastern corner of *Est 1* to the main staircase and then continued from the opposite side of the staircase to the northwestern corner of *Est 1* (Figures 2.32, 2.107). The façade was constructed of stones and then covered with plaster. Fragments of the roof or a wall were recovered that contained remnants of black paint.



Figure 2.106. UE21 before excavation.

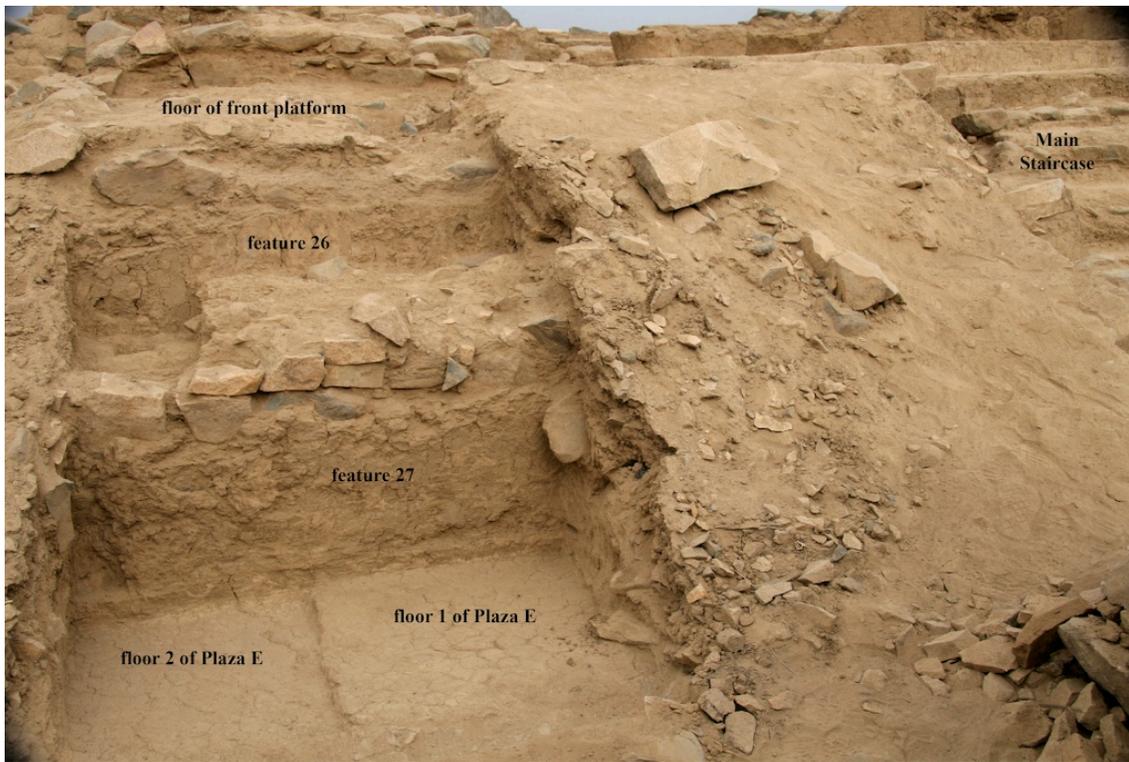


Figure 2.107. UE21 after excavation (front view).

#### *Excavation Unit 22 (UE22)*

UE22 was established around Column 5, which was next to Room 4, UE13, UE19 and UE27 (Figures 2.32, 2.108). Its purpose was to excavate a profile of Column 5 (Feature 22) so that the construction materials and technique of the Column could be examined. This particular column was selected because it had been destroyed down to the level of the patio floor. UE22 measured 60 x 60 cm, and it was excavated in seven levels.

Three floors (1, 2, 3) were discovered that corresponded exactly to floors 1, 2, and 3 in UE15 and to Floor 2 in UE16 (Figure 2.109). The corresponding floors in each of these excavation units were at the same elevation (i.e., Floor 3 in UE15 and UE22 and Floor 2 in UE16). The column was constructed of clay and mud mixed with small stones. No cane was

observed. It extended 70 cm beneath Floor 1 of the patio down to the large stones that formed the foundation of *Est 1* (Figure 2.109). Excavation Level 6, exposed a circular shaft 14 cm in diameter located in the center of the column. Further excavation revealed that it extended 50 cm below the level of Floor 3, which was associated with construction Episode 1 of *Est 1*. A large quantity of wood fragments was recovered at the bottom of the shaft (Figure 2.110). I concluded that this shaft had contained a wooden post, which was most likely imbedded in the column to provide support.

No diagnostic ceramics were found in this excavation unit.

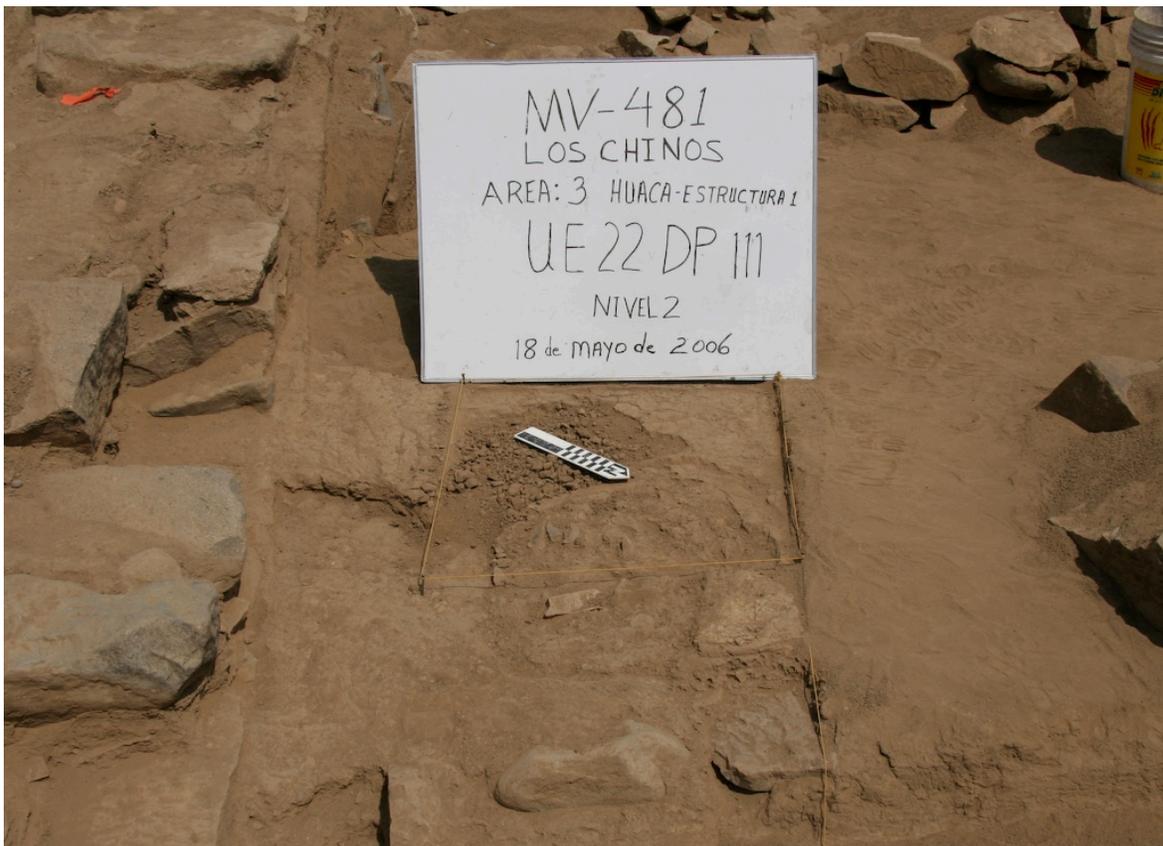


Figure 2.108. UE22 before excavation.

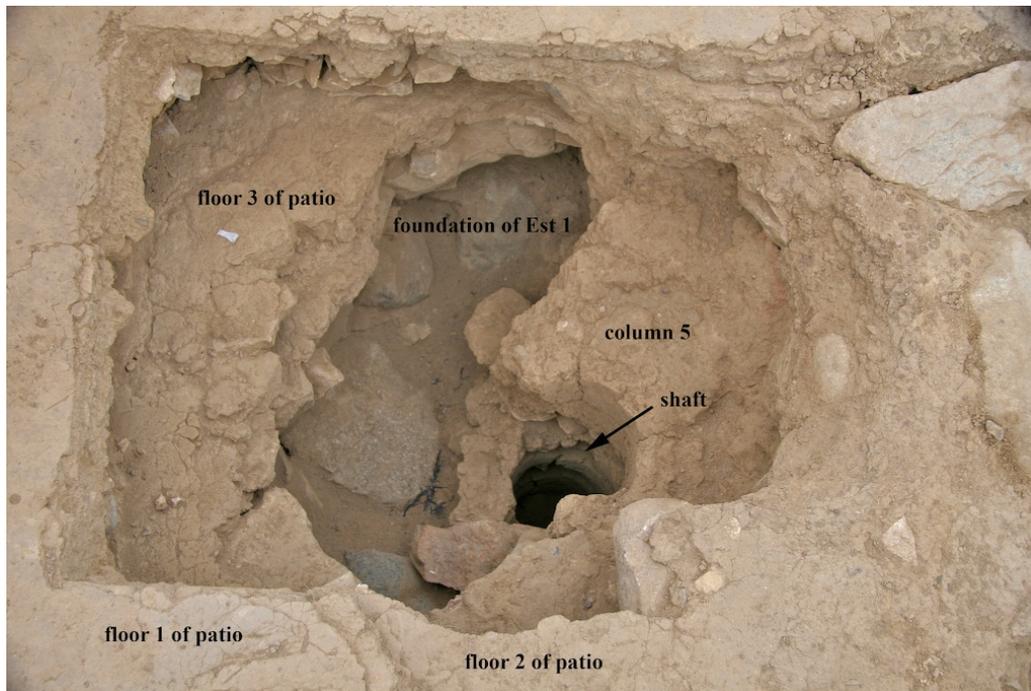


Figure 2.109. UE22 after excavation. Floors 1, 2, and 3 of the patio, half of Column 5, and the large stones of the *Est 1* foundation are visible in the photograph.



Figure 2.110. UE22, remains of wooden post recovered from the bottom of the shaft in the center of Column 5 (scale in cm).

### *Excavation Unit 23 (UE23)*

UE23 was established around the northwestern half of Room 6 (Feature 30), which is situated approximately 1 m northwest of Room 3 of *Est 1* (Figures 2.111, 2.112). It was considered a part of *Est 1* because I believed that their functions were linked. The northwestern part of the room was excavated, which was about 60% of its area. UE 23 measured 3 x 5 m, and it was excavated in two levels.

The excavation of Room 6 revealed the existence of two plaster floors (Figures 2.112, 2.113). These are visible on both sides of the excavation unit. Floor 1 construction included a substantial layer of small stones as a foundation. This suggested two construction episodes associated with this feature. Past looting activity had destroyed a large area of both floors down the middle of the excavation unit, as well as most of the southwestern wall of this room.

The walls of Feature 30 were constructed of medium-size stones laid in rows with a clay-mud mixture between each row as mortar. Then the walls were covered with a 10 cm thick layer of fine plaster (Figures 2.112, 1.114). The evidence from UE23 indicates that this method and technique of construction was consistent throughout this entire feature. There were some remnants of white and black paint in the corner of the northwestern wall (Figure 2.115).

A large number of burned areas were observed across the entire floor area (Figure 2.116). It is plausible that this feature was burned in the same episode as the rest of *Est 1*.

Just outside the southwestern wall of Room 6 is the remnant of a plastered floor that extended to the southwestern for about 30 cm (Figure 2.117). The area between Room 6 and

the top of the staircase, *Ent 9*, has been greatly disturbed by looters; however, it may have originally been a small patio covered with a plaster floor. Both Room 6 and *Ent 9* were at the same elevation and only 12 m apart. *Ent 9* is the principal direct access path between the top level of the huaca (Level 6) and Cemeteries 2 and 3 at the base of the huaca (Figure 1.4; *Cem 2*, *Cem 3*). Although there is no definitive evidence as to the function of Room 6, its close proximity to *Ent 9* on the same level may suggest that some type of connection existed between Room 6, the rest of *Est 1*, and the rituals associated with both of these cemeteries (Figures 1.4, 2.32). Future excavation of the southeastern half of Room 6 may provide additional clarification of its function.



Figure 2.111. UE23 (Room 6, Feature 30) before excavation.

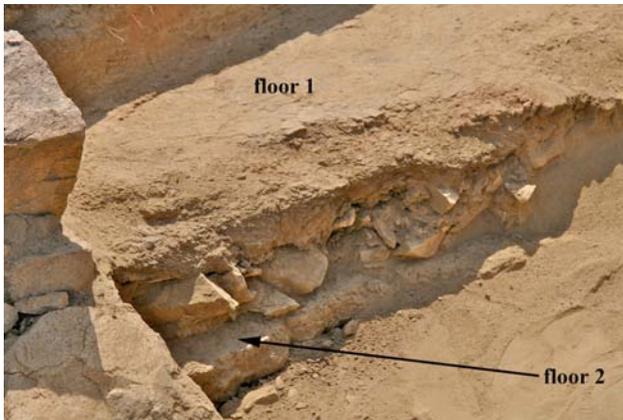
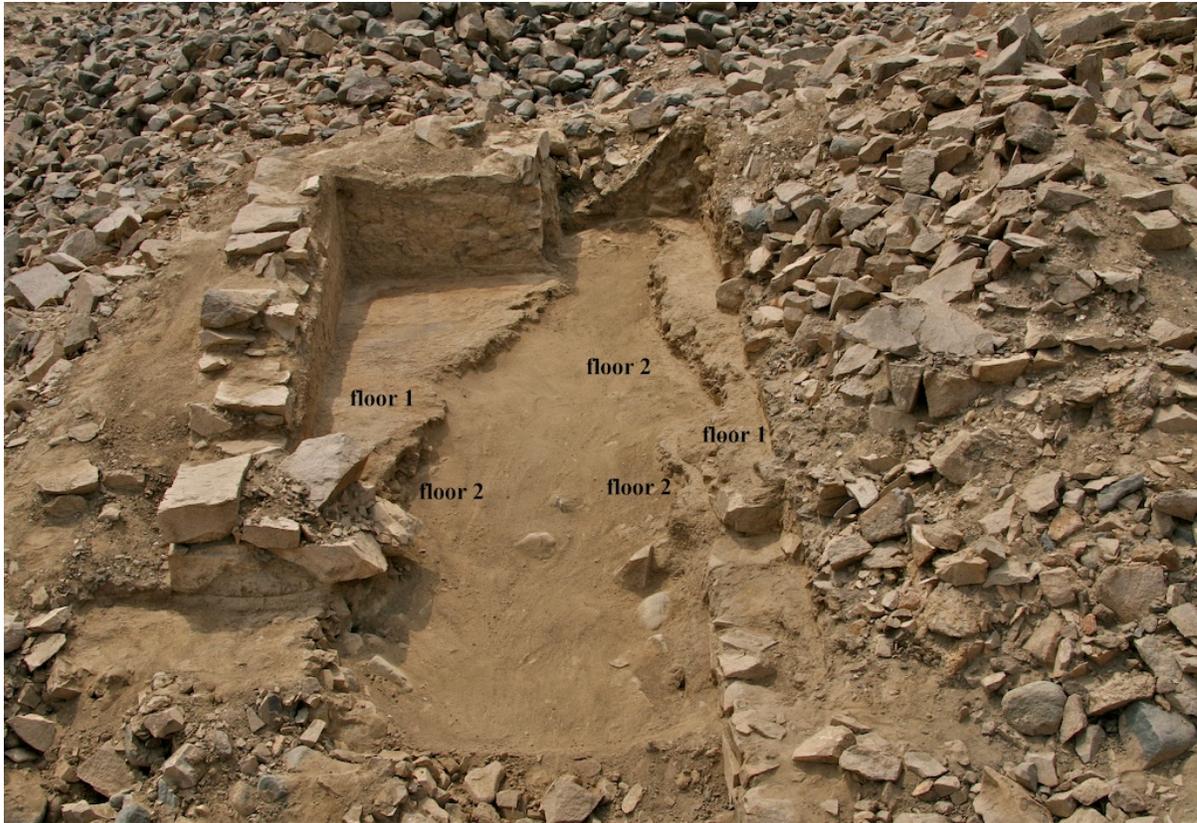


Figure 2.112. UE23 after excavation. The top image shows the entire excavation unit. The bottom two images show a close up of the floors. The remnant of a plastered patio floor is visible outside of the southwest wall of UE23 (Figures 2.113, Figure 2.117).

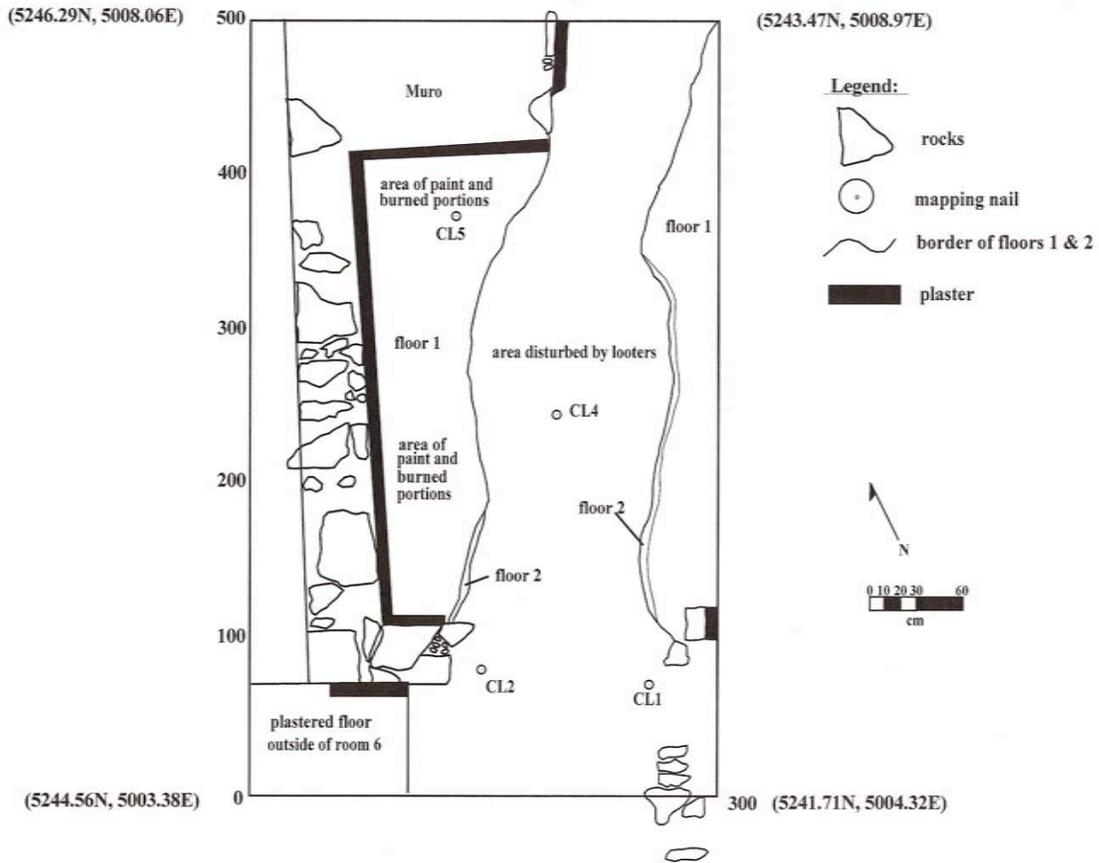


Figure 2.113 UE23, Room 6, excavation drawing.



Figure 2.114. UE23, wall construction, northwestern wall.



Figure 2.115. UE23, black and white paint on Floor 1.



Figure 2.116. UE23, charcoal and rust colored burned areas of the floor and walls.

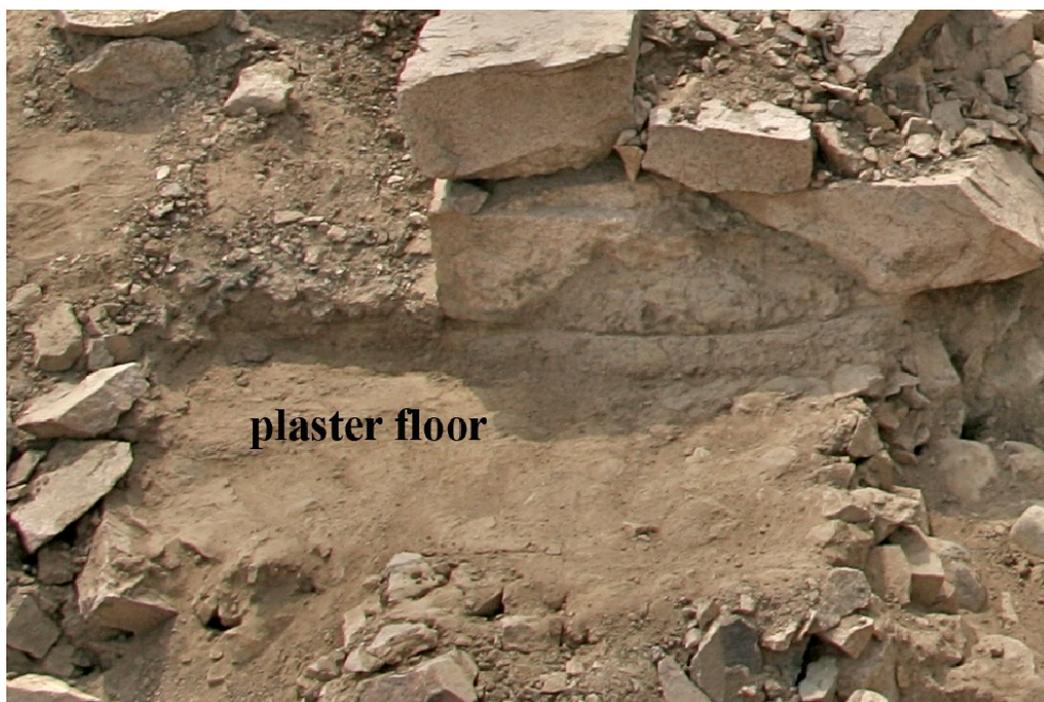


Figure 2.117. UE23, the remains of a floored patio southwest of Room 6.

*Excavation Units 24 and 25 (UE24, UE25)*

These two units were located in the center of the facade of *Est 1*, and they were designed to expose the main access path onto *Est 1*. Each excavation unit had overall dimensions of 2 x 2.5 m, and each was excavated by halves: southwestern and northeastern. Each half consisted of two excavation levels (Figures 2.118, 2.119).

The excavations revealed a 1.5 m-wide staircase with six steps that ascended from the level of the floor of plaza E to the platform in front of the patio of *Est 1* (Feature 31; Figure 2.120). They were constructed of stone and covered with a layer of fine plaster. A newel wall delimited each side of the staircase. There was abundant evidence that the staircase was painted black (Figures 2.121, 2.122).

Twenty-one green decorative beads were recovered from the excavation. They were found together on the edge of the front platform just a few centimeters from the top step of the staircase (Figure 2.123).

The central axis of structure 1 ran up the center of the staircase (Figure 2.55). Someone facing southwest at the top of the staircase would be looking across the center of the patio and directly at the doorway of Room 1.



Figure 2.118. UE24 before excavation.



Figure 2.119. UE25 before excavation.



Figure 2.120. UE24 and UE25, the entrance to *Est 1*. Remains of a newel wall is visible along each side of the staircase.



Figure 2.121. UE24 and UE25, paint on the riser of step 2, entrance to *Est 1*.



Figure 2.122. UE24 and UE25, paint on the riser of step 7, entrance to *Est 1*.

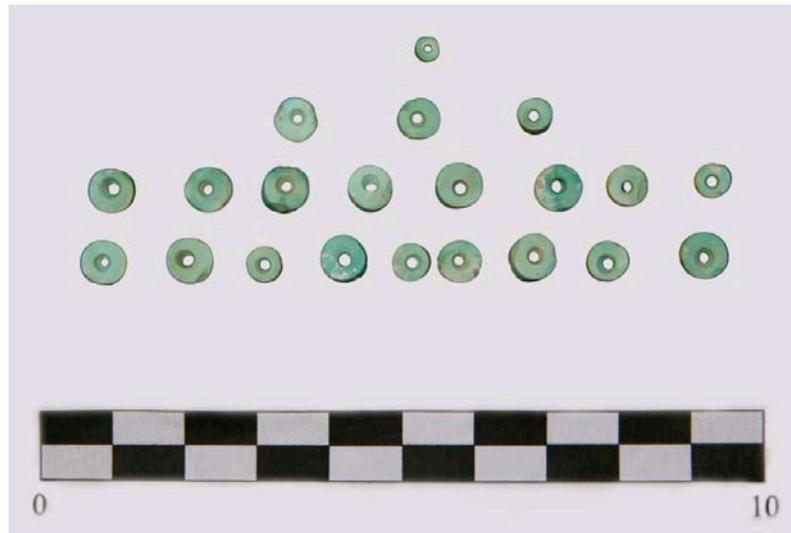


Figure 2.123. UE24 and UE25, green ornamental beads found together near the top of the entrance to *Est 1* (scale in cm) .

#### *Excavation Unit 26 (UE26)*

The objective of UE26 was to explore a small oval-shaped area (Feature 32) in the floor of the patio that was located near the central axis and directly in front of the northeastern wall of Room 1 (Figures 2.124, 2.125). This feature was situated on the border of UE13 and UE14 and overlapped into both units; therefore, it was processed as a separate unit and feature rather than as a sub-level and sub-feature. The excavation unit was 60 x 60 cm, and it was excavated in three levels. A small disturbed area was present in its southeastern portion, which was attributed to past looting activity.

The interior walls and bottom of the feature were coated with a fine plaster, and the remains of black paint were still visible on one side (Figure 2.126). Its location close to the entrance to Room 1 and the central axis may suggest an important role (i.e., an offertory); however, its function remains unclear.



Figure 2.124. UE26 before excavation.



Figure 2.125. UE26 after excavation.



Figure 2.126. UE26, interior surface of the offertory showing the remains of black paint.

#### *Excavation Unit 27 (UE27)*

This excavation focused on Room 4 (Feature 28), which was situated on the southeastern side of *Est 1* adjacent to UE 13 (Figures 2.32, 2.127–2.130). This feature was a small room that opened onto the patio and was directly opposite from Room 5 (Feature 29), which was located on the southwestern side of the patio (Figure 2.32). The dimensions of UE27 were 85 x 150 cm.

Three finely plastered floors were exposed (floors 1, 2, 3; Figure 2.127). Floors 1 and 2 were associated with the second construction episode of *Est 1*. Floor 2 was 4 cm below Floor 1, and there was no supporting foundation between the two floors, which was consistent with a remodeling event. The level of Floor 3 of this room corresponded to Floor 3 (the original patio floor) in Room 2 (UE15), as well as Floor 2 in Room 1 (UE16). The remaining area inside Room 4 had been destroyed by looters.

Two diagnostic ceramic sherds were recovered from the fill just above Floor 1, and four ceramic body sherds were inlaid in Floor 1 (Figures 2.32, 2.128, 2.129, 2.130). They

appeared to be from the same vessel, and they were interpreted as Guañape Black Plain type from the Late Guañape phase. The diagnostic sherds were interpreted as Guañape Zone Red from the Late Guañape phase (Figures 2.129, 2.130).

The remains of black paint were found on several areas of Floor 1 and on the walls (Figure 2.128).



Figure 2.127. UE27 after excavation.

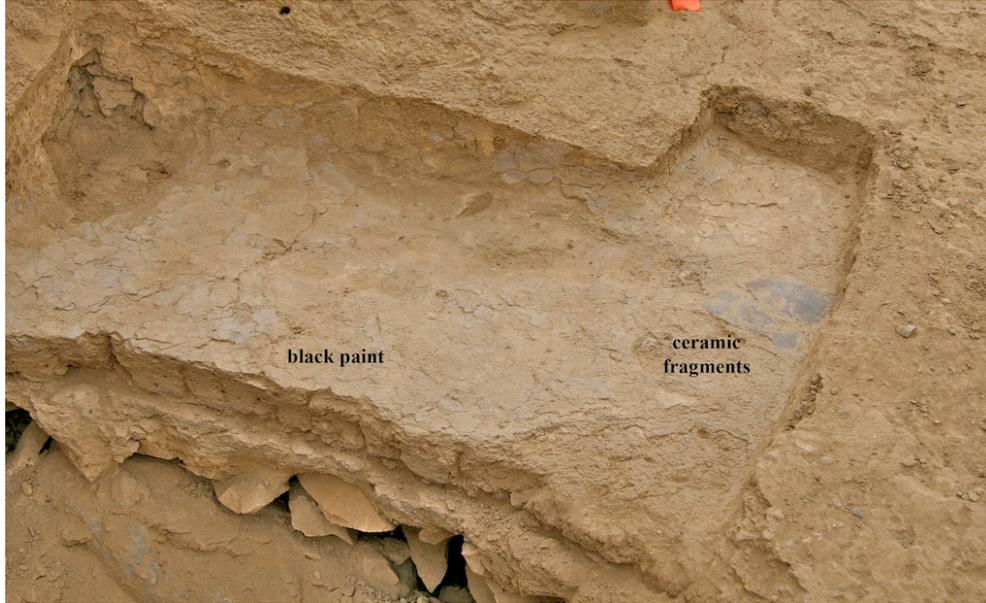


Figure 2.128. UE27, ceramic fragments imbedded in Floor 1, black paint on the surface of Floor 1 and on the walls.



Figure 2.129. UE27, Guañape Zone Red fragment found near Floor 1 has two zones created by broad-line incisions. The inner and outer zones contain punctations and black or graphite paint.



Figure 2.130. UE27, exterior surface of a Guañape Zone Red fragment found near Floor 1. A fine-line incision creates two zones. The exterior surface was covered with a red paint or slip, and the smaller zone also has traces of a black or graphite paint.

#### *Excavation Unit 28 (UE28)*

Room 5 (Feature 29) was located on the southwestern side of *Est 1* directly across the patio from Room 4 (Feature 28; Figures 2.32, 2.131). UE28 measured 100 x 85 cm.

Three floors in Room 5 were exposed (floors 1, 2, 3). Floors 1 and 2 were at the same elevation as floors 1 and 2 in Room 4 (UE27). The elevation of Floor 3 corresponded to Floor 3 (the original floor) in Room 2 (UE15) and the patio (UE17), as well as Floor 2 in Room 1 (UE16). The remaining area inside Room 4 had been destroyed by past looting activity.



Figure 2.131. UE28 after excavation.

### Orientation of Huaca de los Chinos

The orientation of Huaca de los Chinos proved to be surprising and interesting. After excavations UE13–UE25 were completed, it was obvious that the orientation of Huaca de los Chinos and the summit structure were different. The huaca's orientation is N62°E, which is directly toward the second small hill that comprises the northwestern end of Cerro León and a mountaintop on the horizon (Figure 2.132). However, the orientation of *Est 1* is N50°E, which is directly toward the flat summit of a mountain in the distance beyond Cerro León. Although I suspect that one or both of these orientations may be oriented toward one of the solstices, no astronomically significant correlations have been established yet.



Figure 2.132. Orientation of Huaca de los Chinos and *Est 1*.

### Radiocarbon Dates Associated with Huaca de los Chinos

Sixteen samples of organic material were selected for radiocarbon dating. At the end of the field season, I exported these samples to the United States with the permission of the Peruvian Government under Resolución Directoral Nacional N° 1439/INC.

In May 2007, these 16 samples were prepared and subsequently tested at the Accelerator Mass Spectrometry Laboratory of the Physics Department at the University of Arizona (U. Ariz.; Table 2.4).

Table 2.4. Samples processed for radiocarbon dates.\*

Sample No.	UE No.	Excavation Level No.	Type of Material
1	1	3	Carbonized cane
2	1	4	Carbonized wood or cane
3	1	5	Carbonized wood or cane
4	3	3	Carbonized wood or cane
5	3	4	Carbonized wood or cane
6	14	2	Carbonized twig
7	14	2	Carbonized twig
8	14	2	Carbonized wood or cane
9	14	2	Cane
10	14	2	Seed
11	14	2	Cane imbedded in roof material
12	19	2	Carbonized twig
13	19	2	Carbonized twig
14	22	5	Cluster of tiny seeds
15	22	6	Wood—bottom of Column 5 shaft
16	22	7	carbonized wood

\* The samples were processed through the Accelerator Mass Spectrometer (AMS) in September 2007, and they yielded the following results (Table 2.5).

Table 2.5. Radiocarbon dates processed by the AMS.

Sample No. UNC	U. of Ariz.	Radiocarbon Age	Calibrated Date (2 sigma)	UE #
1	AA-75410	2,634 ± 36	895–769 B.C.	UE01, N3
2	AA-75411	2756 ± 36	997–826 B.C.	UE01, N4
3	AA-75412	2753 ± 36	996–821 B.C.	UE01, N5
4	AA-75413	2675 ± 36	900–797 B.C.	UE03, N3
5	AA-75414	2682 ± 35	901–801 B.C.	UE03, N4
6	AA-75415	2695 ± 36	908–801 B.C.	UE14, N2SEH
7	AA-75416	1514 ± 34	AD 433–622	UE14, N2SEH
8	AA-75417	2592 ± 35	828–592 B.C.	UE14, N2NWH
9	AA-75418	2636 ± 42	898–767 B.C.	UE14, N2NWH
10	AA-75419	modern	modern	UE14, N2NWH
11	AA-75420	3170 ± 130	1744–1058 B.C.	UE14, N2NWH
12	AA-75421	2650 ± 36	895–787 B.C.	UE19, N2
13	AA-75422	2670 ± 34	896–797 B.C.	UE19, N2
14	AA-75423	2679 ± 35	900–799 B.C.	UE22, N2
15	AA-75424	2693 ± 35	906–802 B.C.	UE22, N6
16	AA-75425	2706 ± 35	915–805 B.C.	UE22, N7

\*Calibrated by CALIB REV. 5.0, Stuiver et al. 1998, Stuiver and Polach 1977.

Thirteen of the dates fell within the range 997–592 BC, the date range associated with Sample 7 was between AD 422–622, the Sample 10 dates were modern, and the date range associated with Sample 11 was 1744 –1058 BC (Table 2.5; Figure 2.133).

Across the area of *Est 1*, most of the fill greater than 10 cm above the level of the patio floor had been extremely disturbed by past looting activity, which likely mixed the majority of material from excavation level 1 with material from the surface. Sample 7 came from Level 2 in the southeastern half of UE14 (Figure 2.32). The dates from the other three samples in the same context all fell at least 1,000 years earlier. Therefore, I interpreted this sample as surface material from the early Moche period that had been mixed with Level 1 material down to a Level 10 cm above the patio floor by past looting activity.

The early date range associated with Sample 11 resulted from a sample size that was too small. The pretreatment of this sample at the AMS laboratory dramatically reduced the amount of material available for testing. This means that the resulting 686-year date range was only accurate to  $\pm 10\%$ . The material for this sample was a small piece of cane that was imbedded in one of the cane impressions in a roof or wall fragment found on the patio floor in UE14. In my opinion, this fragment was from the roof or wall of construction Episode 2, and the date range associated with the sample was out of place with other dates from samples found in the same context. Therefore, I decided not to consider this Samples 7, 10, or 11 in my interpretations.

The remaining 13 samples all had date ranges that either partially or totally overlapped each other (Table 2.5; Figure 2.133). These dates were associated with three locations and activities: (1) the construction of Column 5 (Feature 22, UE22) on the patio of *Est I*; (2) the three floors found in UE01 and UE03 on the southeastern side of the huaca; and (3) material found in UE14 and UE19 on the patio of *Est I*, which have been linked with the destruction of the construction Episode 2 structure.

Column 5 (Feature 22) was excavated to study its construction techniques and materials, and to find out how deeply it penetrated below the level of Floor 1 of the patio (Figures 2.108, 2.109, 2.110; UE22). It was excavated because past looting had destroyed it down to the level of Floor 1 of the patio. The column was excavated in seven levels and extended 70 cm beneath Floor 1 of the patio down to the large stones that formed the foundation of *Est I*. The bottom 50 cm had a circular shaft 14 cm in diameter in the center of the column that began just below Floor 3 and extended downward (Figure 2.109). At the

bottom of the shaft were the remains of a wooden post that apparently had served to provide support for the column (Figure 2.110). The samples for radiocarbon dating consisted of material from Levels 5, 6 and 7 of UE22 (Table 2.6).

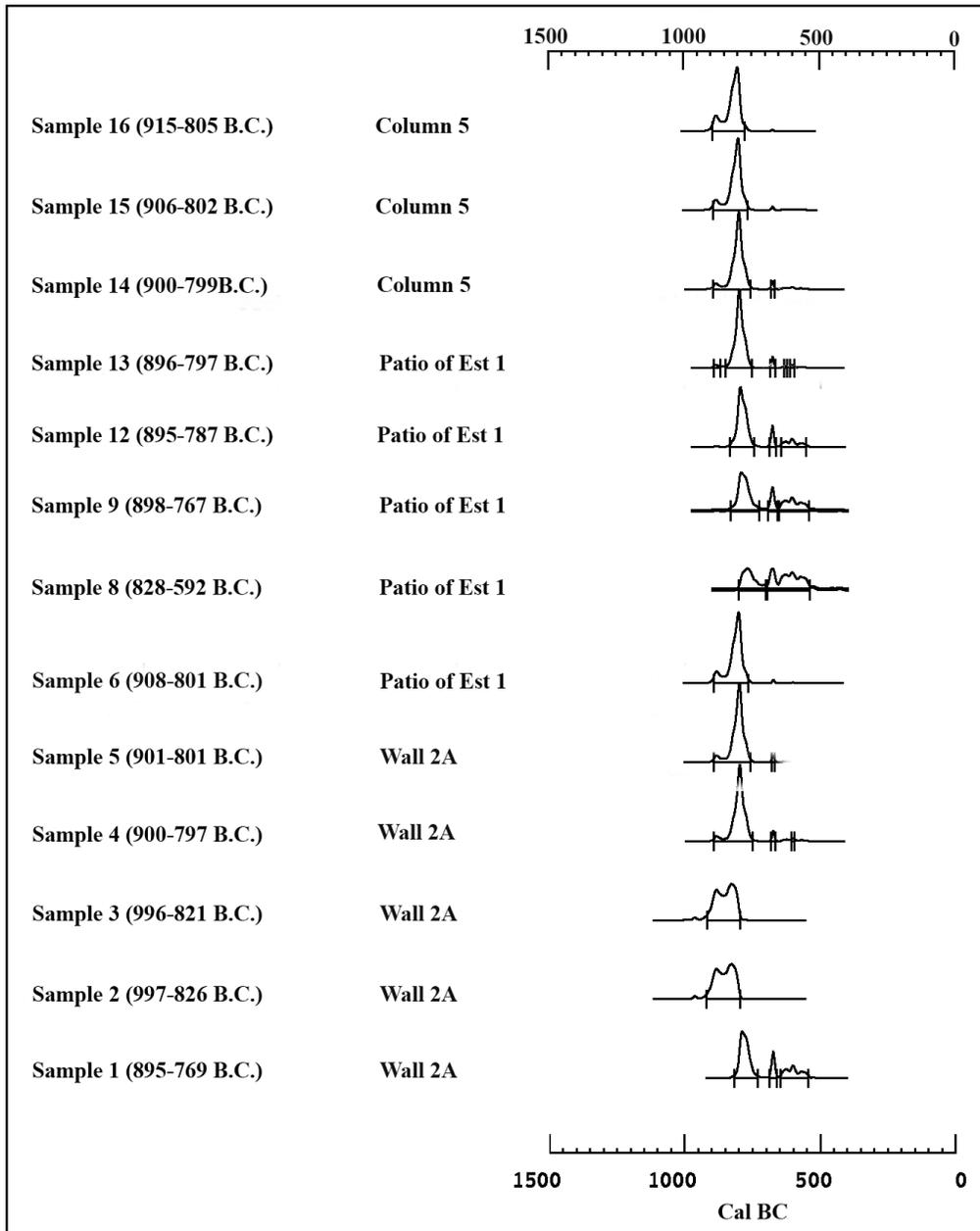


Figure 2.133. Calibrated (2 sigma) radiocarbon dates, contexts, and probability distributions for samples 1-6, 8-9, and 12-16. Calibrated dates were by the AMS at the University of Arizona; probability distributions were *CALIB 5.0.2* software (Stuiver and Reimer, 1993).

Table 2.6. Radiocarbon dates associated with Column 5 (UE22).

Sample No.	Excavation Level	Calibrated Dates	Average
14	5	900–799 B.C.	
15	6	906–802 B.C.	907 - 802 B.C.
16	7	915–805 B.C.	

These dates are closely grouped together, and suggest that Column 5 was constructed sometime during the last 100 years of the Initial period (Middle Guañape phase). I concluded that Column 5 was part of the second construction episode of the summit structure, and that it links construction Episode 2 to this time range.

Excavation units 01 and 03 were carried out on the southeastern side of Huaca de los Chinos, and they revealed three superimposed plaster floors. The earliest floor had a foundation of small white pebbles that was constructed on the large stones that comprised wall 2A (Figures 4.3, 4.6). The technique of construction associated with these floors suggests two different types of construction. Floor 3 was supported by a foundation and most likely was part of the original construction of Wall 2A. Floors 1 and 2 were simply superimposed directly on top of the preceding floor without any separate foundation, which would indicate maintenance or remodeling.

Table 2.7 and Figure 2.133 show that one of the dates from UE01 and two dates from UE03 cover the same basic range as those for Column 5 (UE22; Table 2.6). The other two dates from UE01 have a range that begins much earlier, but both overlap with the other three by a quarter of a century. This suggests two conclusions. First, the construction of the floors and probably Wall 2A may have occurred at the same time as the second construction episode

of *Est 1*. This implies that Wall 2A was not part of the original construction of the huaca, but was added to the huaca most likely during the last 100 years of the Initial period. Second, the period of the overlap of the dates for Samples 2 and 3 with Samples 1, 4, and 5 may indicate that the second construction stage of *Est 1* also occurred in the last 100 years of the Initial period.

Table 2.7. Dates associated with the three superimposed floors found in UE01 and UE03 on the southeastern side of Huaca de los Chinos (Figure 1.6).

Sample No.	Excavation Unit & Level	Calibrated Date (2 sigma)	Average Per UE	Average All Samples
1	UE01, N3	895–769 B.C.		
2	UE01, N4	997–826 B.C.	963–805 B.C.	
3	UE01, N5	996–821 B.C.		938–803 B.C.
4	UE03, N3	900–797 B.C.	901–799 B.C.	
5	UE03, N4	901–801 B.C.		

Level 2 of UE14 and UE19 produced abundant evidence that the construction Episode 2 of *Est 1* had burned. This evidence consisted of large sections of the roof or a wall lying on the patio floor, sections of this roof or wall containing fire-reddened areas and imbedded burned cane, areas of the patio with fire-reddened marks, and carbonized wood and cane located in the last 10 cm above the floor, as well as between the roof and the floor. There was no evidence of violence and/or warfare (i.e., construction in defensive locations, defensive architecture, piles of sling-stones), but there was evidence that after the burning, the remains of *Est 1* were covered by a third construction episode. I interpreted the third episode as a burial of the entire older structure, because remains of the floor from this episode were found at opposite end of *Est 1* in Room 1 (UE16) and on the northeastern edge

of the patio (UE19). This suggests that the entire older structure had been covered by the new construction.

Table 2.8 shows the radiocarbon dates associated with samples from Level 2 of UE14 and UE19. All but one of these dates correspond to the same time range as those associated with Column 5 and the floors on the southeastern side of the huaca. Sample 8 has a date range from 828 to 592 BC, which overlaps the other dates by as much as 60 years. This may be an indication that the destruction of *Est 1* occurred during the latter part of the date range defined by the other four samples. This would place the destruction of *Est 1* and the subsequent construction of Episode 3 during the early part of the Early Horizon (Late Guañape phase).

Table 2.8. Dates from Level 2 of UE14 and UE19 associated with the patio of *Est 1*.

Sample No.	Excavation Unit & Level	Calibrated Date (2 sigma)	Average Per UE	Average All Samples
6	UE14, N2SEH	908–801 B.C.		
8	UE14, N2NWH	828–592 B.C.	878–720 B.C.	
9	UE14, N2NWH	898–767 B.C.		885–749 B.C.
12	UE19, N2	895–787 B.C.	897–792 B.C.	
13	UE19, N2	898–797 B.C.		

In summary, the radiocarbon dates from this research support the conclusion that the construction of Episode 2 of *Est 1*, the destruction of the *Est 1* Episode 2 structure, the Episode 3 construction, and the addition of wall 2A occurred some time during a 150 year period between 900–750 BC. The most likely scenario was that the Episode 2 construction of *Est 1* and Wall 2A on the southeastern side of the huaca were carried out during the last 100 years of the Initial period (1800–800 B.C.), and that *Est 1* burned and was subsequently

covered by a third construction episode sometime during the first 50 years of the Early Horizon (800–400 B.C., Table 1.1).

### **Cross Sections of Huaca de los Chinos**

Figures 2.135 and 2.136 are cross-sections that show the vertical locations of the major parts of the huaca and the excavation units. Figure 2.134 identifies the position of both cross sections (Cross Sections A and B). Cross Section A (Figure 2.135) shows the outline of the huaca along its central axis from its summit to Plaza A. Cross Section B (Figure 2.136) illustrates the outline across the width of the huaca from ground level on the southeastern side to the northwestern end of structure 3 (Est 3) of the Plaza D complex. The locations of excavation units are identified in each drawing, and show the spatial relationship among them.

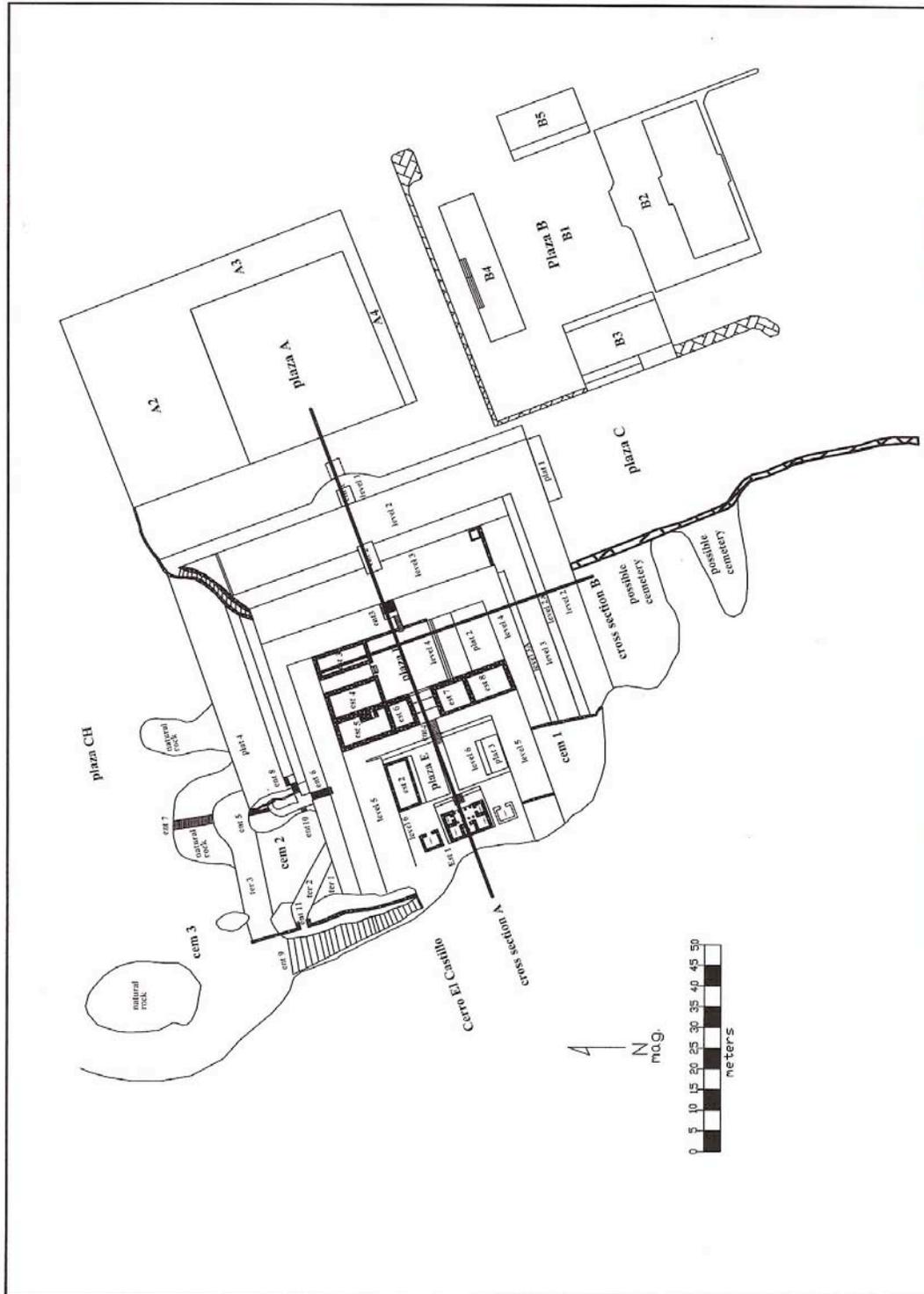


Figure 2.134. A planimetric drawing of Huaca de los Chinos showing the locations of cross-sections A and B (Figures 2.135, 2.136).

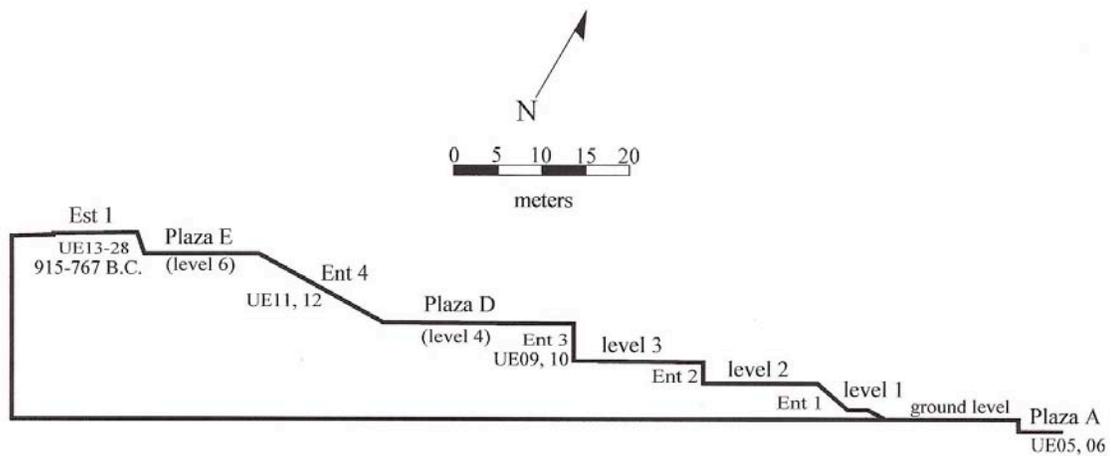


Figure 2.135. Cross-section A shows the elevations of Huaca de los Chinos along its central axis and locations of the excavation units. The view of the length of the huaca is from its southeastern side.

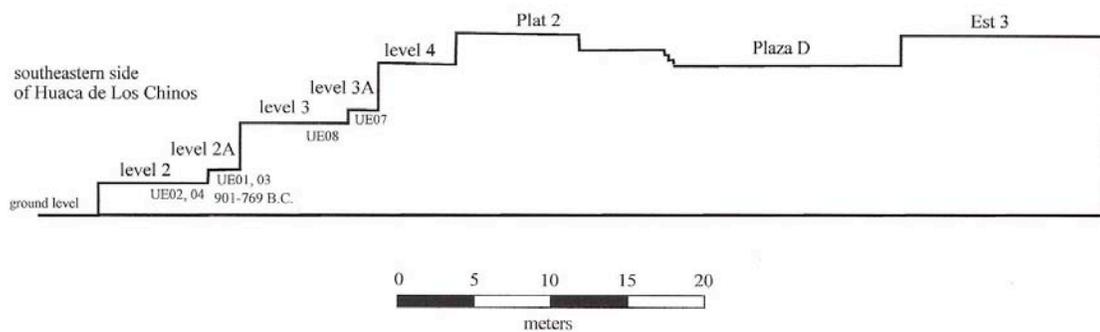


Figure 2.136. Cross-section B shows the width of the huaca from the ground level to the northwestern side of *Est 3*. The view is from the front of the huaca looking southwest. The cross-section shows the elevations of this part of the huaca and the locations of the excavations units.

## **Ceramic Artifacts**

At the beginning of the artifact analysis phase of the research, circumstances occurred that were unforeseen and beyond my control, and they forced the shortening of this phase of the field research. As a result, I was not able to carry out a ceramic type classification or to analyze the non-diagnostic sherds. This will be done in a future field season that is specifically focused on an in-depth analysis of this ceramic assemblage. My team and I were able to: (1) code the 1,672 diagnostic ceramic sherds for their attributes according to a standard coding system (Appendix A and B); (2) weigh the 11,581 non-diagnostic sherds (Tables 2.9; 2.10, 2.11), (3) photograph the 1,125 diagnostic sherds; (4) prepare drawings of some of the diagnostic sherds; (5) organize the ceramic collection and other artifacts for storage; and (6) prepare a detailed artifact inventory. The attribute analysis for each diagnostic sherd lacks two critical elements: the ceramic type classification and the time-specific information that results from it. Therefore, I will only characterize the general content of the ceramic assemblage in this dissertation. A detailed discussion will be presented once an in-depth ceramic analysis has been completed.

Ceramics were recovered from the surface collections and from the 28 excavations. The surface collections were focused almost entirely on Huaca de los Chinos, but also included a few areas located on the architecture around Plaza A and Plaza B. During the surface collections and excavations, 13,253 ceramic fragments were recovered that included 1,672 diagnostic sherds and 11,581 non-diagnostic sherds (Tables 2.9, 2.10, 2.11). The following tables show this distribution by counts and weights. None of the 11,581 non-

diagnostic sherds were analyzed, but they were weighed and inventoried by field specimen bag and stored for future analysis.

Table 2.9. Distribution of all ceramics.

Type of recovery	Diagnostic (# of sherds)	Non-Diagnostic (# of sherds)	Total sherds
Surface collection	547	1,260	1,807
Excavations	<u>1,125</u>	<u>10,321</u>	<u>11,446</u>
Totals	1,672	11,581	13,253

Table 2.10. Count and weight of ceramics recovered from the surface collection.

Type of Ceramic	# Sherds	Weight (gr.)
Diagnostic	547	10,760
Non-diagnostic	<u>1,260</u>	<u>19,720</u>
Totals	1,807	30,480

Table 2.11. Count and weight of ceramics recovered from the excavations.

Type of Ceramic	# Sherds	Weight (gr.)
Diagnostic	1,125	9,470
Non-diagnostic	<u>10,321</u>	<u>49,355</u>
Totals	11,446	58,825

The 1,125 diagnostic sherds recovered from excavations were found in two general contexts in each excavation: excavation levels disturbed by looter activity and levels undisturbed by this type of activity. Generally, contexts more than 10 cm above the level of the first floor (normally excavation Level 1) had been disturbed by extensive past looting activity, and ceramic sherds in this level were considered to have been mixed with ceramics

from the surface. Contexts below the last 10 cm above the first floor, in contact with the floor or below the floor were undisturbed by looting activity, except in a few instances. The sherd count and percentage of ceramics recovered from the disturbed and undisturbed context are as follows: disturbed contexts (n=692, or 62%) and undisturbed context (n=433, or 38%).

The 433 diagnostic sherds recovered from the undisturbed contexts in excavations consisted of 161 (37%) decorated sherds and 272 (63%) undecorated rim sherds. The greatest majority of the diagnostic ceramics appear to be associated with the Guañape phase.

### **Metal Artifacts**

Two types of metal artifacts were recovered from excavations: gold ornamentals and non-gold artifacts.

#### *Gold Artifacts*

Ten artifacts made of gold were recovered from UE15 (Room 2), UE18 (Room 3), and UE20 (the patio) of *Est 1*. These consisted of three circular discs, three triangular embossed ornaments, three rectangular perforated ornaments, and one rhomboidal shaped pendant embossed with a human face (Table 2.12; Figures 2.49, 2.50, 2.100, 2.137).

Table 2.12. Gold artifacts recovered from the excavation of *Est 1*.

DP	EC	UE	Description	Form	Figure	Comment
84	8	15	disc (2)	circular	Fig. 2.50	
84	27	15	pendant	rhomboid	Fig. 2.49	embossed face
98	9	18	disc	circular	Fig. 2.137 (a)	
98	9	18	sheet	triangular	Fig. 2.137 (b)	
98	18	18	sheet(2)	rectangular	Fig. 2.137 (e, f)	
98	18	18	sheet (2)	triangular	Fig. 2.137 (c, d)	
104	11	20	sheet	rectangular	Fig. 2.100	

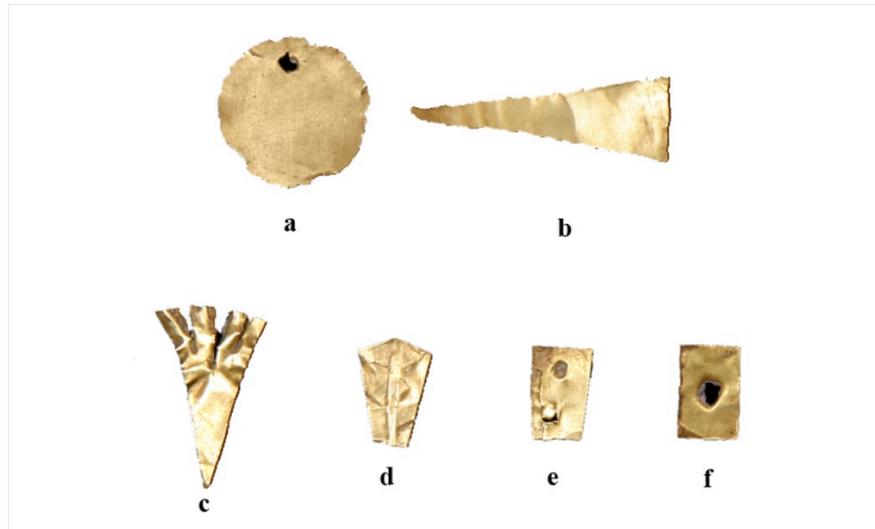


Figure 2.137. Gold artifacts from UE18 excavation of Est 1 (see Table 3.10 for details on each artifact).

The rhomboidal pendant from UE15 (Figure 2.49) and the embossed triangular ornaments from UE18 (Figure 2.137 c, d) are very interesting. The rhomboidal pendant has a human face embossed into its surface. It seems that the eyelids are tightly closed, and that the mouth is open. The face has the appearance of someone suffering considerable pain.

The largest of the triangular ornaments (Figure 2.137 c) was embossed and seemed to depict part of a headdress. The smaller triangular ornament (Figure 2.137 d) appears to have the image of a plant embossed into its surface.

#### *Non-gold Artifacts*

Three non-gold metal artifacts were recovered from the excavations of Room 2 (UE15), Room 3 (UE18), and Room 6 (UE23). They included a metal bead, the fragment of a tube, and a 2 cm long tube (Table 2.13; Figures 2.48, 2.138).

Table 2.13. Non-gold metallic artifacts.

DP #	EC #	UE #	Artifact Description	Form	Figure #
84	7	15	metal bead	spherical	Fig. 2.48
98	8	18	fragment of a tube	tubular	Fig. 2.138
114	12	23	tube	tubular	Fig. 2.138



Figure 2.138. Non-gold metallic artifacts. a - tube, b - tube fragment.

### Roof or Wall fragments

There were 7,031 fragments of the roof and/or walls recovered in 15 of the 16 excavation units associated with Est 1 (Table 2.14). The majority showed only impressions on one side of the cane (caña brava) used to form the core of walls and/or the roof of the structure. Some fragments contained remnants of the string that was used to tie the individual pieces of cane together. These fragments fell into two categories: those with evidence of burning and those without burn marks.

Table 2.14. Roof and/or wall fragments found in the excavations of *Est 1*.

Description	Quantity	%	Weight (gr)	%
Fragments with burn marks	4,236	60	153,140	41
Fragment w/o burn marks	<u>2,795</u>	<u>40</u>	<u>219,701</u>	<u>59</u>
Totals	7,031	100	372,841	100

There were 4,236 fragments found that had evidence of burning in the form of scorch marks or ashes from imbedded canes (Table 2.15; Figure 2.105). Eighty-eight percent of these were found in the excavations of the patio, staircase, as well as Rooms 1, 2, 3, and 6. Some fragments had the remains of white, black, or red paint on the side of the fragment that would have faced the interior of *Est 1* (Figure 2.139).

Roof or wall fragments with no evidence of burning were found in 15 of the 16 excavation units on *Est 1*. In total, 2,795 of these fragments were recovered (Table 2.16; Figure 2.104).

Table 2.15. Roof/wall fragments with evidence of burning.

UE #	Qty.	%	Weight (gr)	%
13	170	4.01	8,215	5.36
14	2,325	54.89	95,600	62.43
15	125	2.86	5,100	3.33
16	30	.71	850	.56
17	50	1.18	1,950	1.27
18	67	1.58	1,125	.73
19	598	14.12	21,680	14.16
20	325	7.67	9,450	6.17
21	456	10.40	6,140	4.01
22	2	.05	10	.01
23	1	.02	400	.26
24	66	1.56	1,350	.88
25	19	.45	320	.21
26	<u>6</u>	<u>.14</u>	<u>950</u>	<u>.62</u>
Totals	4,236	100.00	153,140	100.00

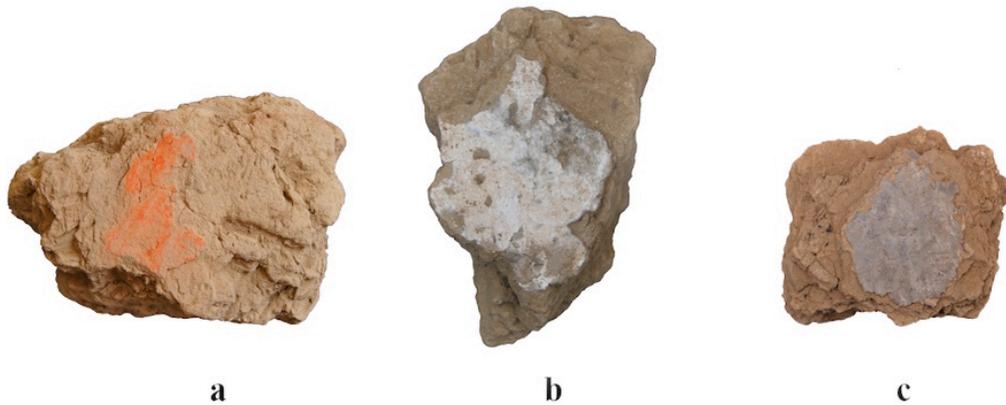


Figure 2.139. Paint remains found on roof or wall fragments in UE20 on *Est 1*. The paint was on the side the interior surface of *Est 1*.

Table 2.16. Roof/wall fragments without evidence of burning.

UE #	Qty.	%	Weight (gr)	%
13	96	3.4	12,415	5.7
14	1,324	47.4	99,154	45.1
15	196	7.0	12,997	5.9
16	1	.0	10	.0
17	42	1.5	2,350	1.1
18	31	1.1	1,670	.8
19	425	15.2	20,850	9.5
20	553	19.8	51,900	25.0
21	69	2.5	2,480	1.1
22	25	.9	11,750	5.3
23	2	.1	50	.0
24	19	.7	500	.2
25	4	.1	75	.0
26	1	.0	200	.1
28	<u>7</u>	<u>.3</u>	<u>300</u>	<u>.1</u>
Totals	2,795	100.0	219,701	100.0

### Carbon

During the excavations, a substantial quantity of carbon was recovered. In total, 4,443 grams were collected. Approximately 90% (4,014 grams) came from *Est 1*: the patio, the rooms, the staircase, and the platform across the front of the structure. A large quantity of carbon was sandwiched between the remains of the roof/wall and Floor 1 of the patio. This was important evidence regarding the destruction of *Est 1* by burning and for radiocarbon dating.

## Summary

The principal focus of this chapter has been on the topographic survey, excavations, and radiocarbon dates. The topographic survey included Huaca de los Chinos; Plaza complexes A, B, C, and CH; Cerro El Castillo; and the farm land immediately surrounding Cerro El Castillo. Figure 1.3 shows the area encompassed by the survey, and Figures 1.4, 2.134, 2.135 and 2.136—developed from spatial data associated with the survey—show the form of the huaca in planimetric and cross sectional views. The survey played a critical role in identifying the architectural components of the huaca and their architectural interrelationships. During the survey, it was observed that the architectural design of the huaca visually restricted its top three levels from anyone in the surrounding ground-level plazas or on the huaca's first three levels. This may imply an additional importance to these top three levels.

Twenty-eight excavations were carried out; 26 were on Huaca de los Chinos and two in Plaza A. Excavation units UE01, UE02, UE03, UE04, UE07, and UE08 were located on the southeastern side of the huaca (Figure 1.4), and these excavations were intended to expose the original form of Features 2 and 8 (wall 2A and wall 3A respectively) to improve the accuracy of the topographic survey in this area. Wall 2A was 2 m wide x 1 m high x 37 m long (Figure 2.1). UE01 and UE03 were placed at different locations along the length of this feature and were used to expose its top surface. Three superimposed, plaster floors were exposed in each excavation unit, as well as a 10 m wide band of plaster that extended up the face of wall 3. Samples of carbonized wood and cane for radiocarbon dating were recovered from all three floors in UE01 and from floors 2 and 3 in UE03. These floors may have

represented the original construction of wall 2A and two remodeling or maintenance episodes.

The excavations in *Plaza A* (UE05, UE06) were carried out to test the hypothesis that it was a sunken plaza. These excavations uncovered a retaining wall and two steps that descended to a finely plastered floor 70 cm below the modern surface of the plaza, confirming that it was a sunken plaza. This implies that the chronological sequence of Huaca de los Chinos and Plaza A may have been linked to the Initial period and Early Horizon, since sunken plazas associated with U-shaped monumental ceremonial architecture were architectural features common to this time-period (Burger 1992; C. Williams 1971, 1980, 1985).

The central axis of Huaca de los Chinos ascended through a series of staircases from the ground level in front of the huaca to Room 1 on the southwestern side of *Est 1* on the huaca's summit. Four excavation units were used to expose the form of two of these staircases (*Ent 3*, *Ent 4*). *Ent 3* was the access path that led from huaca Level 3 to Level 4 and provided access to the top three levels of the huaca. Excavations (UE09, UE10) revealed its form was a narrow staircase that ascended in a zigzag pattern (Figures 2.1, 2.23, 2.27), and its width would only permit a single file of people to ascend or descend it. This was the only staircase on the huaca with this access pattern; the pattern of all others was a straight line. This suggests that *Ent 3* may have served as the primary point for controlling access to the huaca's uppermost three levels.

The purpose of UE11 and UE12 were to expose the form of *Ent 4*, the principal access between huaca Levels 4 and 6 (*Plaza D* and *Plaza E* complexes). After removing the

architectural rubble covering it, its form was clearly visible as a staircase in a straight-line pattern whose width would permit multiple individuals to ascend abreast from *Plaza D* to *Plaza E*. Whereas, *Ent 3* appeared to be the control point for access to *Plaza D*, the form and width of *Ent 4* would permit a larger number of individuals to move simultaneously between these two plazas, perhaps in ritual processions.

*Est 1* was located on the southwestern side of *Plaza E* and was the largest structure on Huaca de los Chinos. It was the highest point on the huaca. My project team excavated *Est 1* using 16 excavation units (UE13–UE28). The objectives of these excavations were to reveal the form of the structure and one of its two adjacent rooms (Room 6, UE23), its construction techniques and materials, evidence of multiple construction episodes, evidence of elaboration (i.e., plaster, paint, iconography); to look for evidence of domestic activity; and to collect samples for radiocarbon dating.

The principal structure consisted of five rooms arranged around three sides of a patio (Figure 2.32), which formed a U-shape with the open end of the patio oriented to the northeast. Access to *Est 1* was via a staircase in the center of the facade. The patio contained eight columns arranged in two rows of four that ran southeast to northwest across the patio's width. Two additional small rooms were adjacent to and equidistant from (1 m) the main part of *Est 1*. The structure was bilaterally symmetrical along its central axis. Substantial evidence indicates that all exterior and interior surfaces, including the columns, were coated with a thick layer of fine plaster and painted using red, white and black paints. Although multiple colors were contiguous or overlapped in several instances, no specific design could be discerned. No sculptures or friezes were found. Excavations of the patio and Room 6 found

evidence that *Est 1* had been burned. Large sections of a wall or the roof were found lying on the patio surface. A large amount of carbonized material was recovered between this collapsed material and the patio floor, and the wall or roof exhibited areas of fire-reddened scorching.

*Est 1* was constructed on top of a rectangular stone foundation (12 m x10 m). Its walls were made of stone laid in courses with a clay-mud mix used as mortar. Exterior and interior walls were coated with plaster. The patio and all rooms had multiple levels of floors. The lowest level floor (original floor) and the next floor above it had foundations of small white pebbles. These foundations were 6 cm thick. The foundation for the uppermost floor consisted of approximately 55 cm of fill containing various type and sizes of stones and other material that appeared to have been randomly deposited. All floors were made of a clay-mud mix covered with a fine plaster. The remains of a wall or the roof found collapsed in the patio had impressions made by cane (*caña brava*), and some fragments had cane still imbedded. This suggests that cane was used as a backing for the walls or the roof, and that plaster had been pressed onto the cane to form the walls and roof. Conical adobes were recovered from the patio and Room 3.

Architectural evidence found in Room 1 (UE16) and two areas of the patio support the interpretation that *Est 1* was built in three construction episodes. This evidence comes from an examination of the floors in Room 1 (UE16), Room 2 (UE15), column 5 (UE22), the northwestern side of the patio (UE19), a difference in the construction technique and material, and a seam in the architecture. *Est 1*'s original construction consisted of a floor that extended across the stone foundation of the entire structure and included Rooms 1, 2, and 3

along the southwestern side of the structure (Figure 2.140). The second construction episode included a new floor and foundation of small white pebbles that shortened the patio and

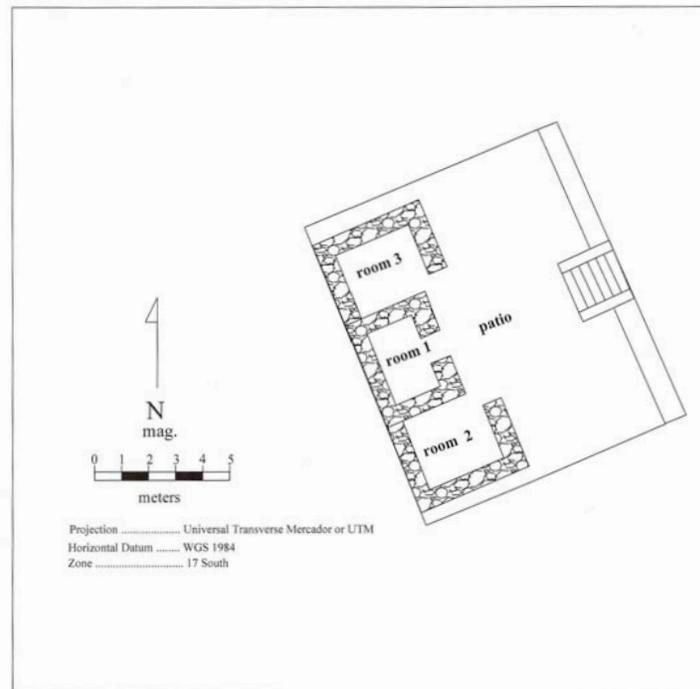


Figure 2.140. Drawing of the original construction of *Est 1* (Episode 1).

raised its floor level by 15 cm, and it also included the addition of Rooms 4, 5, 6, and 7 (Figure 2.141). This construction episode expanded *Est 1* and changed its basic architectural design of *Est 1*. Sometime later, *Est 1* burned, and subsequently, a third construction episode was carried out. The burned Episode 2 structure was covered with fill that was capped with a layer of clay-mud and a finely made plaster floor. The elevation of the construction 3 floor was raised 60 cm above the level of the Episode 2 floor across the entire structure. Evidence of a third construction episode came from three remnants: two in Room 1 and one on the southwestern side of the patio (Figures 2.56, 2.59, 2.60, 2.61). Finally, eight samples for radiocarbon dating were selected from material (cane, seeds, wood, and carbonized wood)

imbedded in the collapsed wall or roof or trapped between this collapsed material and the construction Episode 2 patio floor. Three additional samples came from the excavation of column 5 (UE22; seeds, wood, carbonized wood).

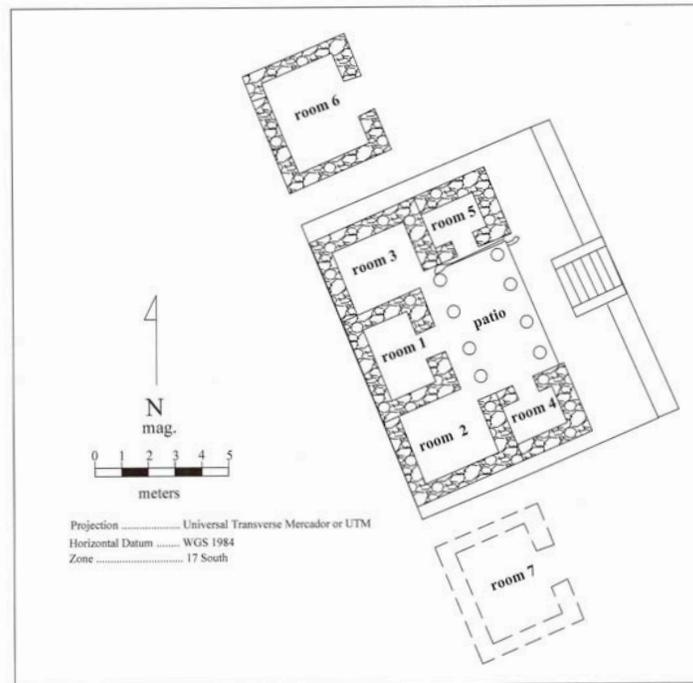


Figure 2.141. Drawing of *Est 1* after construction Episode 2.

Samples for radiocarbon dating were analyzed at the AMS Laboratory of the Physics Department at the University of Arizona. The samples were associated with wall 2A, a large feature on the southeastern side of the huaca, and with two areas associated with *Est 1*: column 5 (associated with construction Episode 2) and the area on the northwestern side of the patio associated with the fire that burned this structure. Three of the samples were not considered in my interpretations: sample 10 was modern, and samples 7 and 11 were considered anomalies because they were significantly out of the range of the other sample

found in the same context (Tables 2.4, 2.5; Figure 2.133). Ten of the dates fell within the general range of 900–750 B.C. The remaining three dates overlapped into this range, but they extended somewhat beyond the boundaries. These dates suggest that construction Episode 2, its destruction, and the addition of wall 2A to the southeastern side of the huaca may have occurred during the 150 period from 900–750 B.C.

## CHAPTER 3

### CORPORATE LABOR INVESTMENT

An important aspect of the organizational and administrative capacity of a society is its use of labor to carry out construction projects associated with public architecture. The calculation of the construction labor requirement can suggest a general estimate of the effort that may have been needed for a particular project in terms of the size and composition of the workforce, as well as the construction time (T. Pozorski 1976: 146–147). It is easy to assume that the construction of any monumental public architecture required a large-scale, multi-level, political organization and a workforce composed of a paramount leader, mid-level leaders, construction supervisors, artisans, and common laborers. Although most construction projects require some level of planning, supervision, and financing, it does not always require these elements on a grand scale. In some cases, small-scale societies with little status ranking (simple chiefdoms) can carry out construction of large public architecture using a cooperative community labor effort (Erasmus 1965; Kaplan 1963; T. Pozorski 1976: 146–147). The insight gained by estimating the general labor requirement for a monumental construction, such as Huaca de los Chinos, can be helpful in formulating an interpretation about the level of political centralization that may have been involved.

To determine the corporate labor investment of any particular construction project, estimations must be made about the volume of architectural material used, the time requirement for each project element, the size of the workforce needed, and the time to

complete the project. Deriving the volume of material needed to build Huaca de los Chinos was difficult because it was constructed over and around a large ridge of natural rock that protruded from the northeastern side of Cerro El Castillo. Most of these projections had walls or staircases constructed on them, thereby incorporating them as a functional part of the huaca. Portions of this ridge can be seen projecting from the northwestern side of the huaca (Figure 1.4). Two features labeled *natural rock* extend toward the northwest from the base of the huaca. Several sets of stairs, *Ent 5–8*, and *10*, were constructed in association with these two projections. Also, *Ent 9*, the staircase that descended from huaca Level 6 to Cemeteries 2 and 3 (*Cem 2*, *Cem 3*), was bounded on both side by the natural rock of the cerro. There was also a small portion of the natural rock that protruded from the front of the huaca near the juncture of the front wall of huaca Level 4 and huaca Level 3.

Since it was impossible to know with current data the exact volume that the ridge composed of the total huaca, I decided to estimate a maximum and minimum range of possibilities (models 1 and 2 respectively). First I calculated the corporate labor investment assuming, theoretically, that the huaca was constructed on flat ground and all the materials had to be brought to the site (Appendix D, model 1). Second, I calculated the corporate labor investment based on the assumption that the natural ridge composed 75% of the total volume of the huaca and only 25% of the materials had to be transported to the site for use in the construction (Appendix D, model 2). Third, I assumed that the ridge composed 40% of the huaca's volume, and that 60% of the materials had to be transported to the site (Appendix D, model 3). In this way, I could calculate a minimum, maximum, and middle position for the corporate labor investment and time of construction and present a range of possibilities.

The major elements of the construction project that could be estimated included the total volume of material, percentage of clay and rock, the man-hours required to gather and transport the materials to the construction site, and man-hours required for the masonry construction. I used—with permission—the corporate labor investment assumptions and calculation method contained in Appendix V of Thomas Pozorski's 1976 dissertation. My estimates of total volume, the percentage breakdown of clay and rock, and the distance to the material sources were different, but I used the rest of his assumptions and calculations (see my corporate labor investment calculations, Appendix D).

The total volume estimated for Huaca de los Chinos was 53,410 m<sup>3</sup> (Figure 1.4; Table D.1, Appendix D). This estimate was based on my measurements taken in the field and the site map drawn from the spatial data collected by means of the topographic survey. The first model assumed that the huaca was constructed on flat ground. This provided a model in which the ridge played no part in its construction, and it yielded the hypothetical maximum volume of material that would have been required. Seventy-five percent of this material was estimated to be rock and twenty-five percent clay—based on observations associated with our excavations and of those carried out by looters in the past. Using the specific gravity of clay and andesite rock, the required volume of each calculated to 18,027,000 kg of clay and 106,151,000 kg of rock (Appendix D, model 1; Holmes 1921: 24; T. Pozorski 1976: 145 - 154, Appendix V, 454 - 455; Robinson 1936: 73 - 75).

The clay and water required to make the mortar and plaster was most likely obtained from the Moche River, which was approximately 1 km northwest of Huaca de los Chinos. The huaca was situated in the mouth of Quebrada Alto de las Guitarras at its southwestern

border. This large dry ravine was approximately 1 km wide at its mouth, and its surface was covered with an enormous quantity of the type of stone needed for the construction of Huaca de los Chinos. Most likely the stone used was gathered from the surface of the Quebrada within 1 km of the construction site. For model 1, excavating the clay and gathering the stone, transporting both to the construction site, and the masonry would have taken 529,561 days of labor. Based on working 300 days per year, this translates into 1,765 years (Appendix D, model 1). In a more realistic scenario for model 1, 50 full-time workers would take 35.3 years to construct the huaca, 100 workers would take 17.65 years, and 1,000 workers would take 1.76 years.

Pozorski (1976: 149 - 152) suggested that the construction of Huaca de los Reyes in the Caballo Muerto mound complex most likely was directed by a single individual over a 25 year period, which was the active adult life span in the Initial period. It would have been important since a longer period could have “resulted in the death of this leader and intentional or accidental changes in the original design by his successor” (T. Pozorski 1976: 149). He estimates that the local population and the hinterland population at the time of the construction of Huaca de los Reyes was sufficiently large to have supported a full-time labor force of 50 workers. However, it was more likely that the force consisted of a small number of specialists—masons, plasterers, sculptors, and painters—and a larger number of workers providing the bulk of the labor as part-time laborers through a labor rotation system. Pozorski (1976:150) calculated that the local population consisted of at least 240 males, and if each of them worked 62.5 days per year, it would equal that of 50 full time workers. This

would allow these men to spend only part of the year working on the huaca's construction and the rest working in their agricultural fields.

These calculations are somewhat different for Huaca de los Chinos, but the assumptions and methods are still valid. Huaca de los Chinos has a greater volume than Huaca de los Reyes, and it would take the equivalent of a full-time work force of 70 men to complete Huaca de los Chinos in 25 years ( $1,765 \text{ years} / 25 \text{ years to complete} = 70 \text{ full-time workers}$ ). Each of the men from the local population would have to work 87.5 days per year or about 3 months to equal the work of 70 full-time laborers. Supporting this number would stretch the population more, but it seems feasible. To summarize, if each man worked 87.5 days per year in a labor rotation system, then Huaca de los Chinos could have been constructed in 25 years. This is a hypothetical scenario since it assumes that the natural ridge of Cerro El Castillo was not part of the huaca. However, it does illustrate the maximum effort required to construct Huaca de los Chinos.

In reality, the ridge of Cerro El Castillo did comprise a significant portion of the volume of Huaca de los Chinos. I estimated the effect of the ridge on the corporate labor investment by making two additional calculations: first by assuming the ridge composed 75% of the huaca's volume (model 2, Appendix D) and second by assuming it composed 40% (model 3, Appendix D). The first was a rather extreme position, but it permitted me to compare it with the maximum theoretical effort presented above (model 1) to create a minimum-maximum range. The second estimate provides a more realistic estimate of the volume provided by the Cerro and a more realistic estimate of the corporate labor investment.

In model 2, I assumed that the Cerro El Castillo accounted for 75% of the volume of the huaca, then the amount of the clay and rock transported to the site would be 25% or 13,353 m<sup>3</sup> (Table D.1). The construction could then be completed in 308.69 man-years. This translates into 6.17 years using 50 full-time workers, 4.41 years with 70 workers, and 3.09 years with 100 workers.

In model 3, if the volume provided by the ridge vs. that of the material transported to the site was 40% and 60% respectively, then the huaca could be constructed in 1,060.82 man-years (Appendix D, model 3). The construction would take 21.2 years using 50 full-time workers, 15.15 years using 70 workers, and 10.61 years using 100 workers.

From my observations during the field season, I believe that attributing 40% of the volume to the ridge and 60% to imported construction materials is a reasonable estimate. The ridge projected from the huaca in several places on its northwestern side (Figure 1.4) in a pattern that suggests the ridge may have curved toward the northwest and descended to ground level beneath Plazas D and E. There were no projections of this type on either the northeastern or southeastern sides of the huaca that would indicate the ridge extended beyond Level 4 of the Huaca. Using model 3's calculations, the huaca could have been completed in 15 to 21 years using a workforce of 50–70 laborers working part-time through a labor rotation system with each laborer working on the huaca for 2 to 3 months during a 300 day work-year. This would be equal to 50–70 full-time laborers working for 300 days per year. This timeframe is well within the generational limit of 25 years that Pozorski (1976: 149) estimated for Huaca de los Reyes. If future evidence indicates that the ridge constituted a larger or smaller part of the huaca's volume, then the construction time would still fall

between the maximum and minimum suggested by models 1 and 2. In either case, the labor requirement to construct Huaca de los Chinos appears to be minimal.

Huaca de los Chinos and Huaca de los Reyes were both large, multigenerational works of public architecture. Although the estimated volume of Huaca de los Chinos was slightly greater, Huaca de los Reyes was architecturally and artistically more elaborate. Huaca de los Reyes had a complex pattern of rooms and plazas that included colonnades, elaborate sculptures, and friezes (T. Pozorski 1976:155–168, 1980: 102–109, 1982: 232–249, 1983: 1–5; Moore 2005: 101–105). Pozorski (1976: 146–150, 1980: 103–104) argues that the small labor force for Huaca de los Reyes was likely composed of part-time laborers drawn from local communities, full-time artisans with sufficient skill to produce the intricate sculptures and friezes, and a leader who provided planning and coordination. He described the labor effort to construct Huaca de los Reyes as “rather diminished” (Pozorski 1976:153) and suggested that “organizational efforts need not have been as substantial or as rigid as might be supposed” (Pozorski 1980: 104). Moore (2005: 103) suggests that although the construction may have been carried out by a small labor force in a relatively short time, the effort represented “a level of coordination greater than that exercised by small-scale village societies.”

Huaca de los Chinos appears to have been less elaborate than Huaca de los Reyes in terms of the pattern of rooms and plazas, the number of columns, and the artistic decorations. No evidence of sculpture or friezes was found. The evidence from the excavations at Huaca de los Chinos does indicate that the entire huaca may have been covered with a thick layer of plaster. There is ample evidence that Structure 1, located on the huaca’s summit, was

covered with a plaster coating and that its interior and exterior surfaces were painted using black, red, and white paint. However, no paint fragments were found that indicated the nature of the painting (i.e., designs or images). Therefore, the current evidence is insufficient to permit an interpretation regarding the need for skilled artists as part of the labor force. I should note that the presence or quantity of skilled artisans was not part of the labor requirement calculations.

Although Huaca de los Chinos could have been constructed with a minimal labor effort by a small workforce, it was clearly a multigenerational monument made from nonperishable materials that was designed to last through time (Moore 1996a: 139–143). I would argue that this implies that planning and coordination were involved at an organizational level “greater than normally exercised by small-scale village societies” (Moore 2005: 103). Previous research in the Moche Valley has suggested that political centralization during the last half of the Initial period (1800–800 B.C.) and the Early Horizon (800–400 B.C.) was characterized by a three-tiered hierarchy of monumental architecture and by a three-tiered spatial hierarchy of architecture within sites, and that a three-tiered hierarchy of leadership may have existed in the valley (Billman 1976: 167–186, 1999: 140–143, 2002: 366–368; T. Pozorski 1976, 1982). I would conclude from this that although a multilevel political organization may have existed in the Moche Valley, the corporate labor requirement for the construction of Huaca de los Chinos doesn’t indicate that this level of organization was necessary to carryout its construction.

One important question that remains unanswered at this time is whether the large Initial period centers of Menocucho, Caballo Muerto, Huaca de los Chinos, and Puente

Serrano existed contemporarily or sequentially? If they existed sequentially, construction at these sites would have occurred individually in sequence. However, a contemporary existence would suggest that a some portion of their construction may have been carried out simultaneously. Each of these scenarios would say something very different about the corporate labor investment involved, the population size, and about the level of political centralization that may have existed during the Initial period and first half of the Early Horizon.

## **CHAPTER 4**

### **COMPLEXITY, ARCHITECTURAL COMMUNICATION, PLAZAS, AND RITUALS**

Monumental public architecture has a communicative aspect whose purpose is to transmit social meaning to the people of a society. Rituals, such as dances, singing, playing musical instruments, speaking, and processions, are a means of communicating important social meaning via human activities. Plazas are architectural spaces designed and constructed for human interaction through rituals. In this chapter, I will discuss each of these and how they are related to Huaca de los Chinos.

#### **Socio-Political Complexity**

Complexity is a term that has been defined in different ways by archaeologists, and is often confusing. I define sociopolitical complexity as the degree to which institutionalized social inequality and political centralization are present, which is the unequal access to power, resources, and status (Isbell and Silverman 2002; Price and Feinman 1995). Social inequality is the unequal access by different groups within a society to various aspects of that society, such as basic resources, trade, wealth, ritual, and symbols of power. Those who do not have access may have to provide tribute in the form of goods and services to those who do have access. Political centralization refers to the governing institution and the level and nature of control that it exercises. This includes control by leaders of one or more aspects of a society, such as trade, wealth, tribute, the means of production and subsistence, ideology and access to the supernatural, the symbols of power, labor, and the construction and use of

public monuments (Isbell and Silverman 2002; Moore 1996a). There has been a long interest in anthropology of looking at the origins and development of civilization and socio-political complexity (Carneiro 2003; Childe 1951; Fried 1967; Haas 2001; Morgan 1964; Sahlins and Service 1973; Service 1975). I will briefly review various anthropological and archaeological theoretical models for the development of civilization and socio-political complexity and discuss political power as a means for understanding socio-political complexity from a theoretical and methodological perspective.

The development of theoretical models in this regard can be traced to the 19<sup>th</sup> century (Haas 1982, 2001). Henry Morgan (1877, 1964) proposed a unilineal model whereby societies progressed from a kin-based social organization to a territorial, non-kin based political system. A society developed in a progression of three stages: savagery, barbarism, and civilization. He argued that agricultural intensification and domestication of animals were the catalyst for this transition. As the population grew through immigration, the original “kin-based” population maintained a position of superiority over the new arrivals. Over time a class structure developed, and a political institution arose to manage the increased complexity and associated class structure. This model generalizes patterns for all cultures and fails to recognize cultural diversity and to consider that different cultures may have unique diachronic development patterns. As anthropologists learned more about cultures around the world, Morgan’s model didn’t hold up.

V. Gordon Childe (1925, 1951) adhered to Morgan’s stage model. He proposed that agricultural intensification led to the rise of a division of labor and an increase in non-subsistence-producing members of society (administrator, artisans, soldiers, and merchants).

Through time, this led to unequal distribution of goods and class conflict. The emergence of elites who controlled irrigation, surpluses, and trade resulted in increased social inequality and political centralization. Childe's model emphasized historical events rather than explaining developmental processes. He made no attempt to actively test his model in the archaeological record. The archaeological record is an important source of information about a society. The evidence contained in it, which was deposited as a result of the cultural processes of that society, can provide valuable data for testing a theoretical model.

Leslie White (1949) was interested in the development of culture as a general phenomenon (see Haas 1982, 2001). According to White, the development of socio-political complexity began with agricultural intensification, which led to population growth and occupational specialization. As the occupational specialist group grew, a property-based economy resulted, which led to social differentiation and a class society. Irrigation agriculture further exacerbated social inequality, which led to conflict and the emergence of political leaders to manage the needs of society and resolve class conflict. Problems with this model included a focus on historical states in advance stages of development; failure to consider warfare, labor management, and private property as causal elements in the development process; and failure to ask how and why a phenomenon occurs. His model focused on historical events rather than on processes within a society. He failed to recognize that a wealth of data about prehistoric societies was available in the archaeological record and, as a result, didn't use archaeology to test his model.

Morton Fried (1960, 1967) focused on the process of societal development and presented a model based on a set progression: egalitarian, ranked, stratified, and state.

According to Fried, ranking developed as a result of population growth and agricultural intensification, which created pressure on the social system to focus on increasing production means and the distribution of resources (see Haas 1982). According to Fried's model, stratification occurs because of a shift from community-owned to privately-owned property. As a result of this shift, restricted access to basic resources and specialization occurred. The state emerged to maintain social order, but used physical means to gain economic and ideological control. The strength of Fried's model was his focus on the process of development, the cause of change within processes, and formulating testable hypotheses. However, he did not use archaeology to study prehistoric states, because he failed to see the archaeological record as a valuable resource for testing his model. Also, he did not consider that stratification and the state can develop simultaneously.

Elman Service's model (1962; Sahlins and Service 1960) was based on the evolution of different sequential stages of social development: band, tribe, chiefdom, and state. He argued that production intensification led to the emergence of a politically centralized organization to manage the redistribution of economic resources within the society. Leaders became the focal point for managing and controlling these resources, and as they gained more control, political centralization and social inequality increased to a point at which a state would emerge to integrate, to manage, and to control this aspect of society. He saw the state as a centralized institution that used physical force to govern. The strengths of his model are the incorporation of archaeological evidence and the recognition that economic and military power are important power bases. However, some of his conclusions were not based on archaeological evidence, such as why peasants would never revolt against the repressive

physical force of a state (Billman 1976: 11, 9–21; Haas 1982: 76, 71–85; Service 1975: 10). Service's model also fails to recognize that when leaders control critical resources, the potential for coercive sanctions exists.

Several other theories in archaeology focus on warfare, trade, and irrigation as a primary catalyst in the development of socio-political complexity. Robert Carneiro (1970, 1978; Haas 1982, 2001) defines the state as a circumscribed population unified under a government that relies on military force. He argued that the pressure from social and environmental circumscription and population growth caused warfare between autonomous groups within a region. Social inequality and political centralization increased within some groups more than others, and a state emerged when communities within the area became subordinate to a single polity. Gordon Willey's study in the Virú Valley of Peru showed that circumscription and population growth do not always result in intra-valley warfare and unification (Haas 1982: 134–136; Willey 1953).

Trade theories state that leaders gain differential access to basic resources by controlling trade networks. Control of wealth finance gives leaders the economic power with which they can exploit other power sources. William Rathje's (1970, 1971) model is based on the idea that core areas in a region lack some essential resources that can only be acquired through long distance trade. Control of this inter-regional trade network provides leaders with economic power that they can use to develop other power bases.

Henry Wright and Gregory Johnson (1975) proposed a model based on intra-regional trade. In their model, demographic and environmental fluctuations cause increased pressure for basic resources, which leads to intra-valley specialization and trade. Control of the intra-

valley trade network provides leaders with economic power which they can use to increase their power in other areas. Increasing social differentiation and political centralization result.

Karl Wittfogel (1957) and William Sanders and Barbara Price (1968) argued for a model based on irrigation agriculture as the catalyst for cultural development. Irrigation agriculture requires centralized investment and planning for canal construction and maintenance, labor mobilization, resolving disputes over water, and protection of the system. They argue that control of the system gives leaders an economic power base that they can then use to develop and exploit ideological and military power bases. Increasing control of power bases increases the level of social differentiation and political centralization.

A central feature common to all of these models is that the development of political power by leaders of a society results in the emergence and development of social inequality and political centralization. The essential element in understanding the development of socio-political complexity is to understand how leaders gain and use political power. My theoretical perspective for investigating the development of socio-political complexity at Huaca de los Chinos was based on understanding the use of political power by leaders within that society (after Billman 1996, 1999, 2001; Earle 1997, 2001; Haas 1982, 1987, 2001; and Steponaitis 1981).

Amid rising inequality, leaders face the challenge of how to get people to provide goods and labor in support of the developing political organization. Principally, this is accomplished through political power, which is the ability of a leader to get other people to do things that they would not ordinarily do (Billman 1999; Haas 1982). According to Haas (1982), political power relationships are complex and involve nine variables: base, means,

scope, amount, extension, power costs, refusal costs, compliance costs, and gains. Leaders influence people's actions by controlling one or more of three power sources or bases: economic, military, and ideological power (Billman 1997, 1999; Earle 1991, 1997; Haas 1982).

Economic power is based on the physical control of the production and/or distribution of basic resources or craft goods. Differential access to these resources provides leaders with economic power. By exploiting this access, leaders can use staple finance to establish a tributary relationship and a surplus, as well as wealth finance to reward cooperation and to maintain alliances (Billman 1997, 1999; Brumfiel and Earle 1987; Earle 1997). In the Moche Valley during the Initial period, leaders appeared to exercise some control of ideological power, which was likely reinforced by their ability to control the means of irrigation and agricultural surplus (Billman 1996, 1999, 2002; Haas 1987; T. Pozorski 1976, 1982). Irrigation canals in the middle valley were of short length and relatively easy to construct. Billman (2002) suggests that by organizing and financing their construction, leaders likely could have controlled the means of irrigation, and could have exchanged access to water for annual labor payments, which leaders could use to expand their ideological power base.

Military power refers to the use of armed forces to coercively promote a leader's goals. This can take the form of tribute extraction, physical punishment for noncompliance, territorial expansion, and protection from outside forces (Billman 1996, 1999; Earle 1997; Haas 1982, 2001a, 2001b; T. Pozorski 1976). Initial period research in the Moche Valley indicates that settlements were in open, easily accessed areas. Also, there is a lack of

evidence for warfare, such as defensive architecture (forts or protective walls), destroyed architecture with evidence of burning, or art depicting warriors, prisoners, or battles.

In its broadest sense, ideology consists of a society's system of beliefs, ideas, and values. Ideological power refers to a leader's ability to use and manipulate this system to establish, legitimize, and maintain positions of social power (Earle 1997). It can be increased through the materialization of ideology, which is the transformation of ideology into physical manifestations of ceremonial events, symbolic objects, monuments, and iconography (DeMarrais, Castillo, and Earle 1996). It provides leaders with an opportunity to expand their control of ideology. Public ceremonies are a way to reach large numbers of people and to create a common, shared experience. Monuments can commemorate events or people, reproduce sacred aspects of the natural landscape, or provide places for religious rituals (Billman 1997, 1999; Earle 1997; Moore 1996a). Leaders could expand their control of ideology by using public ceremonies and architecture to communicate messages of religion, power, and wealth; and by controlling who had access to these elements. Eventually, it is important that ideological power be linked with economic power to provide leaders with the financial base needed to materialize the ideology.

Considerable evidence of political power and socio-political complexity can be found in the archaeological record. Although I didn't find any evidence of warfare at Huaca de los Chinos, I did recover evidence associated with social inequality and ideological control. How leaders manipulated the visibility of monumental architecture, controlled access to areas of the site and/or to ritual, and the general form of ritual that was possible can be measures of ideological power. Construction and rebuilding techniques, the labor and time required for

construction, and the construction material used can be measures of economic power. Understanding the function of the structures on the huaca can provide evidence of ideological, as well as economic power. I examined physical access patterns, the general communication characteristics of rituals, access to ritual, the control of labor, construction materials, multiple construction phases, and the techniques of any rebuilding.

### **Architectural Communication and the Proxemics of Ritual**

It is widely believed by archaeologists that monumental public architecture has an activity function and a communicative function (Blanton 1989; Moore 1996a; and Rapoport 1982). The activity function relates to architectural design, which must be suitable for the activities that take place there. The purpose of the communicative function is to transmit social meaning to the people of a society. There are several approaches for studying the communicative aspect of monumental public architecture.

The linguistic approach is based on semiotics, which is the study of signs and symbols as elements of communications (Moore 1996a; Rapoport 1982). This approach likens architecture to a language, and its formal characteristics constitute sign systems or codes. In this approach, a range of architectural traits are identified, and their frequency patterns are mapped from the archaeological record. Once combinations of these traits are recognized, then patterns of cultural behavior can be analyzed and interpreted. The strength of this approach is that it focuses on formal characteristics of architectural design. Its primary weakness is that meaning is difficult to define, especially when someone in the 21<sup>st</sup> century is developing a list of traits and then trying to relate those to prehistoric meaning. There is also

the problem of trying to distinguish activity function from communication functions. This approach has been little used by archaeologists.

One successful application of this approach was done by Richard Blanton in a study of architectural change at 146 sites in the Valley of Oaxaca, Mexico, especially the large hilltop site of Monte Alban (Blanton 1989; Moore 1996a: 95, 97). He was successful for two reasons. First he selected only architectural elements that were easily measurable in the archaeological records. Second, the construction history of Monte Alban and the other sites in the area is known through its entire chronology. Therefore, he could identify how these traits changed diachronically. Much of his data came from the large number of archaeological studies, including mapping, that were carried out on these sites in the past (Blanton 1989; Blanton et al. 1982; Marcus and Flannery 1996; Kowalewski 1989). According to Blanton, buildings can communicate in varied ways; however, it is difficult to gather data on many of those ways. He focused on proportionality of buildings, their orientations, plaza layouts and the configuration of buildings adjoining plazas, and on the formality and image-ability of the public architecture. The formality of the architecture communicates something to people at the site about the activity that is about to happen. He argues that more centralized societies will have a greater degree of formalized interaction between the elite and others, and this will be reflected in more formalized architecture. A sense of monumentality can also be created through architectural bulk and verticality, and by linking a series of plazas with avenues. Formal space can be created by positioning equivalent architectural masses along the sides of a plaza to create a balanced axis. This communicates an illusion of monumentality and directs the participant's vision to the most important feature in the complex.

In order to trace the formality of architectural design, Blanton focused on increased symmetry, spatial closure, balanced axis, and the appearance of linkage (Blanton 1989: 415–416). Key measurable traits at each site included: average population, total construction volume, number of structures, number of structures greater than 3 m in elevation, ball courts, number of plazas, plaza areas, architectural type, and orientation dominance (Blanton 1989: 433). He developed a system for ranking these characteristics, and was successful in measuring their patterns of occurrence at Monte Alban and its associated sites for the entire chronology. He concluded that as the polity became more complex, the architecture at Monte Alban became more formal, although the architecture remained informal in the rural communities. As the formality at Monte Alban increased, the architecture was designed so that it communicated a sense of awe, as well as the power and importance of the elite through a sense of monumentality created by size, volume, axiality, and concatenation of linked architecture and space. It also communicated the path of movement and which areas may be restricted.

A second means for analyzing the communicative aspects of public architecture is the non-verbal communicative approach advocated by Amos Rapoport (1982a. 1982b). He states that the built environment is a strategy for controlling and manipulating perception and behavior. All architecture has both an activity function and communication function that transmits information to the people of a society. The nonverbal communicative nature of architecture is a common theme in the study of the built environment. The information can range from how to use or behave in a building to ideological and political messages sent in a wide variety of methods. Two features of architecture play a role in understanding

architectural communication: semi-fixed features and fixed features. The former includes movable items associated with architecture such as furniture, clothing, or religious ritual paraphernalia. The latter includes all non-moveable features such as the building itself, walls, and staircases. Certain cues associated with these features are elements in architectural communications. Visual physical cues include shape, size, scale, height, color, materials, spaces, light and shade, and light shades. Sound cues can include sound type, quality, and volume. Height is almost universally associated with status and importance. Centrality is also associated with status. Color can have strong cultural meanings. Among the Navajo, colors are ranked as good or bad. At Chavín de Huantar, a black column and a white column flank a primary portal. This has been interpreted as referring to the Andean system of duality (complementary opposites). The presence or absence of color can communicate meaning. A whitewashed building in the center of a Peruvian rural town always signifies a church. Rapoport also argues that meaning can be expressed through noticeable differences between cues.

Status, hierarchy, prestige, and power are related to social inequality. These can be communicated by height, horizontal space, decoration, redundancy, and elaborateness. Architectural manipulation can create a sense of awe in visitors. A monumental palace creates a set of messages that communicates awe and subservience. The cues are size, scale, setting, approach, spatial setting, decoration, and elaborateness.

Humans have a tendency to classify the world into domains (us/them, men/women, good/bad, private/public). In defining domains, it is important to judge differences by the

mode of equivalence: perceptible, functional, nominal, scarcity, arbitrary, and affective (liked or disliked). Without noticing contrast, meaning is more difficult to understand.

The strength of this approach is that it is primarily observational and does not require complicated technology or equipment. A weakness is the potential for developing cues that cannot be measured or observed in the archaeological record.

A final approach to understanding architectural communication is advocated by Jerry Moore (1996a, 1996b, 1996c, 2005). He presents methods for understanding how monumental architecture and the spatial design of plazas communicate about ritual and social control. He developed this approach by analyzing monumental architecture from 22 Andean sites.

One archaeological approach to ritual architecture is to distinguish ritual from non-ritual architecture and to identify different types of ritual architecture. Ritual architecture and sacred places have the potential to communicate social messages, and they tend to be very formalized and different from other architecture. Moore uses five variables to identify different types of ritual architecture—permanence, centrality, ubiquity, scale, and visibility (Moore 1996a: 139–167). He emphasizes that these variables are a means to identify the social behaviors associated with different monuments. Permanence is the anticipated duration of a ritual structure. It is focused on comprehending the cultural vision and intention of its designers. The categories of permanence are general and based on the type of construction material used or evidence of rebuilding. Ephemeral architecture is made from very perishable material. Episodic constructions are more substantial, but not designed to last a long time. Generational and multigenerational constructions are structures made from

nonperishable material (stone) and are intended to last for a long time. Huaca de los Chinos clearly falls into the multigenerational category.

Centrality refers to a monument's location relative to a community (Moore 1996a: 143–144). A central monument is located in the center of the community. A peripheral monument is on the margin of the community. When multiple monuments exist on the margins of the community, their locations are classified as terminal or terminus (i.e., boundary marker). Currently, the Huaca de los Chinos site is considered to include only the huaca and the surrounding plazas and their associated architecture. However, future research will study whether the site extends farther to the northeast and is much larger.

Ubiquity is the relative distribution of the monument (neighborhood, village, or only certain places; Moore 1996a: 143 - 144). The community level means a monument is found within a community. The subregional level indicates they are found in more than one site in a region. This means that a similar type of monument would be found at one or more locations within the same valley. Regional level ceremonial structures are unique at the regional level, meaning that no other monument of that type exists within a valley. Interregional ceremonial structures are unique across multiple regions. Chavín de Huantar is an example of an interregional structure. Radiocarbon dates suggest that Huaca de los Reyes and Huaca de los Chinos may have existed contemporaneously during at least some part of their active lives, and it is possible that they functioned as both sub-regional and regional ceremonial centers. Billman (1996: 183–185) suggests that during the Initial period and Early Horizon, the Moche Valley contained the largest concentration of ceremonial centers north of the Casma

Valley, and that Caballo Muerto, Puente Serrano, and Huaca de los Chinos sites may have served as regional ceremonial and pilgrimage centers.

Scale is a measure of how many people a plaza or sunken court was designed to accommodate (Moore 1996a: 146–153). Moore suggests that plazas vary by size and location. Location refers to whether the plaza is placed along a monument's central axis or is in a peripheral location. In the 22 sites in Moore's study group, the plazas on the central axis were generally larger than those in peripheral locations. He makes two interpretations regarding plazas and sunken courts: different social groups used axial and peripheral ritual areas, and sunken courts were not always the most important ceremonial areas. Moore (1996c: 149) uses 3.6 people per square meter to estimate the human scale of plazas, but he cautions that the actual number of people using a space depends on the nature of the ritual. Are the people inside the plaza area observers or participants? Observers can stand shoulder-to-shoulder, whereas participants need space to move around. Moore (1996a: 165) suggests that sunken plazas within his Andean study group may have held no more than 100 ritual participants and in many cases less than 50 people.

Eight ritual areas were identified at Huaca de los Chinos: six plazas, the atrium of *Est 1* (the patio), and Room 1 of *Est 1* (Table 4.1; Figures 2.134, 2.135, 2.136, 4.1). Plazas A, D, E, and the patio and Room 1 of *Est 1*, were positioned along the central axis of Huaca de los Chinos. These three plazas and *Est 1* were located at progressively higher elevations on the huaca. Room 1 and the patio were at the same level, but Room 1 was at the maximum depth inside the structure and was bisected by the central axis of the huaca. Each area was progressively smaller and held fewer people.

*Plaza C* was located adjacent to the southeastern side of Huaca de los Chinos directly in front of Platform 1 (*Plat 1*; Figure 4.1). *Plaza B* was near the east corner of the huaca, and it was surrounded by four small stone platforms. *Plaza CH* was contiguous with the lowest level of the huaca on its northwestern side. This was a huge area that was located directly in front of *Plat 4*. During the field season, the area was covered with sugar cane and maize, and it was not possible to determine if a portion may have been a formal plaza that functioned in conjunction with Platform 4 (*Plat 4*) or if it was a very large ceremonial area. It seems logical that a formal plaza may have existed in front of *Plat 4*. The nature of the area designated as Plaza CH will be the focus of future research.

Table 4.1. Size and placement of plazas and other ritual areas associated with Huaca de los Chinos and the estimated audience size (using 3.6 m<sup>2</sup> per person).

Ritual area	Dimensions (m)	Area (m <sup>2</sup> )	# Persons*	Peripheral	Axial	Location
Plaza A	40 x 40	1,600	444		x	ground level
Plaza B	38 x 38	1,444	401	x		ground level
Plaza C	37 x 66	2,442	678	x		ground level
Plaza CH	83 x 109	8,984	2,496	x		ground level
Plaza D	15 x 15	225	62		x	huaca Level 4
Plaza E	13 x 16	208	58		x	huaca Level 6
<i>Est 1</i> atrium	4 x 5	20	6		x	summit struct.
<i>Est 1</i> Room 1	3 x 2	6	2		x	summit struct.

\* based on 3.6 m<sup>2</sup> per person standing shoulder to shoulder. Plazas A, B, and C most likely held between 50 to 100 participants at any one time (Moore 1996a: 165). The exact nature of Plaza CH is unknown at this time.

Visibility attempts to measure the relative accessibility of ritual space. Moore uses Hall's (1966) communicative thresholds to determine the type of communication that could be perceived at various distances. Hall defines how vision, speech, and hearing perception

change as distances from the speaker become greater. He categorizes this phenomenon into personal space, social space, and public space.

Hall (1966, 1972: 147 - 148) describes the thresholds of communication—limitations to the modes of interpersonal communication—over which humans are able to distinguish speech, vision, and hearing. Figure 4.2 shows these distance thresholds and what can be distinguished for three types of communications. Hall defines the distance beyond 10 m to the maximum carrying distance of a human voice as *public distance-far phase* (Hall 1972:147). Across this distance, what an observer hears and sees diminishes to the point where the human participant is only a tiny portion of the total image and no speech can be heard (Hall 1972:148). Different types of rituals require different sized spaces, because as the distance between the observer and the participant increase, the mode of communication, threshold, and human perception shift. Rituals carried out for a small audience in a small plaza on the summit of a large huaca consist of very different modes of communication than rituals carried out at the edge of the same summit intended for an audience standing in a large, ground-level plaza 200 m away. The method for applying Hall's theory was to determine the size of communicative spaces (plazas) and the number of people it could contain, and “then determine what type of ritual communication could be perceived and from where” (Hall 1966). In this way, one can estimate the general form of ritual that was possible for any given area.

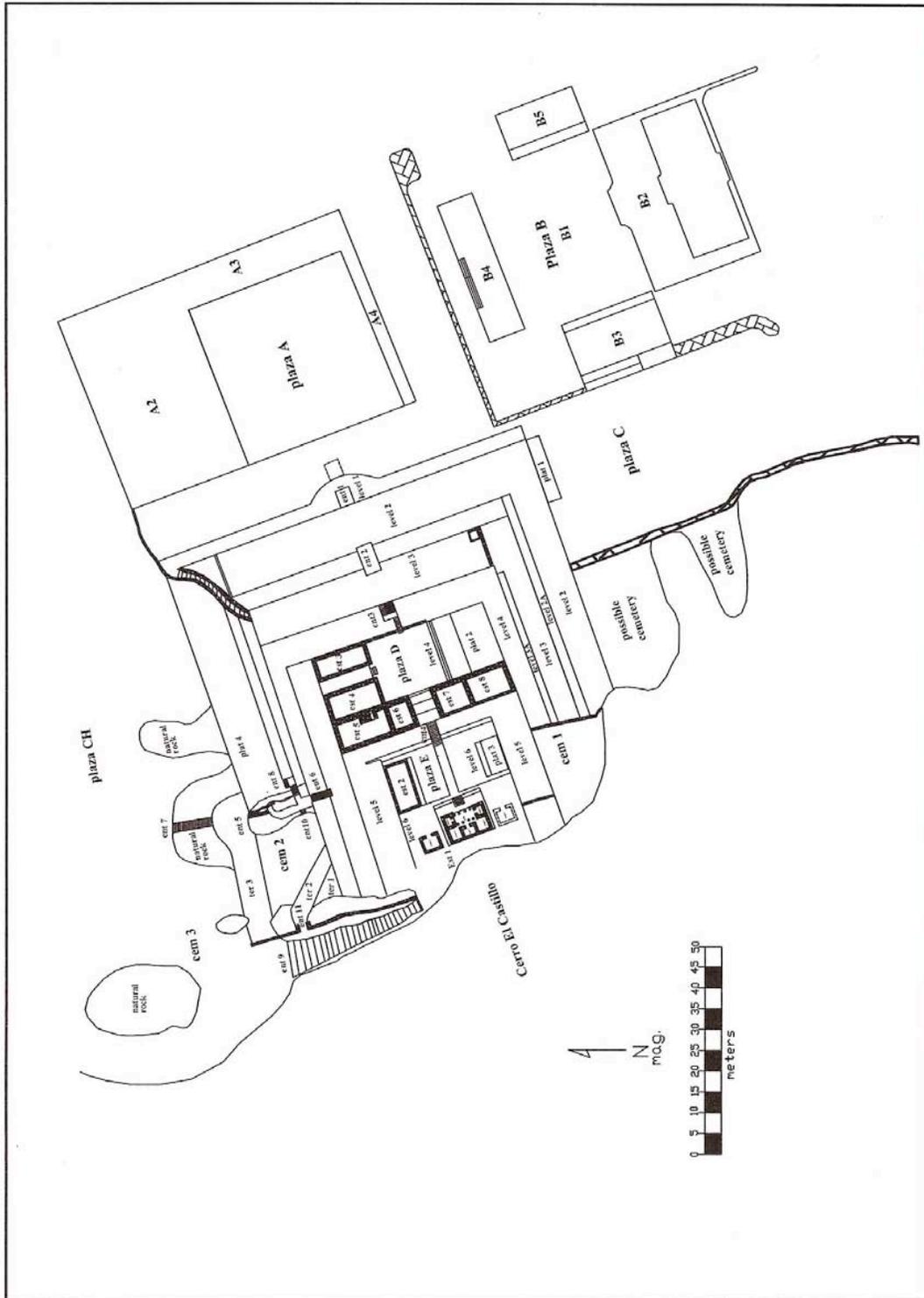


Figure 4.1. Huaca de los Chinos and the surrounding area.

Informal distance classes	Distance in meters										
	0	1	2	3	4	5	6	7	8	9	10
	Intimate personal	Social		Public							
Oral/ aural	Soft voice whisper	Casual or consultative voice		Loud voice when talking to group			Full public-speaking voice, frozen style				
Detail vision	Details of skin, teeth, face visible	Fine lines of face fade; wink visible		Eye color not discernible; smile vs. scowl visible			Difficult to see eyes, subtle expressions				
Scanning vision	Whole face visible	Upper body; can't count fingers		Upper body & gestures			Whole body has space around it in visual field				
Peripheral vision	Head & shoulder	Whole body movement		Whole body visible			Other people become important in vision				

Figure 4.2. Distance, communication, and thresholds of human perception (Hall 1966, 1972; Moore 1996c: 153 - 155).

Using this technique, Moore (1996c) analyzed plazas of 28 archaeological sites from three Peruvian areas: the pan-Andean Inka Empire, the Lake Titicaca area, and the north coast of Perú. He analyzed the plazas' spatial characteristics and discussed the general type of rituals that took place in each. The plazas were of three types: central plazas of the Inka, enclosed plazas of the Chimú, and the sunken plazas of the Chiripa, Pucara and Tiwanaku cultures of the Lake Titicaca Basin (Moore 1996c: 789).

The Inka plazas were large, open, centrally located areas with open access (Figure 4.3). The objective of rituals held in these plazas was to bring together the different ethnic groups of Inka society with the purpose of creating a sense of integration and cohesion between groups (Moore 1996c: 792 - 793, 797). Generally, there was significant distance

between observers and participants, and the spoken and visual communications of the rituals fell within Hall's (1966) "public distance-far phase" range of human perception (Figure 4.2).

Chimú plazas were very different from Inka plazas in terms of location, access, size, form, and purpose. Chimú plazas were located inside of *ciudadelas*, which were large, walled compounds of the kings. Admittance to the rituals carried out in these plazas was highly controlled. The high walls and controlled access served to make these rituals invisible to everyone outside the walls and to emphasize and legitimize the ideology of separation that was integral to Chimú society (Moore 1996c: 793–795, 798). These plazas were smaller than Inka plazas, and the distance between participants and observers was much less, although a prescribed distance was maintained between the people in the plaza and the king and his retinue who were located at one end of the plaza on raised benches (platforms; Figure 4.3). Spoken and visual communications associated with these rituals would have fallen within Hall's (1966) "public distance - close phase" range of human perception (Figure 4.2).

The ritual traditions of the cultures in the southern Andes around Lake Titicaca were carried out primarily in small square or rectangular sunken plazas (Figure 4.3; Moore 1996c: 795–797). The form of these rituals required a space in which visual and spoken communications would have been discernible within Hall's (1966) "intimate and social range of human perception." In these small plazas, normal speech, small gestures, facial expressions, details of clothing, and small ritual instruments could be easily detectable and understood. In the smallest and most sacred ritual spaces, it is plausible that a priest entered and served as an intercessor between the people and the deities (Moore 1996c:797).

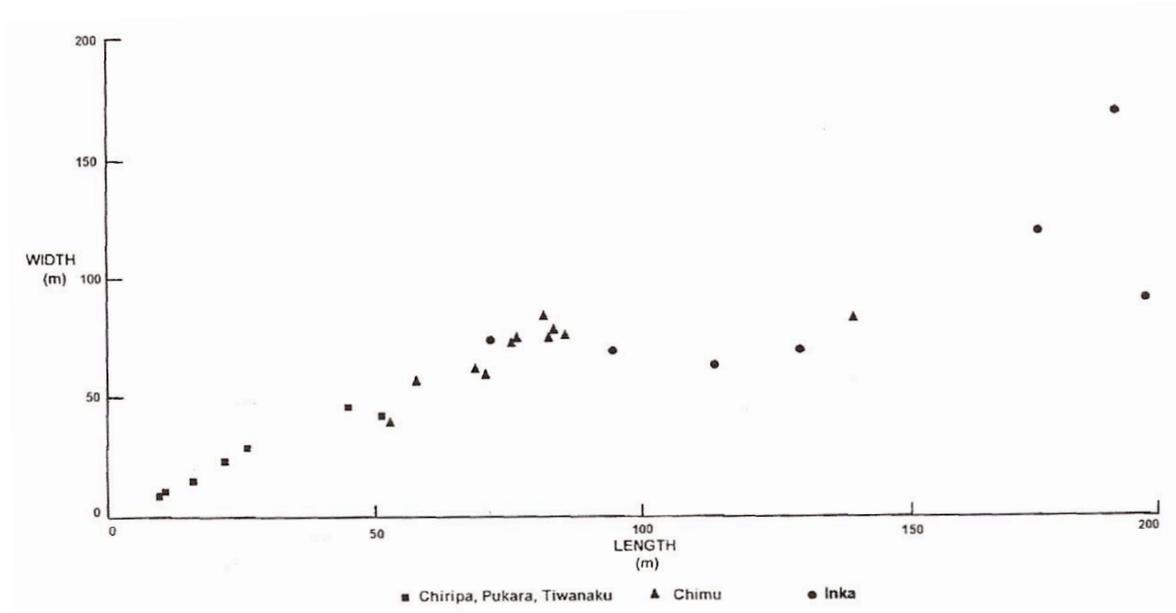


Figure 4.3. Graphic plot by plaza size for Inka, Chimú, Chiripa, Pukara, and Tiwanaku plazas (Moore 1996c: 796)

To date, eight formal ceremonial activity areas have been associated with Huaca de los Chinos (Table 4.1; Figure 4.1). They consist of six plazas and the atrium and Room 1 of the summit structure (*Est 1*). Four of these dominate the landscape around and adjacent to all three sides of the huaca at ground level. The remaining four are on the top three levels of the huaca. These eight formal areas appear to have been focal points of rituals carried out here.

Other activity areas may have been involved in the ritual activity, but I suggest they provided a supporting role rather than a primary role. Huaca de los Chinos was a stepped (terraced), flat-topped mound or pyramid that was constructed using a series of superimposed platforms. Each successive platform was smaller than the one upon which it rested, which left horizontal flat areas—3 to 6 m wide—around the periphery of the smaller platform. These flat areas are labeled as “huaca Levels 1–6” in Figure 4.1. On the northeastern side of the huaca, these areas overlooked *Plaza A* and the stone platforms that surrounded it, as well

as the Plaza B complex. Levels 3 and 4 on the southeastern side of the huaca overlooked both *Plaza C* and the Plaza B complex, while Level 2 only had complete visibility of *Plaza C*. The same type of horizontal areas existed on the northwestern side of the huaca, but the architectural symmetry appeared to be different from the other two sides. These flat, horizontal areas overlooked *Plaza CH* (Figure 4.1), and were at a great distance from the activities that took place there, which would have been well beyond the communication far-phase minimum threshold. They appear to be more suited for an observational role, but there is no way to know for certain. The ubiquity of activity areas involved with rituals that were on or adjacent to Huaca de los Chinos clearly shows their importance as places for interaction and communication.

What general type of ritual activity was possible in these areas? I examined the spatial size of each of the formal ritual areas, and then used Hall's (1966) thresholds of human perception to estimate the oral and visual characteristics that would have been appropriate for rituals carried out in each of these areas. *Plazas A, D, E*, and the atrium and Room 1 of *Est 1* were all located on the central axis of Huaca de los Chinos. Each of these was progressively higher in elevation.

*Plaza A* was a 40 x 40 m square sunken plaza located directly in front of the huaca and was bisected by its central axis. It was accessed by way of two steps that descended to a finely plastered floor approximately 70 cm below the modern agricultural surface. The plaza was surrounded on two sides by stone platforms that were elevated almost 1 m above the modern surface or almost 2 m above the plaza floor (Figure 4.1). A retaining wall ran the entire length of the third side at the same height as the other two sides. The architectural

pattern of the plaza and the surrounding features formed a U-shape with the open end of the “U” oriented toward the front of the huaca.

To analyze the most appropriate oral and visual communications elements for rituals associated with each plaza, I used a template that represented Hall’s (1966) thresholds of human perception. The template consisted of concentric circles that represented radii of 1 m, 4 m, 10 m, and 30 m. The first three represent distances for interpersonal, social, and public-close phase communication, while distances beyond 10 m represent the public-far phase thresholds for a person standing in the center of the area encompassed by the template. In some cases, an additional circle was used to indicate the limit at which a person could see activities taking place within an activity area or to indicate the limit of the area. Anyone outside this circle would not have had a view of *Plaza A*, and was likely not part of the ritual taking place there. This permitted me to examine where the different thresholds of visual and oral communications occurred for each ritual area.

Figure 4.4 shows the location of human communications thresholds for a person standing in the center of *Plaza A*. Activities within the plaza could only be seen by someone standing on architectural areas A2, A3, and A4, the open area between *Plaza A* and the huaca, the open area between *Plaza A* and Platform B4 at the northwestern side of the *Plaza B* complex, the horizontal areas of the first three levels on the northeastern side (front) of the huaca, or the northeastern edge of *Plaza D* (Figure 4.1). Using 1.5 m (5 ft.) as the average height of a person for this time period, individuals inside the plaza were below the height of the three enclosed sides and most likely were only be able to see people standing near the edges of Platforms A2, A3, A4, in the area between the plaza and the huaca, and on the first

three levels on the front of the huaca. Only a small portion of the plaza area would fall within the intimate, social, or public-close phase communication. The remainder of the plaza and the other areas would fall within the public-far phase communication.

It appears that rituals carried out in *Plaza A* had two arenas of focus: the interaction between individuals inside the plaza with the people gathered around its immediate periphery and the interaction between individuals inside the plaza with people on the horizontal areas of the first three levels of the huaca, as well as the northeastern edge of *Plaza D*. Although both arenas fell within the public-far phase, each would have required different types of ritual communication because of the distance from the plaza (Figures 4.3, 4.4).

In the closer arena, the threshold of perception between the people in the center of *Plaza A* and the people standing near the edge of the architecture surrounding the plaza would have fallen in the public-far phase range. This is illustrated by the circle in Figure 4.4, which has a 30 m radius. At this distance, the group of ritual participants would be fully visible. Clothing style and color and general facial expressions such as smiles could be seen, but details of facial features and clothing, as well as subtle hand movements would be difficult to discern. General movements of all participants could be seen and understood. Spoken or sung verbal expressions of the ritual would require a raised voice, since sentences or song phrases spoken or sung in a normal voice would be almost impossible to fully understand. Music from instruments would be louder rather than softer. In other words, rituals designed for this arena would emphasize loud speech, song, and instrumental music, short clearly enunciated spoken phrases rather than complex sentences, costumes with easily recognizable symbolic design and colors, general movements whose meaning could be

understood from a distance of 30 m. Low tone speech, soft song and music, small hand movements, small iconic figurines, or small intricate symbolic clothing adornments would be very difficult for observers to discern at this distance and would likely not be part of rituals designed for this area.

The second arena of focus for ritual activities associated with *Plaza A* was between the people in *Plaza A* and the people on the horizontal areas of Levels 1–3 across the front of Huaca de los Chinos. In this instance, it is not certain which group of people were the participants and which were the observers. In any case, the distance between the areas was much greater—from 30 to 75 m—and it placed these two groups in the public-far phase of human perception. The people occupying each level across the front of the huaca were located at an increasing distance from *Plaza A*. Individuals standing on huaca Level 1 were a little more than 30 m from the center of *Plaza A*, while those occupying Levels 2 and 3 and the edge of *Plaza D* were at distances of 40 m, 55 m, and up to 75 m, respectively. At these distances, especially at Level 3 and the edge of *Plaza D*, the only meaningful ritual communications with the plaza would be exaggerated body stances, gestures, facial expressions, and short enunciated, shouted verbal expressions. Colors, costumes, processional movements of the people, and the pageantry of the ritual could only be discerned in a general way. Music was certainly a part of most of these rituals. At these distances, instrumental music could be heard and understood much better than vocal music, which would be difficult to distinguish. However, if the ritual taking place in *Plaza A* continued in the form of a procession that moved along the huaca's central axis to *Plaza D* on Level 4, then the thresholds of perception would change from public-far phase to public-

close phase and even to social phase for those people standing close to the staircases as the procession from *Plaza A* ascended each level.

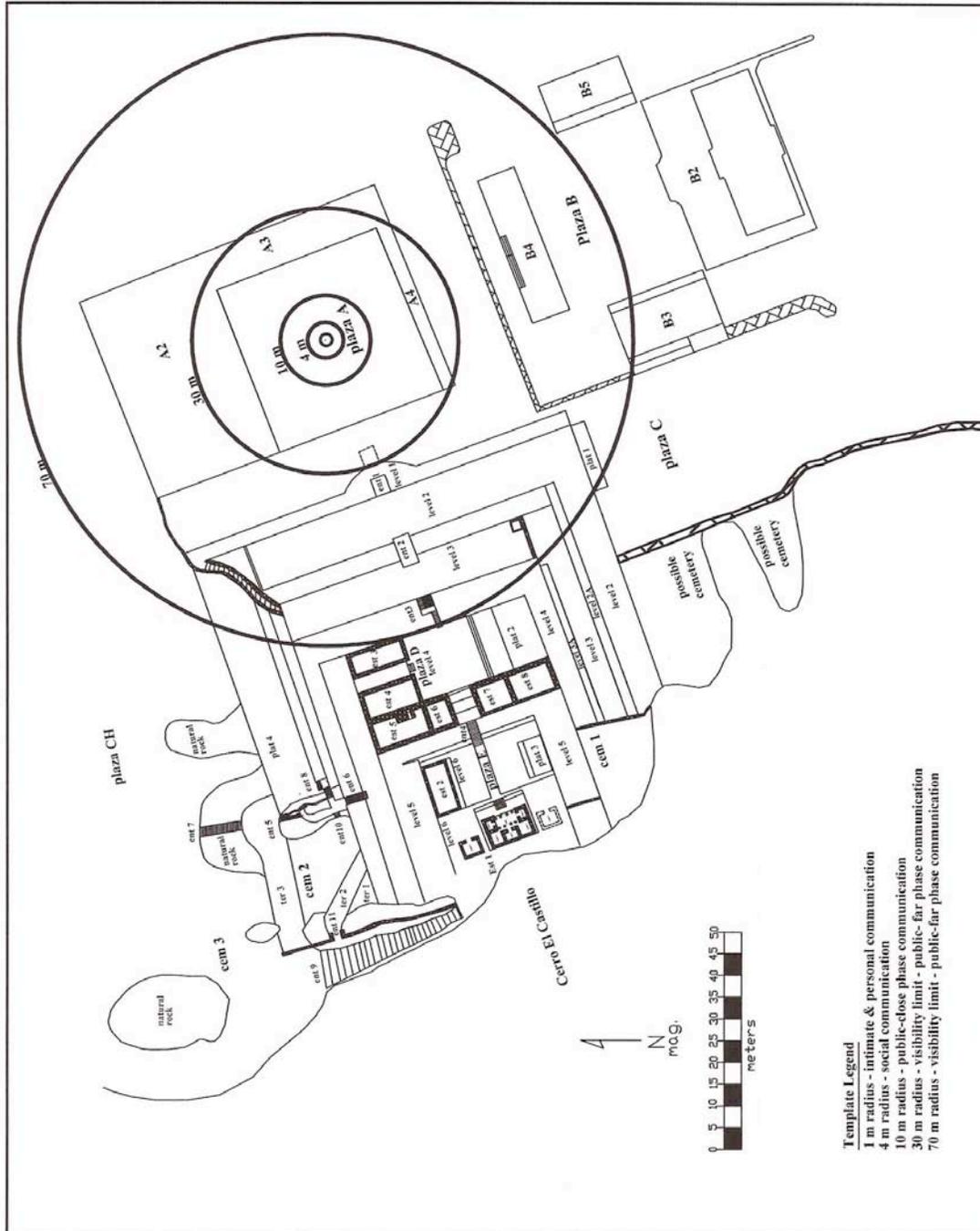


Figure 4.4. Thresholds of human perception associated with *Plaza A*.

According to Moore (1996a: 155), ritual architecture should have two principal characteristics: clear lines of sight and good acoustics. All the ritual activity areas associated with Huaca de los Chinos possessed both. Loud conversations between farm workers in the fields around the huaca could be heard from its summit, but only a few of the individual words were distinguishable. The only communications at those distances that could be clearly discerned were shouted phrases of two to three words and exaggerated arm motions. A conversation was possible between a person in the middle of *Plaza A* and someone standing on the edge of Platform A2 on the northwestern side of the plaza but only using raised voices.

*Plaza C* is a 37 x 66 m plaza that is bounded by the southeastern side of Huaca de los Chinos, the southwestern side the *Plaza B* Complex, and a stone wall approximately one meter in height that runs from the huaca around the northeastern side of Cerro El Castillo (Figure 4.5). The southeastern end of the plaza is open. *Plaza C* is 3 m narrower than *Plaza A*, but it is 26 m longer, and at 2,442 m<sup>2</sup> it is 52.6% larger. However, the views associated with this plaza were restricted by the southwestern wall and Platform B3 of the *Plaza B* complex, the wall and the Cerro on the southwestern side of *Plaza C*, and the southeastern side of Huaca de los Chinos. People who were inside this plaza had no view of activities occurring in *Plazas A* or *B* or on the architecture surrounding these plazas. The ritual focus of *Plaza C* appeared to be limited to activities in the plaza, on the various horizontal levels of the southeastern side of the huaca, and possibly the two areas that are identified as “possible cemeteries” (Figure 4.5). Platform 1 (*Plat 1*) was part of the huaca that extended about three meters into *Plaza C*, and may have been a point of interaction with the activities in the plaza. The horizontal areas on the huaca’s southeastern side—Levels 2, 2A, 3, 3A and 4—appear to

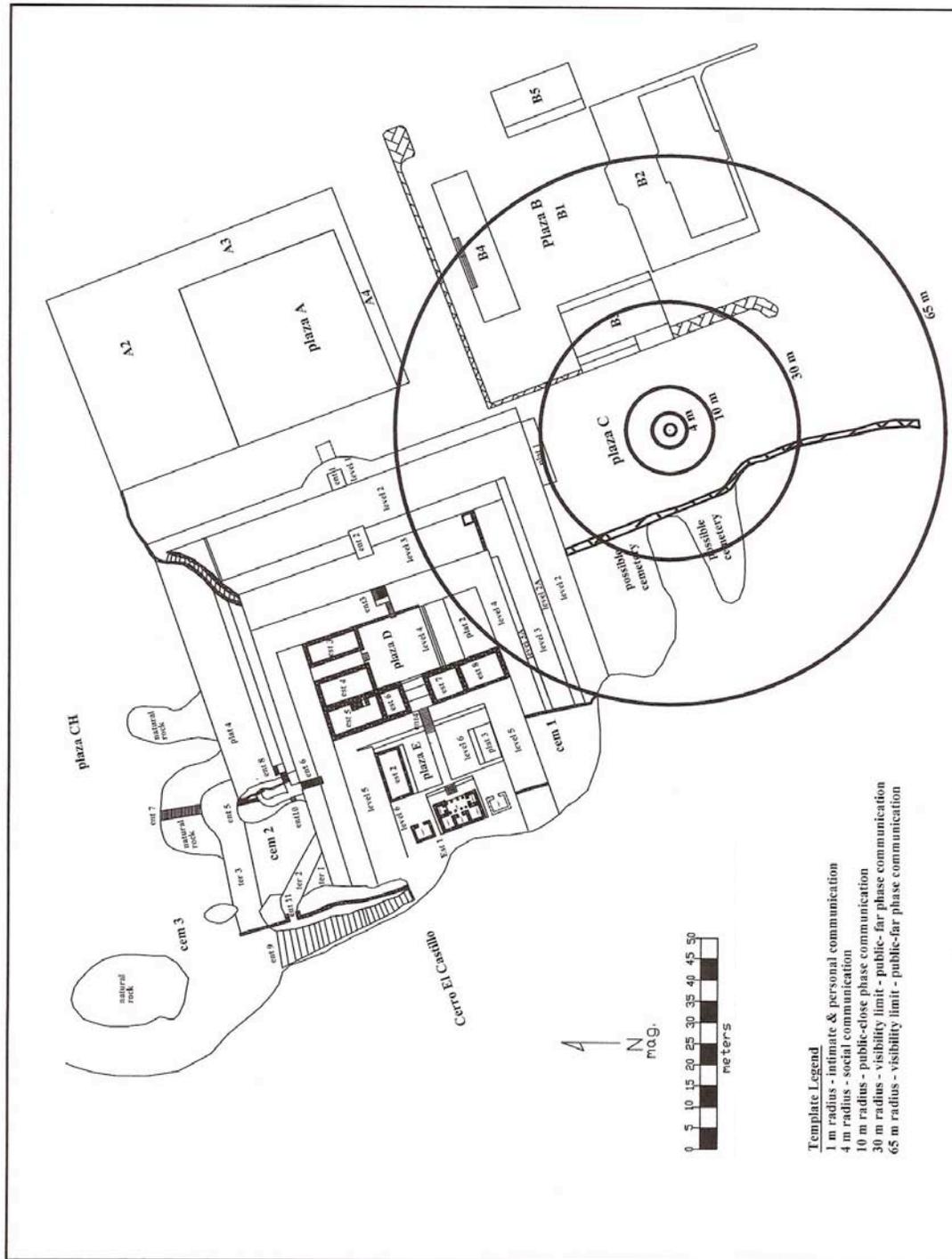


Figure 4.5. Thresholds of human perception associated with Plaza C.

be designed for interaction with Plaza C and the “possible cemetery” areas. About 50% of Level 2 overlooked each of these areas from a height of perhaps 2–3 m above the plaza floor. Individuals standing on Levels 3, 3A, and 4 would have had good views of both areas.

Figure 4.5 shows how *Plaza C* and its associated areas fall within the human communication thresholds of vision, speech, and hearing. The interactive-personal, social, and public-close phase thresholds would be limited to a small part of the plaza, whereas all other areas fall within the public-far phase. The outer two circles show the distance from the center at radii of 30 m and 65 m. Based on the distances and thresholds shown in Figure 4.5, the visual and auditory characteristics of rituals here would be similar to those associated with activities in *Plaza A*, and would emphasize loud speech, song, and instrumental music, short clearly enunciated spoken phrases rather than complex sentences, costumes with easily recognizable symbolic design and colors, general movements whose meaning could be understood from a distance of 30 m or more. People in the plaza and those on the increasingly higher levels of the huaca would be able to comprehend clearly only louder and simpler speech, more exaggerated individual body movements, general group movements, and costumes and ritual props that could be meaningfully understood at these distances. The only communication within the intimate personal or social range would be in the areas immediately around *Plat 1*.

*Plaza CH* is the designation that I have given to the expansive area adjacent to the northwestern side of the huaca. It covers an area of roughly 9,000 m<sup>2</sup> (83 x 109 m; Figures 4.6, 4.7). I have designated it a plaza because it is located in front of Platform 4 (*Plat 4*), which is 60 m long and 10 m wide. A platform this large and 2 m above ground level most likely would have been associated with formal ritual activity directly in front of it. I hypothesize that a large formal plaza existed in front of *Plat 4* and that the remainder of the area in front of the northwestern side of Huaca de los Chinos may have also been a very large

ritual area, possibly a cemetery. Both of these scenarios would have involved considerable ritual activity.

Using the mid-point of *Plat 4* as the center of the threshold template, intimate-personal and social communication could have occurred only on the platform or immediately in front of it. Any activity beyond the platform would have been in the public-close and far phase realm. The majority of the *Plaza CH* area was a significant distance beyond the public-far phase minimum threshold of 10 m.

This side of the huaca had four horizontal areas similar to Levels 1 to 4 on the front and southeastern sides that were at increasing heights above *Plat 4*. These areas appeared to be designed to interact with ritual activity associated with *Plaza CH*. The uppermost of these horizontal activity areas had spectacular views of the entire plaza area, as well as the surrounding landscape beyond it. However, interaction over these distances would require very general group movement, shouted verbal communication, and exaggerated body movements in order to be discernible. If the hypothesis mentioned above were true, then two different types of ritual would be possible: those occurring in a formal plaza in front of *Plat 4* and designed to interact with people on the huaca and those rituals involving the remaining large area of Plaza CH. If the latter area proves to be a cemetery, then rituals could involve small groups at specific graves. Rituals in a formal plaza in front of *Plat 4* would require communications consistent with public-far phase distances as described above. Those around a specific grave most likely would be at distances within the intimate-personal and social communications thresholds, where voices spoken in normal or soft tones could be fully understood. Facial details, intricate clothing details and ornamentation and small props

(miniatures, figurines), as well as detailed hand and body movements, would be distinguishable. Rituals that were conducted in the larger part of Plaza CH that were designed to interact with participants or observers on the huaca would be well beyond the communication far-phase minimum threshold, where only the most dramatic gestures and shouts could be discerned.

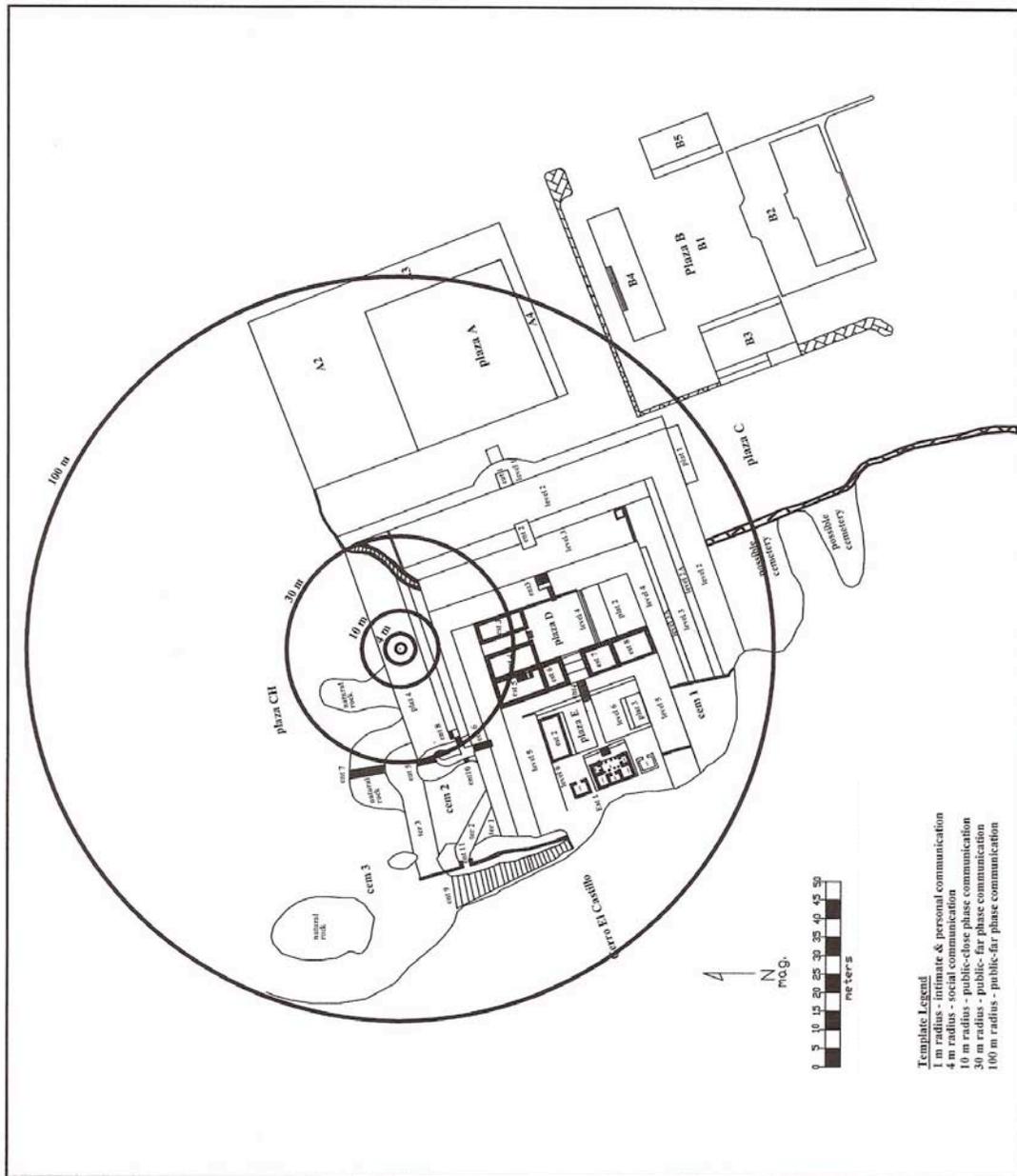


Figure 4.6. Thresholds of human perception associated with Plaza CH.



Figure 4.7. Panoramic view of *Plaza CH*.

Plazas A, C, and CH were located in areas directly adjacent to or contiguous with Huaca de los Chinos, and the direction of focus was toward the huaca. The *Plaza B* complex was close to the huaca, but the focus of rituals conducted there appeared to be confined to this complex. This is indicated by the fact that the activities associated with this complex were separated from *Plaza A* and *Plaza C* by a 2 m-high wall (Figure 4.8). Also, the principal structure of the complex was Platform B2—a large stone platform (41 x 27 x 2 m) with a smaller stone platform (35 x 14 x 1.5m) superimposed on top of it. This is by far the largest and most elaborate structure, and it most likely was the primary focus of ritual activity in the Plaza B complex.

Rituals carried out in *Plaza B* likely were designed to interact with all four platforms that surrounded it. Were the people in the plaza observers or participants? If they were observers, then the rituals were being carried out on the four platforms and, theoretically, the plaza could contain over 400 people (Table 4.1). In this case, these observers would fall within the public-far phase of human communication perception. If the people in the plaza were performers then—based on 50 to 100 m<sup>2</sup> per person (Moore 1996a: 152)—only 14 to 24 individuals would be involved in the ritual performance in the plaza. In this scenario, the observers would be on the platforms and would be within the realm of public-far phase human communication perception. In both instances, the rituals would require the same characteristics of voice, visual, and hearing in order to be discernible with emphasis on loud speech, song, and instrumental music, short clearly enunciated spoken phrases rather than complex sentences, costumes with easily recognizable symbolic design and colors, and general movements whose meaning could be understood from a distance of 30 m. If a ritual

required the observers and participants to be on any of the platforms at the same time, especially the three smaller ones, then there would be instances in which they were within the intimate-personal and social range of each other.

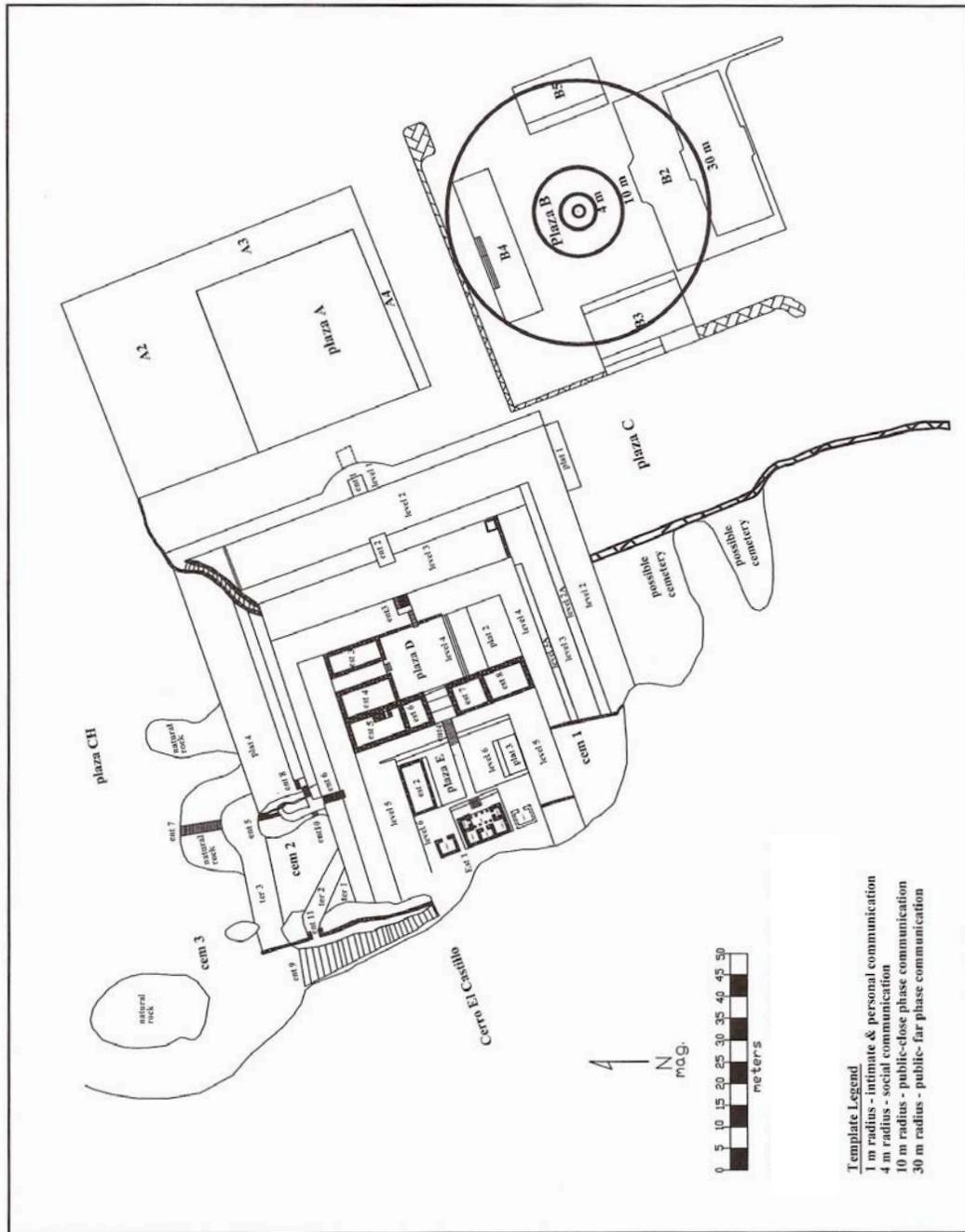


Figure 4.8. Thresholds of human perception associated with Plaza B.

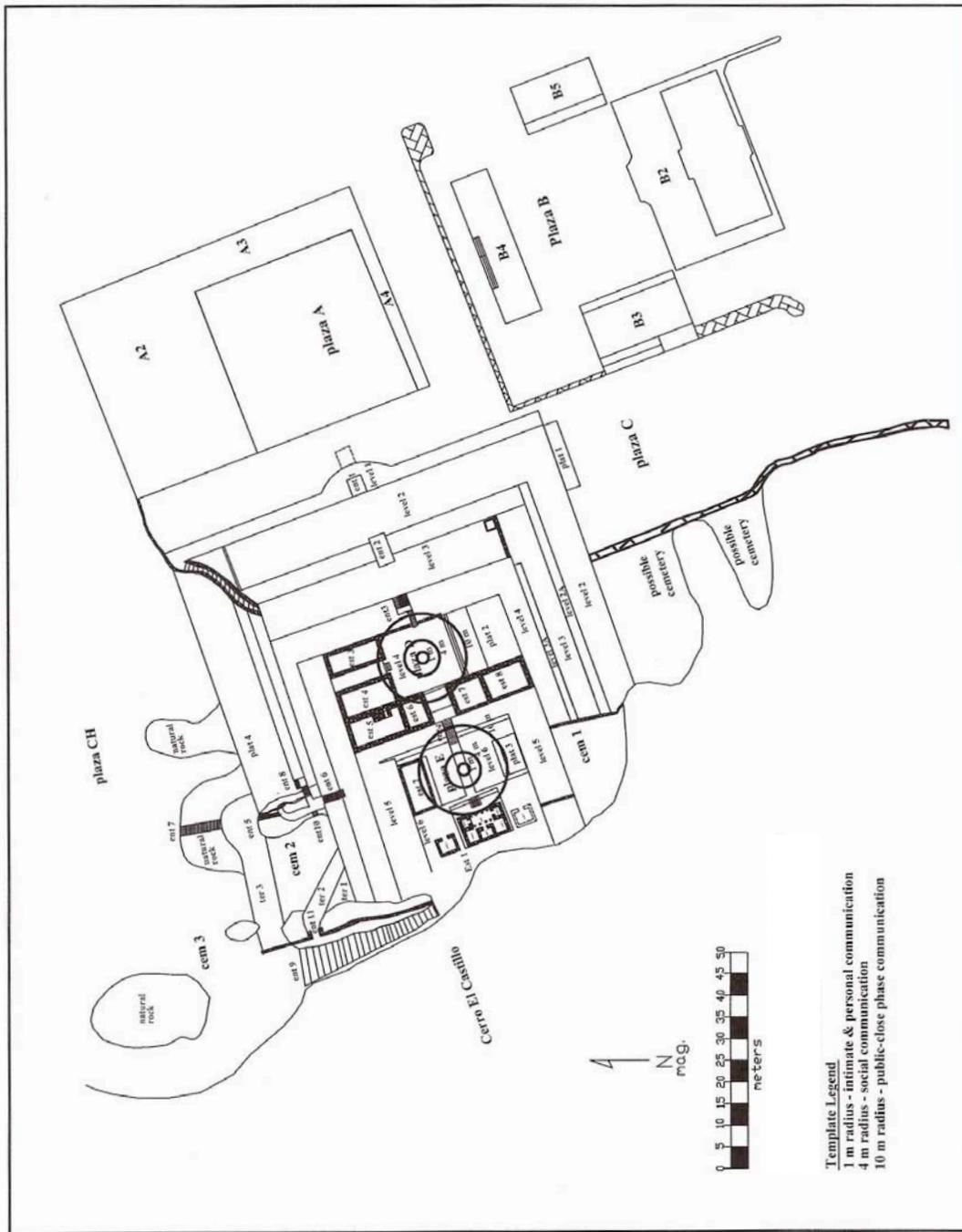


Figure 4.9. Thresholds of human perception associated with *Plazas D and E*.

Plazas D and E were located on Level 4 and Level 6 of Huaca de los Chinos. They were small compared with the ground level plazas, measuring 15 x 15 m and 13 x 16 m, respectively. The huaca was constructed so that none of the activities being carried out on the

top three levels could be seen from Plazas A, B, C, and CH, or from any level of the huaca below Level 4. If one was standing on Level 3 in front of *Ent 3*, the main access path between Levels 3 and 4, no part of the *Plaza D* complex could be seen, nor could any part of the *Plaza E* complex be seen from *Plaza D*. Access to the rituals conducted on these levels of the huaca were restricted not only visually, but also by the form and size of the access path between Levels 3 and 4 (*Ent 3*). This will be discussed later in this chapter. Rituals in these areas involved small groups of people.

Figure 4.9 shows the human communication thresholds for *Plazas D* and *E* with the template center in the middle of each plaza. For the most part, interaction between people in the plaza and those on the platforms was within the social and public–close phase communication range. Anyone standing on the upper level of each platform would be in the public–far phase range. This space was designed for rituals characterized by raised voices. Facial expressions such as smiles could be discerned, and general facial features could be seen. General clothing details and body movements were visible. Props such as small figurines most likely could be recognized, but the details would be lost. The only exception would be someone speaking to those in the plaza from the upper level of either platform. Their voices would be louder and the discernment of details associated with their movements, facial expressions and features, props, and clothing would be diminished.

At some point in the rituals, perhaps the individuals in these plazas were permitted access onto the platforms, and in some way interacted with someone on them, perhaps a priest. Figure 4.10 shows the thresholds for someone standing on the first level of *Plat 2* in *Plaza D* and in front of *Plat 3* in *Plaza E*. These interactions would take place within the intimate–personal or, at least, the social perception space. Normal or soft voices would be

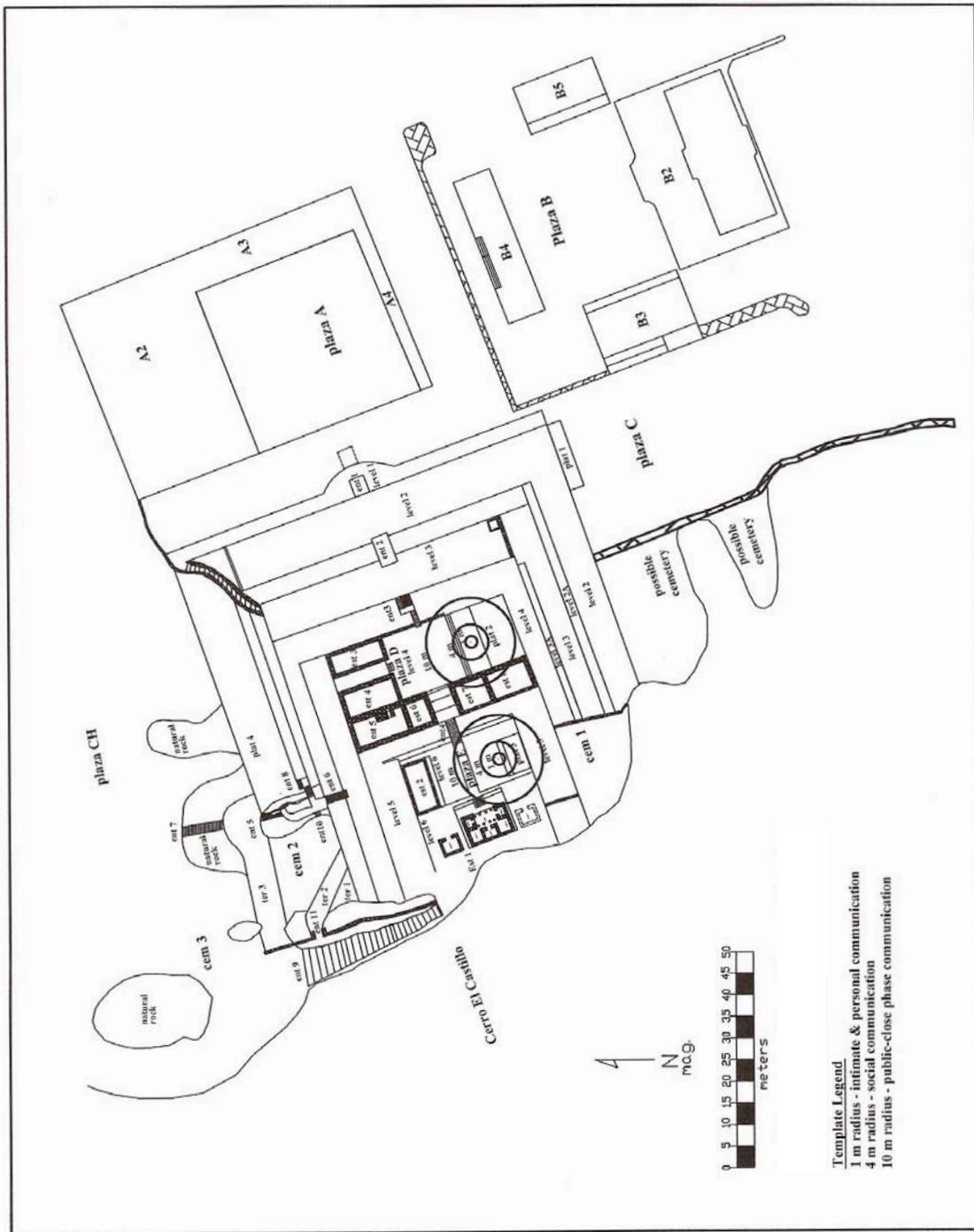


Figure 4.10. Thresholds of human perception associated with *Plazas D and E*.

used, and fine details of facial expressions and features, clothing, props, and movements could be seen clearly. Instrumental music and song lyrics could be discerned very well.

For those who had been permitted access to *Plaza D* and had progressed to *Plaza E*, the ultimate destination appeared to be *Est 1*, which may have been the most important and sacred place on the huaca and the site (Figure 4.11). The huaca was constructed over and around a ridge of a sacred hill, Cerro El Castillo, and the hill became an integral part of the huaca, and the huaca became an extension of the hill. The huaca appeared to have become a hierophany, a point of intersection between the human and spiritual worlds and a meeting place where humans could interact with the spirits of ancestors and deities. In this case, *Est 1* would likely be the central point or *axis mundi* where this intersection would occur. A possible scenario would have one to three people ascend the staircase on the front of *Est 1* and enter the patio where a priest would receive their offering and petition from them. Then the priest—acting as their representative—may have entered Room 1, the shrine area, and presented the offering and petition to the sacred spirits. Any interaction between the people and the priest in the patio would be within the 1 m perception threshold for intimate-personal communications. If any other individuals were present, they would certainly fall within the threshold of social communication (Figure 4.12). Verbal and visual interaction within Room 1 would fall within the intimate-personal communication range. Priests and shamans acting as the communicator with the spiritual world on behalf of a community is a common theme that is well represented in the anthropological and archaeological literature (Moore 1996c: 796–798; in Moore 1996c: Aldenderfer 1991:227-228; Conklin 1991:286; Golstein 1993: 42; Kolata 1993:164). In his landmark work on Shamanism, Mircea Eliade (1964: 259–269) suggests that “in the archaic cultures communication between the sky and earth is ordinarily used to send offerings to the celestial gods,” and that role “remains a shaman’s prerogative.”

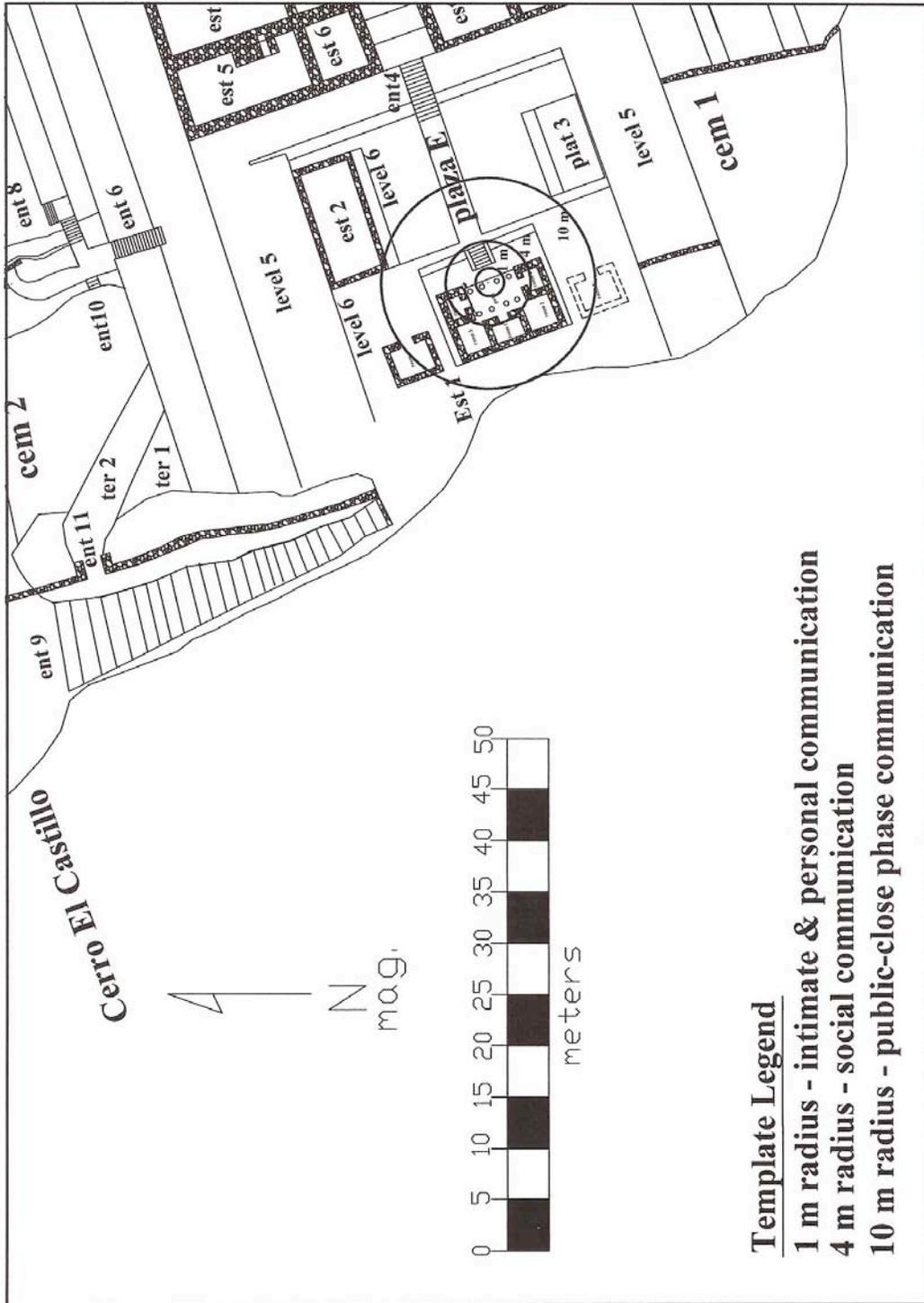


Figure 4.11. Thresholds of human perception associated with the patio of *Est 1*.

The shaman is the communicator of prayers and offerings to the celestial gods on behalf of a community. According to Eliade (1964: 323–326), among South American cultures, the shaman “is the intermediary between men and the gods or the spirits.”

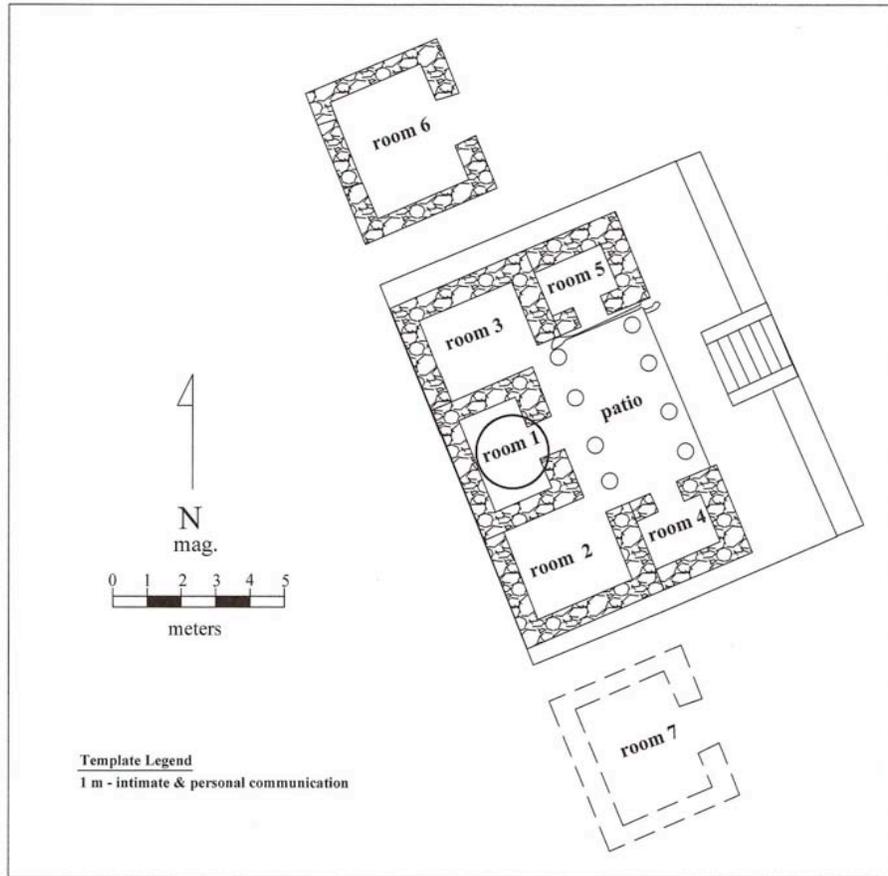


Figure 4.12. Threshold of human perception associated with Room 1 of *Est 1*.

Cemeteries 1, 2, and 3 were three areas that may have been involved with rituals (Figure 4.13; *Cem 1*, *Cem 2*, *Cem 3*). They were physically incorporated as part of the architecture of Huaca de los Chinos and were spatially arranged in a three-tier hierarchy. *Plaza D* and/or *E*, *Est 1*, the cemetery itself, and the horizontal area directly above it labeled “Level 5” may have been the areas involved with a burial ritual associated with *Cem 1*. It is

possible that the ritual began in *Plaza D* or *E*, continued to *Est 1*, then processed to *Cem 1* for the internment. Those individuals who gathered around the grave were within the intimate-personal and social thresholds of human perception. Normal or soft voices could be heard, and details of face, clothing, and props were distinguishable. The most important witnesses may have observed the internment from the horizontal area immediately above *Cem 1*. This group would have been within the public-close phase and public-far phase perception ranges, and they would not have been able to discern the same level speech and details of clothing and props as those around the grave. A ceremony in *Cem 1* was observable from several other vantage points on the site: some just beyond the public-close phase perception threshold and others at a distance of up to 150 m (Figure 4.1; visible from huaca Levels 2, 2A, 3, 3A, 4, all parts of the *Plaza B* complex, and parts of *Plaza C*). Those people on Level 4 closest to the cemetery would have the same perception as those on Level 5.

However as the observational distance increased, the level of perception and discernment would have decreased dramatically. The people standing in *Plaza B* could only have discerned the most exaggerated movements or shouted speech. The human perception characteristics of any ritual carried out in *Cem 1* would have been principally designed for individuals in the cemetery and on huaca Level 5. I suggest that for people in the other areas, the fact that they were there may have been important, although for those permitted access to the various huaca levels, the height of the level and closeness to the cemetery may have been a status marker. Huaca de los Chinos appears to have been a place of formal rituals with prescribed movements and with restricted and controlled access to the huaca itself. It seems unlikely that anyone could scramble up the side of the huaca to get a better view.

The rituals associated with *Cem 2* and *Cem 3* may have followed a similar progressional pattern to the ritual described for *Cem 1*—beginning in *Plaza D*, and progressing to *Plaza E* and to *Est 1* before descending *Ent 9* for the internment in either *Cem 2* or *Cem 3* (Figure 4.13).

The human perception characteristics of the internment ritual carried out in *Cem 2* would likely have been the same as for the space associated with *Cem 1*. The five horizontal levels of the huaca above *Cem 2* appear to have been for observers of the internment. The most important witnesses would be on the two terraces directly above the cemetery (*Ter 1*, *Ter 2*). These terraces were close to and angled toward *Cem 2* and provided the best view of the ritual area. Other observers could have occupied the three horizontal levels above the two terraces. People on the terraces 1 and 2 were within the public-close phase communication perception range, and those in the three higher locations were in the public-far phase range.

*Cem 1* was positioned so that it could be observed from many locations on the southeastern side of the huaca. However, the view of *Cem 2* and the rituals performed there was more limited. The ridge over which the huaca was constructed protruded from the northwestern side of the huaca and blocked visibility of the ritual in *Cem 2* except in the five areas above the cemetery, the northwestern edge of huaca Level 6, and part of Cerro El Castillo.

*Cem 3* was a larger cemetery, and the perception thresholds would have changed based on where the grave site was located. The probable location for the most important

observers was on terrace 3 (*Ter 3*), which was located between *Cem 2* and *Cem 3* (Figure 4.13). It was 1 m lower than *Cem 2* and 1 m higher than *Cem 3*.

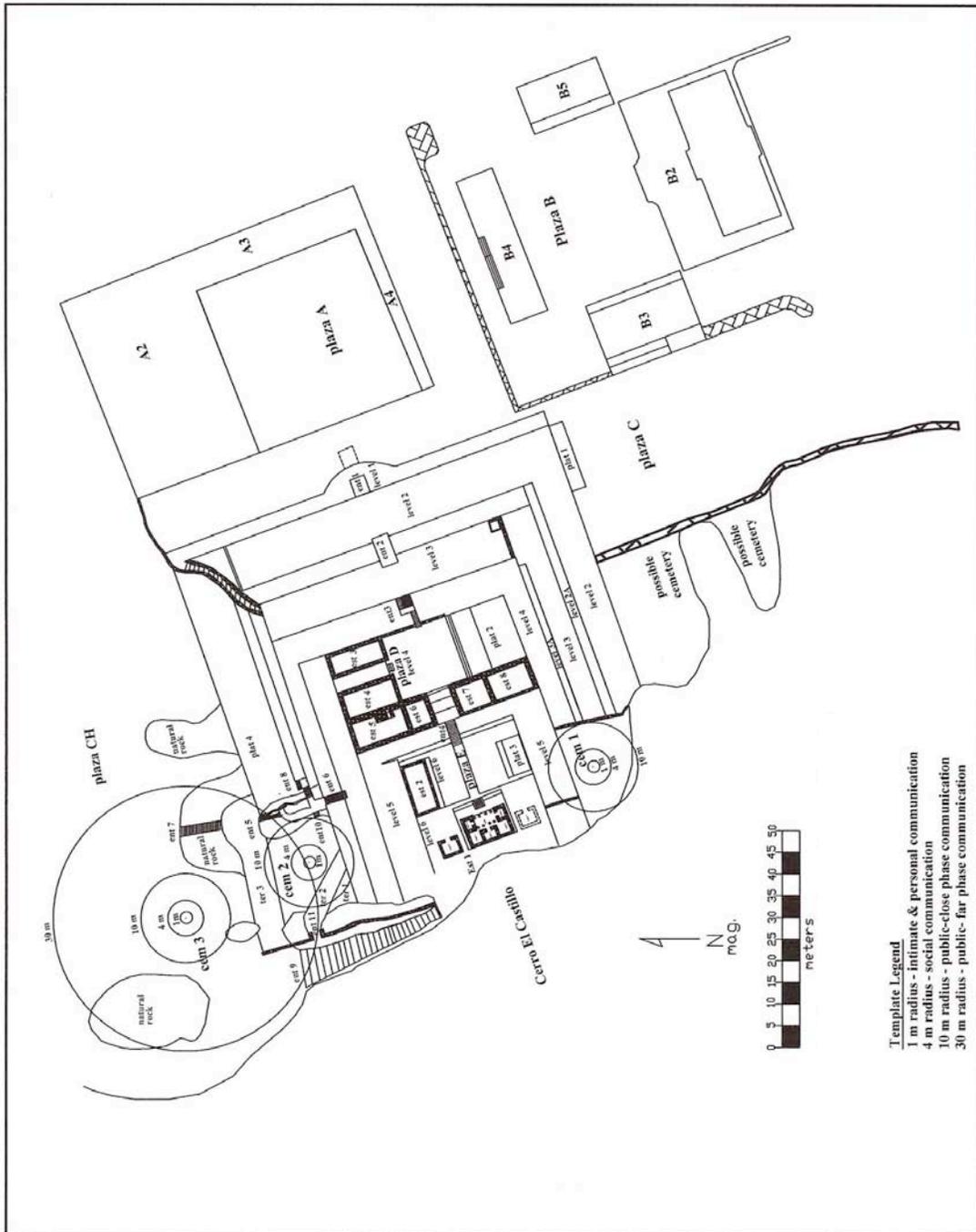


Figure 4.13. Thresholds of human perception associated with *Cem 1*, *Cem 2*, and *Cem 3*.

The group involved with the ritual around at the grave site would have fallen within the intimate-personal or social perception threshold. The people on *Ter 3* were always in the public-far phase human perception range unless the grave was immediately in front of the terrace. In this case, they would be in the social or public-close phase perception range. A hypothetical example will illustrate how the communication characteristics might have changed within the ritual when the focus shifted to a different threshold of perception. If the group around the grave consisted of a priest and several of his associates, the priest—as intercessor for the deceased to the spiritual world of ancestors and deities—might offer prayers and petitions in a soft tone of voice that observers on *Ter 3* would not be able to hear. Later in the ritual, he might offer prayers that were intended to include those observers. Then he would elevate his voice level and exaggerate his arm and body movements so that they could fully discern his communications.

Moore (1996a: 160) states that public rituals at most ceremonial centers are either observational or processional. If the visual emphasis is on the height of the main mound, the rituals were most likely observational. However, emphasis on the depth of the site suggests that rituals were processional in nature. These ritual types can be distinguished by examining views of a monument from different points on the site and whether architecture or natural features were used to manipulate the visibility. Natural and man-made depressions, such as sunken plazas, can be used to manipulate a viewer's visual perception to enhance the perceived height of a monument (Higuchi 1983: 50; Moore 1996: 105–106).

The Huaca de los Chinos archaeological site is currently considered to consist of Huaca de los Chinos, plazas A, B, C, and CH, and the architecture associated with these

plazas. *Plaza A* is a large sunken plaza in front of the huaca. The effect of this depression may have been to manipulate the visual perception of the people approaching the front of the huaca to enhance its height. There is also no known long avenue that leads to this monument. Therefore, one might conclude that Huaca de los Chinos was an observational ceremonial center. I argue that the huaca and the site were more processional in nature.

Currently, *Plaza A* is filled with soil that was deposited there over more than two millennia by numerous El Niño events. During the huaca's active life span, it would have magnified the huaca's height to all who approached it. However, there are two aspects of the site whose effect is to diminish the huaca's height. First, the *Plaza B* complex was at least 2 m higher than the *Plaza A* complex. The view of the *Plaza A* complex and the first two levels of the huaca from *Plaza B* were blocked by *Platforms B3* and *B4*. Also, people approaching the site from the east and southeast would have their view of the huaca partially blocked by the *Plaza B* complex. The effect would have been to diminish the size of the huaca. Second, the huaca was constructed so that its top three levels could not be seen from *Plaza A* and its surrounding areas, *Plaza C*, or *Plaza CH*, and only a portion of these levels could be seen from the *Plaza B* complex. This would have diminished the perceived height of the huaca. If the Huaca de los Chinos site was observational, then why would the construction design include features that would diminish the perceived height of the huaca?

Except for one structure in *Plaza E* and the structures around *Plaza D*, which haven't yet been excavated, the rest of Huaca de los Chinos appeared to be designed to organize ritual space. Some ritual spaces were observational in nature, but many—perhaps the most important—are processional. *Plazas A, D, E*, and *Est 1* were constructed along the huaca's

central axis. The only way to reach *Est 1* was to ascend through *Plaza D* and *Plaza E* along the principal staircases on the central axis. These four ritual spaces seemed to be closely linked, and the staircases along the central axis appeared to be designed as transitional spaces. It is very likely that processions were a key element in the rituals conducted in these areas, and that some of the rituals that began in *Plaza A* became processions that eventually involved all of these ritual spaces. It seems plausible that funeral rituals could have begun in *Plaza D*, then ascended as a procession *Plaza E* where the rituals would involve Platform 3 (*Plat 3*) and *Est 1*. Afterward the ritual would descend as a procession to *Cem 1* on the southeastern side of the huaca or to *Cem 2* *Cem 3* on the northwestern side.

*Plazas C* and *CH* appeared to be observational spaces designed to interact with various levels of horizontal ritual spaces in front of them on the southeastern and northwestern sides of the huaca. My research did not discover staircases or other types of access paths that a procession could use to ascend from either of these plazas to the top three levels of the huaca.

In 2001, I explored Huaca de los Chinos and a small huaca located about 1 km. to the northeast. The small huaca's shape and construction material were similar to the large huaca at Puente Serrano. Based on these facts, as well as nearby stone platforms, and what appeared to be crop circles in aerial photographs of the area between the small huaca and Huaca de los Chinos, I suspect that the Huaca de los Chinos site was not limited to the huaca and the immediate area surrounding it. My hypothesis is that the Huaca de los Chinos site extended from Huaca de los Chinos at its southwestern end for 1.5 km or more across the mouth of Quebrada Alto de las Guitarras. The only way that the full height of the huaca could be seen

is from a great distance. A site of this length with a large monument at one end would most likely be processional. This would minimize the effect of diminishing the perceived height of the huaca caused by the *Plaza B* complex and the construction design that prevented people in the surrounding plazas from seeing the top three levels of the huaca. I hope to test this hypothesis in future field work.

### **Access Control**

Leaders who have been able to materialize ideology through the construction of monumental architecture are likely to control access to certain ceremonial parts of the structure, which may restrict access to certain rituals and the symbols of ideology. The second aspect of Moore's (1996a: 168–219) approach focuses on how architecture communicates social control. He does this by analyzing access patterns associated with a site and its architecture, which can provide evidence of restricted access and inequality. The size, location, and form of staircases between levels of a monument and the size of each activity area can indicate whether access was restricted. Moore's approach has excellent advantages because it is straight forward and simple, and it can provide a great deal of data for interpretation.

Los Chinos had a variety of access paths: those associated with the ground level plazas and those on Huaca de los Chinos. *Plazas A, B, C* and *CH* were at ground level and encompassed the total land area around the base of the huaca. All of these large plazas appeared to be designed for much greater numbers of people than those on the huaca itself.

*Plaza A* had an area of 1,600 m<sup>2</sup> and could hold 16 to 32 people participating in a ritual based on 50 to 100 m<sup>2</sup> per person or it could hold over 400 people standing shoulder-

to-shoulder based on 3.6 m<sup>2</sup> per person (Table 1.1; Figure 4.4; Moore 1996a: 165). Access paths close to the plaza were open. The area between *Plaza A* and the *Plaza B* complex and the area between *Plaza A* and the front of Huaca de los Chinos were large open areas—probably paved with plaster—that would have been well suited to processions or rituals with lots of activity such as dancing. At the northwestern end of the area between *Plaza A* and the huaca, access was closed off by a stone wall that ran from the huaca to Platform A2. Even though access to this plaza and the areas around it were more open than the huaca, movement to and through these areas may have had some form of control and the rituals performed here may have been prescribed and formal (Lawrence 1992:215; Moore 1996c).

*Plaza C* had an area of 2,442 m<sup>2</sup>, and it could hold 48 to 96 people participating in a ritual based on 50 to 100 m<sup>2</sup> per person or it could hold almost 700 people standing shoulder-to-shoulder based on 3.6 m<sup>2</sup> per person (Table 4.1; Moore 1996a: 165). Access to this plaza was through its open end, and movement into and out of it appeared to have been controlled in the same way as *Plaza A* (Figure 4.5). Although we can only speculate on the general communication aspects of rituals conducted here, its architectural design was different from *Plaza A* and may have encompassed a different type of ritual. My research didn't reveal any direct access path from *Plaza C* to the huaca.

The area comprising *Plaza CH* was huge, and it could not be studied because it was constantly under cultivation with sugar cane and maize. Therefore, it was impossible during the 2006 field season to identify and describe its form or access paths.

*Plaza B* had an area of 1,444 m<sup>2</sup>, and it could hold 14 to 28 people participating in a ritual based on 50 to 100 m<sup>2</sup> per person or it could hold 400 people standing shoulder-to-

shoulder based on 3.6 m<sup>2</sup> per person (Table 4.1; Figure 4.8; Moore 1996a: 165). This plaza had three access paths: the areas between Platforms B4 and B5, Platforms B5 and B2, and Platforms B2 and B3. The first access path was 12 m wide, and may have been a processional entryway. The latter two accesses were only wide enough for one person, and were clearly points of restricted access. This complex has not been studied in detail, so the form and function of access to the platforms is not known. Also, the access path, probably a staircase, from the plaza onto Platform B2 was destroyed in the past to expand the area for agricultural cultivation.

Three types of access paths were present on Huaca de los Chinos: staircases that ascended along the huaca's central axis, staircases that descended from *Est 1* to *Cem 2* and *Cem 3*, and staircases associated with the portions of the ridge that protruded from the huaca's northwestern side (Figure 4.1). The specific form of the access path to *Cem 1* remains to be confirmed through future excavations. The first type consisted of five staircases that ascended from the ground level up the front of Huaca de los Chinos along its central axis. The staircase that connected the ground level with the first huaca level had been removed at sometime in the past to add more cultivatable land to the area in front of the huaca, so nothing is known about it. However, the descriptions of it from local farmers is consistent with a straight-line staircase. *Ent 1* was a staircase that connected huaca Level 1 with Level 2, and its form appears to be a straight-line staircase. *Ent 1A* was located at the northwestern end of Level 1 of the huaca, and it permitted access from the ground level and Level 1 directly to Level 3. The access path from huaca Level 2 to Level 3, *Ent 2*, had been destroyed by looters, leaving a large hole where the access path had been. Although there was

no direct evidence of its form, I suggest that it conformed to the first two. The first three levels of the huaca were the same construction design—flat, horizontal areas that extended across the frontal width of the huaca. Level 4 was completely different from the first three. It was composed of *Plaza D*, which was surrounded by structures 3–8 (*Est 3–8*) and Platform 2 (*Plat 2*). This configuration formed a “U” that was oriented to the northeast. The access path, *Ent 3*, that connected huaca Level 3 to huaca Level 4 was excavated and shown to have been constructed in a zigzag pattern (Figures 2.23, 2.27). The form of the access path was composed of a 1-m-wide staircase that ascended from Level 3 along the northwestern side of UE09, then across a one meter-wide flat walkway, and finally a one meter-wide staircase that ascended along the southeastern side of the excavation unit from the walkway to *Plaza D*. The pathway was only wide enough for a single file of people to ascend to *Plaza D*. It appeared that this access path may have been used to control and restrict access to the top three levels of the huaca and to the rituals carried out there. No one at ground level or on the first three levels of the huaca could see the top three levels from their vantage point. Restriction to the top three levels of the huaca was not only physical but also visual.

*Ent 4* was a 2.25 meter-wide staircase that connected the *Plaza D* complex to the *Plaza E* complex (Figures 2.30, 2.31). It was straight, and was sufficiently wide as to permit three or four people moving abreast to ascend between these two complexes, perhaps as part of a procession. It was clearly not designed for restriction but to facilitate interaction between the ritual activities occurring in these plazas. Everyone in these top three levels would have already been permitted access through *Ent 3*.

The staircase located in the center of the façade of *Est 1* was the only access into or out of this temple structure. *Est 1* was apparently the most sacred location on the huaca and was sufficiently small that only a few people may have been permitted access to it at any one time.

Two access paths were interpreted as avenues of descent: *Ent 9* and the path from *Est 1* that passed in front of Room 7 and descended to *Cem 1*. The former descended to *Cem 2* and *Cem 3*. Both access paths may have included only those who had been given access to the top levels of the huaca through *Ent 3*.

Several staircases were located on the northwestern side of the huaca (Figure 4.1). All but one had been constructed on the ridge outcropping, and they seemed to be associated with *Cem 2* and *Cem 3*. *Ent 6* ascended to a higher level on the huaca. However, there was considerable architectural rubble in this area and no other access path was observed. I argue that access to these staircases may have been restricted to higher status individual involved with rituals in the two cemeteries.

In summary, physical access to the huaca, in general, was controlled, but access to its top three levels and the rituals carried out there appeared to have a higher level of restriction. Access to rituals in the plazas surrounding the base of the huaca were more open, but I suggest that they were prescribed and controlled.

## **CHAPTER 5**

### **CONCLUSIONS**

This study has addressed questions regarding the chronological sequence and function of Huaca de los Chinos, and the nature of socio-political complexity that existed there and how it changed over the active life of the huaca. Evidence recovered during the field research permits me to make some preliminary interpretations regarding each of these questions.

#### **Chronological Sequence**

Although the chronological sequence of Huaca de los Chinos is incomplete, sufficient evidence was recovered to suggest that it could easily have been originally built to its existing height in a single construction stage sometime during the last half of the Initial Period (1800–800 B.C.). Its terminal phase and abandonment may have occurred during the last half of the Early Horizon (800–400 B.C.) or early in the subsequent Salinar phase (400–1 B.C.). This interpretation is supported by four lines of evidence: (1) the corporate labor requirement to construct the huaca, (2) multiple construction episodes associated with the summit structure (*Est 1*), the addition of wall 2A to the southeastern side of the huaca, (3) radiocarbon dates, (4) and architectural characteristics.

#### *Original Construction*

The corporate labor requirement calculations suggest that Huaca de los Chinos could have been constructed to its current height in 15 to 21 years, which would have placed the

construction within the lifetime of a single architect or leader. This is a construction effort that could be carried out with minimal labor effort. I did not recover evidence of major construction stages of the huaca itself; however, evidence was recovered of multiple construction episodes of *Est 1* and that wall 2A (feature 2) was added on the southeastern side of the huaca (Figure 4.1). These changes may be indicative that Huaca de los Chinos was originally constructed in multiple stages, but they could also be later additions to the original structure. The minimal labor requirement implies that the huaca could have easily been constructed to its current height in a single stage, with the rebuilding associated with *Est 1* and wall 2A being carried out later. Future excavations should provide further clarification.

#### *Multiple Construction Episodes of Est 1 and the Addition of Wall 2A*

Considerable evidence from excavations indicates that *Est 1* was significantly remodeled twice over a 150-year period (900–750 B.C.; Figures 2.133, 5.1, 5.2). These construction episodes are supported by three lines of evidence: (1) remodeling that altered the basic design of the structure (indicated by the presence of multiple floors), (2) the burning of the Episode 2 structure, and (3) a difference in the construction material and technique associated with construction Episode 3 of *Est 1*.

The excavations of *Est 1* provided evidence of its original construction and two subsequent remodeling episodes that altered its basic design. The evidence of the original construction comes from Room 1 (UE16), Room 2 (UE15), and the Patio (UE22, Column 5; Figure 2.32). Two floors were found in UE16 (Figure 2.56). Floors 1 and 2 were separated by 60 cm of elevation. UE15 and UE22 each contained three floors (Figures 2.51,

2.52, 2.109). Floor 3 in UE15 and UE22 and Floor 2 in UE16 were at the same elevation, and beneath them were the large foundation stones of *Est I*. Evidence of this floor was also found in UE17, UE27, and UE28 (Figure 2.32), and together with the remnants from UE15, UE16, and UE22, they formed the lowest floor level across the entire structure and represented the floor of the original *Est I* construction (Figure 5.1, Episode 1).

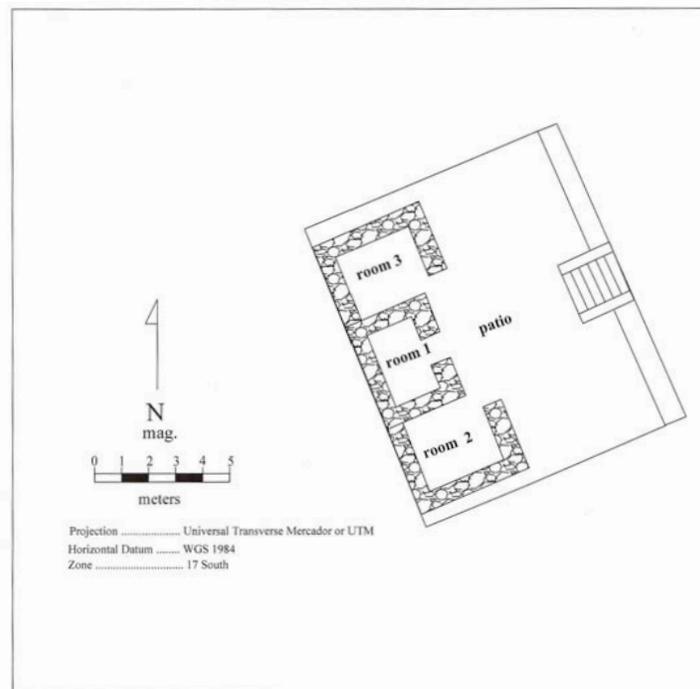


Figure 5.1. Drawing of the original construction of *Est I* (Episode 1).

Floor 2 in UE15 (Room 2) and UE22 (Column 5 in the Patio) were 15 cm above Floor 3 in each excavation unit and were supported by a foundation of small white pebbles. This floor level was also found in UE27 and UE28 (Figure 2.32) and it represented construction Episode 2 of *Est I*. At some point after the original construction, a new, raised floor was constructed over the entire structure except a 3 m-wide strip of the original floor across the front, creating a raised, shortened patio and a platform across the front of the

structure. Also, two rows of four columns were added to the Patio and Rooms 4 and 5 were built on each side of the patio. Evidence for the additional rooms comes from what appears to be a seam in the architecture between the front wall of Room 5 where it abuts the northeastern wall of Room 3. Rooms 6 and 7 may have been constructed at this time, but there is no current evidence to clarify this. The importance of construction Episode 2 is that the architectural features that characterized it changed the basic design of *Est 1* (Figure 5.2).

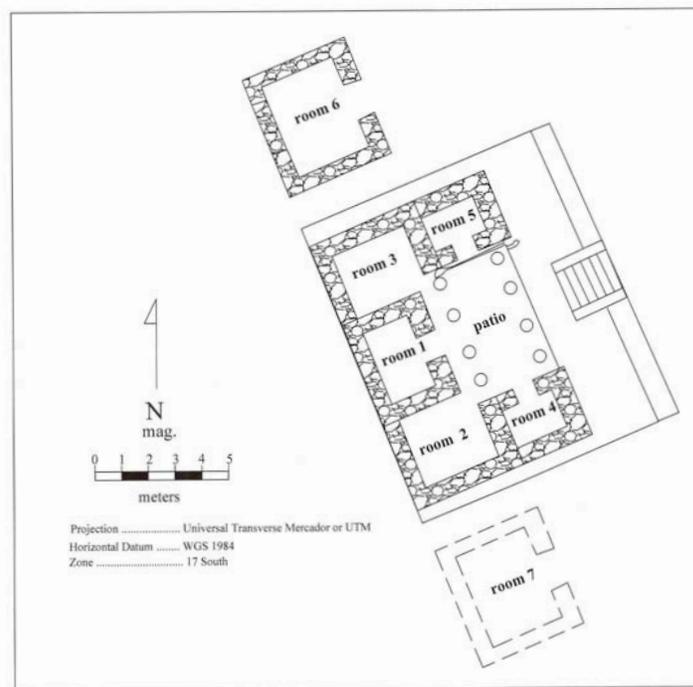


Figure 5.2. Drawing of *Est 1* after construction Episode 2

### *Destruction of Est 1 by fire*

Sometime after completion of construction Episode 2 of *Est 1*, the structure burned. Evidence of this destruction was recovered from UE14 and UE20, and included burned portions of the patio, a large amount of the roof or wall lying on Floor 1 of the patio, a large

quantity of charcoal sandwiched between the fallen roof or wall and Floor 1, and fire-reddened scorch marks on pieces of the roof or wall (Figures 2.104, 2.105).

### *Construction Materials and Technique of Episode 3*

Evidence for a third construction episode came from two remnants of the uppermost floor uncovered in UE16 (Room 1; Floor 1; Figures 2.56, 2.57, 2.60) and another remnant on the patio in UE19 (Figure 2.61). These remains were found in excavations at locations on opposite sides *Est 1*; therefore, I interpreted this as evidence that the fill and this new floor covered the entire structure (Figure 2.32). Any rooms associated with the third construction episode would have been built on top of this floor.

Further indication of a third construction episode was a substantial difference in the construction material and technique between construction Episodes 2 and 3. The walls of construction Episodes 1 and 2 were made from medium-size stones that were laid in ordered courses with mud-plaster between each layer. Construction of Episode 3 consisted of a random mix of stones dumped across *Est 1* until it was completely covered to the desired height, and then a foundation of small white pebbles was laid and covered with a plaster floor (Figures 2.56, 2.59). Figure 2.59 shows a comparative view of the Episode 2 wall on the left and the Episode 3 wall on the right. The seam between the two is clearly visible.

### *Radiocarbon Dates*

Samples of organic material from Column 5 and the patio of *Est 1*, as well as from a series of three floors associated with wall 2A (Feature 2) found on the southwestern side of the huaca, were processed by the AMS Laboratory in the Physics Department at the

University of Arizona. The resulting radiocarbon dates suggested that the construction of Column 5, as well as the destruction and burial of the Episode 2 summit structure (*Est 1*) were most likely carried out during a 150-year period between 900–750 B.C. (see pp. 164–171; Figure 2.133). I suggest that the second construction episode was carried out at the beginning of this range (late in the Initial period) and that the destruction of the Episode 2 structure occurred toward the end of this range—probably within the first fifty years of the Early Horizon. Construction Episode 3 would have been carried out after this destruction event.

Two excavations on the southeastern side of Huaca de los Chinos (UE01, UE03) revealed the existence of three superimposed floors. Each of the top two floors lacked associated foundations and were built directly on top of the floor beneath it. Underneath the earliest floor (Floor 3) was a foundation of small white pebbles. Beneath the floor foundation were the large stones that formed Wall 2A (Figures 2.3, 2.7, 2.9, 2.10). Samples of organic material (carbon) imbedded within these floors were collected and exported for radiocarbon analysis. The radiocarbon date ranges associated with these samples are contemporary with the dates associated with samples from the patio and Column 5 of *Est 1*. This suggests that Wall 2A (Feature 3; Figure 4.1) was added to the southeastern side of the huaca at the same time as construction Episode 2 of *Est 1* and indicates that remodeling was not limited to only the summit structure.

#### *Architectural Characteristics*

Four architectural characteristics of Huaca de los Chinos associate it with the Initial period and Early Horizon. First, it was a stepped (terraced), flat-topped, stone mound, and the

architectural design of *Est 1* and *Plazas A, C, D, E,* and *Est 1* each formed a “U-shape.” Second, the patio of *Est 1* contained eight painted, circular columns. Third, the conical adobes found in UE18 and UE19 appeared to be associated with the second construction episode of *Est 1*, since they were part of the fill of construction Episode 3. However, the conical adobes recovered in UE14 may be associated with construction Episode 3, because they were found above the level of the three remnants of the Episode 3 floor. Finally, *Plaza A* was shown to have been a square sunken plaza. These architectural features associate Huaca de los Chinos with the Initial period (1800–800 B.C.) and the Early Horizon (800–400 B.C.). Large, U-shaped, stone, terraced ceremonial mounds associated with sunken plazas and U-shaped, elaborately decorated summit temples containing painted columns were characteristic of these time periods (Burger 1992: 60–75,189; C. Williams 1971, 1980, 1985).

### *Summary*

In summary, I argue that the evidence of multiple construction episodes of *Est 1*, the addition of Wall 2A on the huaca’s southeastern side, the huaca’s architectural design and construction materials, and the absolute dating provided by the radiocarbon dates suggest the following scenario: first, the initial construction of Huaca de los Chinos may have occurred during the last half of the Initial period (1800–800 B.C.); second, *Est 1* was remodeled by a second construction episode, and a large architectural feature (wall 2A) was added to the southeastern side of the huaca during the last 100 years of the Initial period; third, *Est 1* was destroyed by fire and covered by a third construction episode at the beginning of the Early Horizon (800–400 B.C.). Although evidence of the chronological sequence at Huaca de los

Chinos is incomplete, it likely declined and was abandoned by the end of the Early Horizon or during the following Salinar phase, which would be consistent with the current belief that the construction of monumental U-shaped architecture in the Moche Valley ended during the Early Horizon and all of the large ceremonial centers with this architecture were abandoned late in the Early Horizon (800–400 B. C.) or during the Salinar phase (400–1B.C.) (Billman 1996: 187, 1999: 146, 2002: 389; Burger 1992: 184–190; Moseley 1992:157).

### **Function**

Current evidence permits a preliminary interpretation that Huaca de los Chinos appeared to have functioned as a ceremonial—and perhaps religious—center, and its influence may have extended beyond the Moche Valley. Key evidence includes the architecture of Huaca de los Chinos, *Plaza A*, and the summit structure (*Est 1*); the presence of so many plazas and other activity areas associated with the huaca; the three cemeteries; the integration of Cerro el Castillo and Huaca de los Chinos; and the lack of evidence of a domestic function.

The architecture of Huaca de los Chinos exhibited key architectural characteristics associated with monumental ceremonial architecture of the central Peruvian coast during the Initial period and Early Horizon. The huaca was a three sided, stepped (terraced), flat-topped, stone structure with six principal levels that measured 97 m across the front, 95 m on each side, and 21 m of altitude. It was constructed over and around a large ridge that projected from the northeast side of Cerro El Castillo. The backside of the huaca was constructed to be contiguous with the cerro, so that it became an integral part of the cerro and appeared to emerge from within it. In other words the huaca was designed and constructed so that the

architecture and the sacred landscape of the cerro were integrated. Five plazas were associated with Huaca de los Chinos: *Plazas A, B, C, CH, D, and E* (Figure 4.1). *Plazas A, C, D, and E* were surrounded on three sides by various types of architecture—small structures, stone platforms, and walls—so that each plaza complex formed a “U.” *Plaza A* was also a sunken plaza. *Est 1*, the largest structure on the summit of Huaca de los Chinos, was a bilaterally symmetrical structure that consisted of five rooms arranged around three sides of its atrium or patio so that it formed a U-shape. The patio contained two rows of 4 columns across its width. Constructed of stone, all surfaces—including the columns—were coated with a thick layer of plaster and painted with multiple colors. Stone, flat-topped, U-shaped mounds associated with elaborate, painted, colonnaded summit structures and sunken plazas were characteristic of Initial period and Early Horizon ceremonial architecture along the central and north coast of Peru (Billman 1996; Burger 1987, 1992; Kembel and Rick 2004; T. Pozorski 1976, 1983; Moseley 1985, 1992; T. Pozorski and S. Pozorski 1986, 1987, 1991; Sharon 2003; L. Williams 1971, 1980, 1985).

In Chapter 4, I discussed my analysis of each of the activity areas associated with Huaca de los Chinos to determine the general nature of the verbal and visual communications that may have been associated with rituals connected with each area (see pp. 209–243). These included *Plazas A, B, C, CH, D, and E*; *Est 1*; *Cemeteries 1, 2, and 3*; and the flat areas on three sides of the huaca. Evidence from this analysis implies a strong focus on ceremony and ritual. Analysis of areas associated with the central axis of Huaca de los Chinos suggests an emphasis on processions.

The access paths along the central axis of Huaca de los Chinos collectively illustrate two design-concepts common to a wide variety of religious architecture: *ascent* and *graduated sanctity*. In most religious architecture, the most sacred part is usually located at the highest point. Ascent is the process of moving upward by levels toward this point. Graduated sanctity refers to the prescribed path that one has to follow to ascend to the most sacred place. The temple (*Est 1*) may have been the most sacred place on Huaca de los Chinos because of its location on the summit and its position as the closest point to the sky. The staircases positioned along the huaca's central axis (*Ent 1–4*) and the staircase on the front of *Est 1* provided the prescribed pathway to ascend the huaca—level by level—from the ground level to the interior of *Est 1*. One staircase, *Ent 3*, provided the architectural means to control or restrict who would be permitted access to Level 4 and be allowed to continue toward the temple.

*Est 1* itself provided some evidence that the huaca may have served as a religious center. Its staircase, patio, walls, and rooms were constructed of stone and were covered in plaster. The patio (atrium) contained eight columns in two rows of four columns. They were constructed of clay and mud mixed with small rocks, and their exterior surfaces were covered with a fine plaster coating and painted. The central axis ran up the middle of the staircase, across the patio between the middle four columns, and through the middle of the principal room (Room 1; Figures 2.32, 2.54, 5.13). The architecture in each half of *Est 1* was bilaterally symmetrical. The roof and upper levels of the walls were formed by a base of cane with a thick layer of mud pressed into its interior side and then coated with a fine plaster. The walls, ceiling interior, floors, and the staircase were painted with multiple colors. Outside the

entrance to Room 1 was an oval hole in the patio floor whose interior was coated with a fine plaster. It was empty, but it exhibited the remains of black paint on the inner surface. It may have been an offertory that was used to burn aromatic plants whose smoke and smell would have symbolized purification and indicated that something sacred and important was taking place; a function similar to incense in a modern, Christian, church service. The interior of *Est 1* was elaborately constructed and decorated, and it appeared to have been well maintained and free of trash. Numerous ornamental beads and gold fragments were found in the patio and in Rooms 2 and 3 (Figures 2.49, 2.59, 2.67, 2.76, 2.77, 2.83, 2.100, 2.123, 3.15). No evidence of a domestic function was found in association with *Est 1*. No evidence of use-period trash, food production, or storage was found during the research. I should note that some significant architectural features of Huaca de los Chinos remain to be studied, such as *Est 2* in the *Plaza E* complex and *Est 3–8* in the *Plaza D* complex.

Three cemeteries associated with Huaca de los Chinos were identified and mapped during the field season (Figure 4.1; *Cem 1*, *Cem 2*, *Cem 3*). All three had been constructed so that they were integrated as part of the huaca. They appeared to be constructed in a hierarchical pattern and may have been linked to rituals associated with *Est 1* (see discussions about the cemeteries on pp. 47–48 and 236–240). Perhaps religious mortuary rituals played an important role at Huaca de los Chinos. Knapp and Ashmore (1999: 18) have suggested that “on a long time scale, landscapes embody social continuity, the most frequently cited traces of which are monuments to mortuary ritual and ancestor veneration.”

Many prehistoric societies linked their creation narratives to features of nature such as mountains, caves, and the convergence of natural pathways. Frequently, ceremonial

architecture was constructed on or close to these features or oriented toward them, which sanctified and identified it as a place where humans could be in contact with the supernatural realms (Betanzos 1996; Brady and Ashmore 1999; Burger 1992; Crumley 1999; Eliade 1986, Moore 1996a; Rostworowski 1983, 1999; Rowe 1946; Solomon and Urioste 1991; Thomas 1996; Tilley 1994, 1999; Urton 1999). Caves and mountains were not only thought to be dwelling places of deities and ancestors, but also access paths for contact with the supernatural world (Brady and Ashmore 1999: 124–145; Crumley 1999: 272).

Huaca de los Chinos was constructed on Cerro El Castillo in a manner so that the huaca was part of the cerro and the cerro was part of the huaca. Two lines of evidence suggest that Cerro el Castillo may have been considered to be a sacred place by the Initial period population, as well as by the earlier and subsequent prehistoric cultures that lived in the Moche Valley. First, there are natural anthropomorphic rock formations on the northwestern side of the cerro that strongly resemble human-like faces and bodies (Figures 5.3, 5.4, 5.5, 5.6). There is a long history in the Andes and other parts of the world regarding the belief that the spirits of ancestors and deities lived in hills and mountains, and certain visually prominent natural landmarks had special cultural meaning (Ashmore 2002; Brady and Ashmore 1999; Crumley 1999; Eliade 1986; Knapp and Ashmore 1999). Hills or mountains that had natural geological formations resembling humans, deities, or animals were believed to possess strong spiritual energy (Rodríguez Suy Suy 2006, personal communication). This belief is linked to the concepts of animatism and animism.



Figure 5.3. Cerro El Castillo, Huaca de los Chinos, anthropomorphic rock formations.

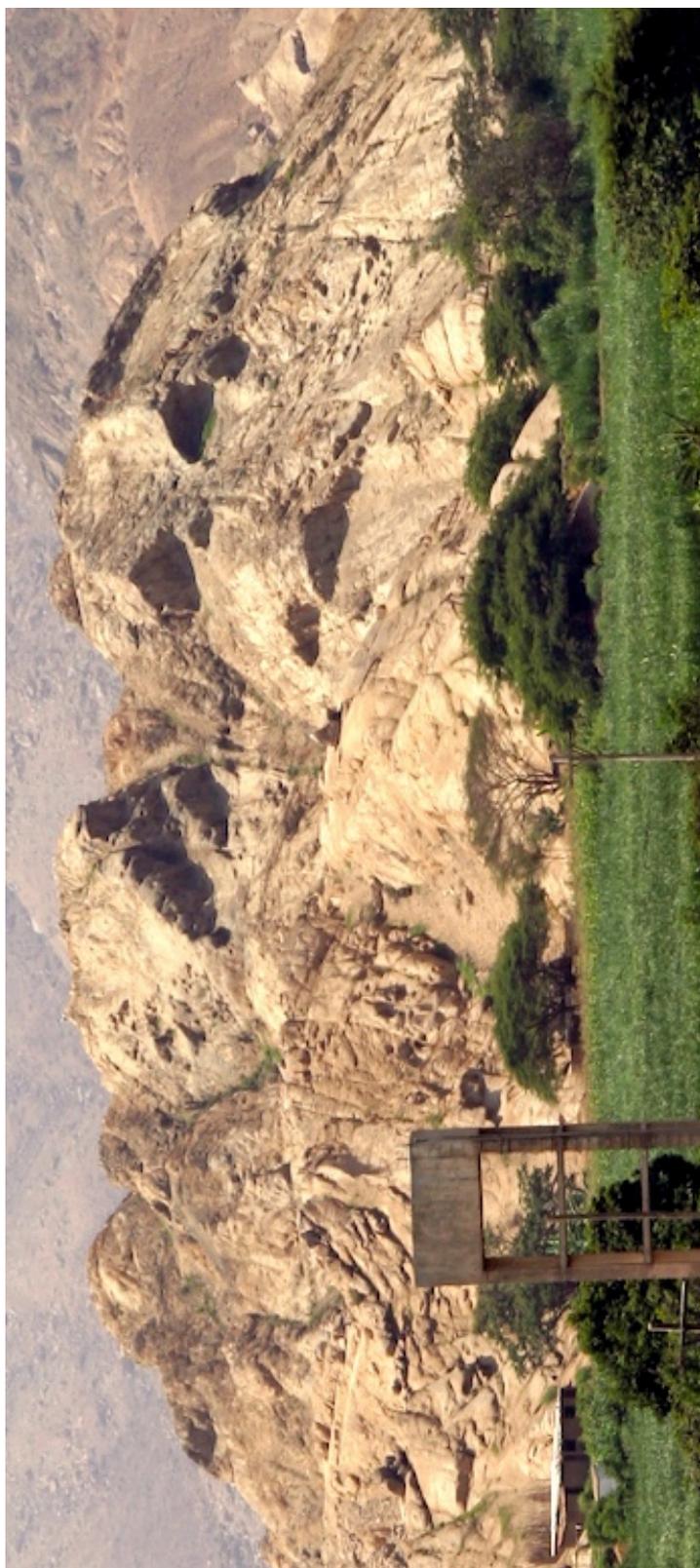


Figure 5.4. Cerro El Castillo, close-up of two anthropomorphic rock formations.



Figure 5.5. Cerro El Castillo, close-up of anthropomorphic rock formations, a face on the right, and a head, torso, right arm, and right leg of the left.



Figure 5.6. Cerro El Castillo, the three points of life viewed from *Est 1*.

Animatism is the belief that all things in nature have a life spirit or soul. Animism expresses the belief in the existence of unseen spiritual realms and that a deity can exist in two realms simultaneously (i.e., in the outer world and the earthly/human world or in Cerro El Castillo and *Est 1*). Archaeological and ethnographic literature identifies several cerros (small mountains or hills) linked to Quebrada Alto de las Guitarras as sacred because of anthropomorphic associations with their natural rock formations (Campana 2006; Rodriguez Suy Suy 2006, personal communication; Sharon, Briceño, and Noack 2003). The twin peaks of Cerro Santo Domingo, near the upper end of this quebrada, are said to represent two god-parents—a male and a female—who were turned to stone because of an incestuous relationship (Sharon, Briceño, Noack 2003:122–124). They are thought to be riding on a horse, away from Quebrada Alto de las Guitarras from which they were banished. Cerro El Castillo is thought to be sacred because of the anthropomorphic natural rock formations visible on its northwestern side (Campana 2006; Rodriguez Suy Suy 2006, personal communication).

Second, Eliade (1959, 1964, 1986, 1996) identifies sacred space as a place where communication is possible between this world and the other world. A sacred hill with powerful spiritual energy became a central point of religious focus, and frequently was converted into an *axis mundi*, the central point that materializes the meeting place between divinities and the human world where humans beings could communicate with the spiritual zones. A sacred mountain and the religious architecture associated with it could become an *axis mundi* and a centering focus for ceremonies (Burger 1992; Brady and Ashmore 1999; Eliade 1964, 1986). Frequently, this is represented by three distinct points or formations on

the natural landscape. These may represent the three cosmic zones (Eliade 1959: 36–42) or the three points of life (Rodríguez Suy Suy 2006, personal communication). They are symbols for: the Underworld or the relationship between the people of this world and those who exist below the surface of the earth; the Earth or the relationship of the people living in this world with the priest who acts as their emissary to the other world; and Heaven or the relationship of the priest with the cosmos on behalf of the people. At the highest point of Cerro El Castillo and directly above the summit of Huaca de los Chinos, there are three distinct peaks, which may have represented the three cosmic zones or three points of life (Figure 5.6). These three points, together with the anthropomorphic formations on Cerro El Castillo, not only could have implied it was a place of special spiritual energy, but also was a place where communication was possible between humans and the three cosmic zones. According to Brady and Ashmore (1999), Crumley (1999), Eliade (1996: 367–374), and Knapp and Ashmore (1999), natural geological formations that contained these markers of spiritual energy probably existed as conceptualized sacred landscapes before they were modified by humans into constructed sacred landscapes. Cerro El Castillo and Huaca de los Chinos are considered to be part of a sacred ceremonial road system composed of Quebrada Alto de las Guitarras; petroglyphs with anthropomorphic and zoomorphic designs; prehistoric roads; U-shaped architecture (shrines along the quebrada, Huaca de los Chinos, and Huaca Huatape); and sacred mountains including Cerro Alto de las Guitarras, Cerro Santo Domingo, Cerro Leon, and Cerro El Castillo (Beck 1979; Campana 2006; Rodríguez Suy Suy 2006, personal communication; Sharon, Briceño, and Noack 2003).

In a discussion of the symbolism of the “centre,” Eliade (1959: 36–47, 1996: 374–379) has argued that a “sacred mountain” stands at the center of the world and is a place where heaven and earth meet. Architecture associated with it, such as a temple or mound, is a man-made representation of the cosmic mountain and becomes an *axis mundi*, which symbolizes the intersection or meeting point between heaven, earth, and hell. This symbolism has been found in many cultures around the world (Eliade 1959: 39–47, 1996: 374–379).

Huaca de los Chinos was constructed so that it was integrated with Cerro el Castillo, and it was strategically located next to the anthropomorphic rock formations and directly beneath the three peaks. It appeared to be an extension of the sacred cerro, and may have been designed to function as a *hierophany*, a place where the spiritual and human realms intersected and people could communicate with deities and ancestors through rituals in which priests or shamans usually acted as their emissaries. *Est 1* on its summit was the highest point on the huaca and the structure closest to the anthropomorphic formations and the peaks that may have represented the three points of life. Room 1 of *Est 1* was situated at the southwestern end of the huaca’s central axis and may have been the most sacred space on the huaca because it was the highest point of the huaca and the closest point to the cosmos, which implies that it served as the *axis mundi* or the focal point of intersection between the three cosmic zones (i.e., the underworld, the human world, and the heavens). Huaca de los Chinos embodied the ideas of *microcosm* and *macrocosm*. These terms express the idea that parts of religious architecture become a small-scale symbolic representation (the microcosm) of the large-scale cosmos (the macrocosm). The huaca and Cerro El Castillo appeared to

represent the conceptualized and constructed sacred or cosmic mountain, and *Est 1* represented the axis mundi and a microcosm of the cosmos (Eliade 1986: 106–111).

Did Huaca de los Chinos's sphere of influence as a ceremonial center extend beyond the Moche Valley? The huaca was located in the mouth of Quebrada Alto de las Guitarras where the quebrada and the middle Moche Valley converge and 1.5 km southwest of Quebrada Leon and Quebrada Huaca de los Chinos. These three quebradas were principal access paths for interaction between the middle Moche Valley and the Virú Valley during the formative period. Also, the upper Moche Valley could have provided easy access between Huaca de los Chinos and the Carabamba Plateau in the highlands to the northeast. Second, Huaca de los Chinos appeared to be part of a broader sacred ceremonial system centered on Quebrada Alto de las Guitarras. As an important access path between the Virú and Moche valleys, it seems logical that this system may have served some of the ceremonial needs of both valleys. Third, previous research in the Moche Valley has indicated that, during the Initial period (1800–800 B.C.) and Early Horizon (800–400 B.C.), this valley had a much greater concentration of ceremonial sites with monumental ceremonial architecture than any other coastal valley north of the Casma Valley, and this implies that the Moche Valley sites may have served as regional centers (Billman 1996: 184–186). I suggest that these three factors, considered together, imply that Huaca de los Chinos may have served as a regional ceremonial center.

Architecture contains dual themes: architecture as a relationship and as a process. The first refers to the use of architecture to frame relationships; people to building, building to nature (i.e., the sun, the moon, a sacred hill), and the building to events based on orientation

and alignment (i.e., the solstices and equinoxes). Architecture as a process refers to a sequence of design and physical construction (i.e., three construction episodes of *Est 1*) and a sequence of change in function and importance of the place. The comparative approach to studying architecture looks at architecture across many cultures from different parts of the world and from different time periods, identifying basic patterns and common architectural characteristics. This approach has been used to study religious architecture and identify common characteristics such as the concept of center, axis mundi, anthropomorphism, animatism and animism, microcosm and macrocosm, graduated sanctity, ascent, and the integration of architecture and the landscape (Arguelles and Arguelles 1972; Eliade 1959, 1986, 1964, 1996; Nabokov and Easton 1989; Snodgrass 1988; Souden 1997; Wu 1965). I argue that all of these characteristics were present at Huaca de los Chinos, and when considered in conjunction with the other evidence presented, they support the preliminary interpretation that the huaca may have functioned as a religious ceremonial center.

## Social and Political Complexity

Evidence obtained through the topographic survey, controlled surface collections, and excavations at Huaca de los Chinos implies the presence of institutionalized inequality and political centralization. Key evidence of social inequality came through the study of access paths to the site, the huaca, and the cemeteries associated with the huaca. Indications of the presence and nature of political centralization came from evidence of the huaca's three-tiered hierarchy of space, the corporate labor investment, the access control, and the manipulation of visibility.

### *Social Inequality*

Social inequality can refer to unequal access to economic or political resources or to ideology. Restricted access to a religious structure would apply to the latter. Access control is a common element associated with religious architecture (Blanton 1989; Eliade 1986; Moore 1996a; Tilley 1994, 1999). It limits who and how many people can enter and use a certain place within a built environment. Architecture is frequently used to delineate pathways, entrances, and points of control and exclusion. Moore (1996a) has argued that restricting access to a building or site and controlling the route through it implies social inequality. The study of access paths can show whether access to a site and its activity areas were open to everyone or were perhaps restricted to a certain segment of the population. My research at the Huaca de los Chinos site revealed varying degrees of access control.

At the archaeological site of Huaca de los Chinos there are four plazas that surround Huaca de los Chinos at ground level (Figure 4.1). These are *Plazas A, B, C, and CH*, the very large open area that is in front of Platform 4 (*Plat 4*) on the northwestern side of the huaca

(Figure 4.1). It is not known if *Plaza CH* was a well-defined plaza, a large cemetery or some other type of activity area during the active life of the huaca. Cemeteries 2 and 3 were located on this side of the huaca approximately 10 m south of *Plat 4*. This suggests that mortuary rituals may have been an important activity that occurred on this side of the huaca. It is possible that burials were not limited to Cem 2 and Cem 3, but could have extended across the area designated as *Plaza CH*. *Plazas A* and *C* were plazas that could hold a large number of people and, like *Plaza CH*, were designed to interact directly with the lower levels of the huaca. Access to these plazas appeared to be open to a large number of people, although each area seemed to have some entrance ways that could be used to control access. The accesses from *Plaza C* into *Plaza A* and *Plaza B* were very small and restrictive (Figure 4.1).

Access to the huaca and its rituals appeared well controlled from all sides. The front of the huaca was accessed through a series of staircases along its central axis, beginning at *Plaza A* and ending at *Est 1*. The northwestern side could only be accessed via *Ent 9* and several staircases located on the natural rock outcropping that protrudes from this side of the huaca (Figure 4.1). These staircases may have been used to control physical access to these two sides of the huaca.

The southeastern side of Huaca de los Chinos appeared to be inaccessible from the ground level (Figure 4.1). A stone wall that ran from the side of the huaca to and along the base of the cerro would have limited access to the huaca on this part of the cerro. The only possible route was through *Plat 1*, which was not studied. In any case, access could have been easily controlled.

Access to the top three levels of Huaca de los Chinos was very restricted. *Plaza D* and *Plaza E* were located on Levels 4 and 6 of the huaca, respectively (Figure 4.1). The principal access routes were through the *Ent 3* and *Ent 4* staircases. *Ent 3* was clearly designed to control who had access to the activities carried out in the *Plaza D* and *E* complexes. The access route between *Plazas D* and *E* (*Ent 4*) appeared to be designed to facilitate interaction between the activities in these two plazas complexes. Not only was physical access to these levels controlled and perhaps even restricted, but also visual access to the rituals being carried out there was restricted by the huaca's architectural design, which made the rituals being carried out on these levels invisible to anyone in activity areas below them.

The three cemeteries were situated in a three-tiered hierarchy of space (Figure 4.1). *Cem 3* was located at the base of the huaca and the cerro, and extended toward the west. *Cem 2* was located 2 m above *Cem 3*, and it was incorporated into the body of the huaca. It was overlooked by terraces 1 and 2 (*Ter 1*, *Ter 2*) and the ridge projecting from the huaca, and it was separated from *Cem 3* by two levels of architecture. *Cem 1* was situated on the other side of the huaca at its southeastern corner, 8 m directly below the southeastern side of *Est 1*.

Initial examination of looter excavations in each cemetery suggested that there were differences in the tomb construction between *Cem 1* and the other two cemeteries. *Cem 1* showed evidence that graves may have been built as square or rectangular units delineated by stone walls while graves in the other two cemeteries appeared to be simple pits that lacked this type of elaboration. However, future detailed excavations should clarify the technique of

construction and provide material for radiocarbon dating, which should indicate the period(s) associated with the cemeteries.

Access to the cemeteries was different. It appears that *Cem 3* may have been ritually accessed through *Ent 9*; however, it would have been physically possible to enter it through *Plaza CH*. Access to *Cem 2* appeared to be through *Ent 9* and *Ent 10*. *Cem 1* was located at a much higher location than *Cem 2* and *3*, and I suggest that it was ritually accessed from *Est 1* and *Plaza E*.

In summary, access to the huaca and the size of each activity area became more restrictive with each level, and access to the top three levels of the huaca and to the cemeteries appeared to be the most restricted. By controlling who had access to these areas and the rituals carried out there, leaders could control the ideology associated with these areas. Also, the three-tiered spatial hierarchy of the cemeteries and potential differentiated elaboration of tomb construction imply status and social inequality. Two markers of status may have been the right to be buried in one of these cemeteries and in which particular cemetery, and the right to have access to these rituals and to the different levels of the huaca. This evidence suggests that some level social inequality and status may have been a characteristic of the society in the Moche Valley and perhaps the surrounding region.

#### *Political Centralization*

Political centralization includes control by leaders of one or more aspects of a society, such as trade, wealth, tribute, the means of production and subsistence, ideology and access to the supernatural, the symbols of power, labor, and the construction and use of public monuments (Isbell and Silverman 2002; Moore 1996a). Previous research in the Moche

Valley has inferred that political centralization during the Initial period (1800–800 B.C.) and Early Horizon (800–400 B.C.) was indicated by a three-tiered hierarchy of sites with monumental ceremonial architecture, a three-tiered spatial hierarchy of architecture within sites, and a huge volume of construction of monumental public architecture that was sustained by leaders' ability to consistently mobilize a sufficiently large labor force (Billman 1996: 167–186, 1999: 140–143, 2002: 386–388; T. Pozorski 1976, 1982). A three-tiered hierarchy of leadership may have existed in the valley that consisted of a paramount leader, lower level leaders at medium and small sites, and village leaders. The multitiered spatial hierarchy of architecture (large, medium, and small plazas)—characterized by the decreasing size of plazas and increased access control as one ascended along the central axis—may imply progressive restrictiveness to some rituals (Billman 2002: 387–388; Moore 2005: 101–105; T. Pozorski 1976, 1980, 1982). While the evidence from my research at Huaca de los Chinos doesn't suggest this level of political centralization, some of the evidence does address certain of these indicators: a three-tiered spatial hierarchy of space; access control, progressive restrictiveness, and control of ideology; use of the huaca to legitimize the importance of leaders; and the construction labor requirement.

The huaca was constructed to provide a multitiered hierarchy of space and use. This hierarchy included the ground level, the first three levels of the huaca, and the top three levels of the huaca, as well as large plazas, medium-sized plazas, and the small activity area of *Est 1*. The huaca's first three levels appeared to be designed to interact with the plaza areas directly in front of its three sides, and the activities on each side could be seen by every participant on that side. However, access to the top three levels of the huaca and the summit

structure were very controlled and restricted, both physically and visually. It has been suggested that the multitiered hierarchy of architectural space at Huaca de los Reyes implies not only access control but also progressive restriction to rituals (Pozorski 1976; Moore 2005). Although access to these top levels at Huaca de los Chinos was controlled through *Ent* 3, it is not clear if these areas were restricted to only a certain segment of the population or if the general public could have access in small groups. Perhaps this depended on the nature of the ritual being conducted. An analogy would be the Sistine Chapel in the Basilica of St. Peters in Rome. This is a well known religious sanctuary, and access to it is always highly controlled. For most of the year, tourists are permitted to enter the chapel and observe the artwork on the walls and ceiling, and hundreds may pass through in a single day. However, when the Pope conducts a private mass there, access is limited to only a small group of invited guests. When the ritual to elect a new Pope is carried out there, access is restricted to the cardinals and a few clergy who are involved with the logistics of the process. Finally, the three cemeteries incorporated into the huaca seemed to be constructed in a three-tiered spatial hierarchy indicated by their location (see discussions on pp. 47–48, 236–240, 258, 271–272).

The size and visibility of Huaca de los Chinos could have played an important role as a symbol of the power of the leaders. It is a monumental stone structure that was visible for a considerable distance up Quebrada Alto de las Guitarras and anywhere in the Moche Valley between the Initial period site of Puente Serrano (Figure 1.1) up to the modern town of Quirihuac. There is clear evidence that the surfaces of *Est* 1 were painted with multiple colors, and it seems plausible that the rest of the huaca may have been painted in the same manner. A colorful, 21 m high huaca would have been an impressive site from near and far.

The huaca's size and elaboration may have been designed to create a sense of awe not only for the structure but also for the leaders who constructed and controlled it. Leaders could have used this as one means of legitimizing their power and position.

Cerro El Castillo may have been considered a sacred natural formation in which the spirits of deities and ancestors were believed to live. The location of Huaca de los Chinos on this sacred hill could have created a powerful link to this spiritual world and associated the leaders who had constructed it with ancestors and deities. Buikstra and Charles (1999: 205) suggest that monumental architecture associated with sacred deities and ancestors was used to link leaders to those ancestors in order to legitimize their social position.

Evidence of a leader's ability to plan and finance major construction projects and to mobilize and control a workforce of sufficient size to carry out construction can indicate the existence of status ranking (T. Pozorski 1976: 154). My calculations of the corporate labor investment suggest a relatively small effort was needed to construct Huaca de los Chinos. However, it was constructed to be multigenerational and to last for a long time, which implies a level of organization and coordination greater than a small-scale village (Moore 2005:103). Some of the radiocarbon dates from Huaca de los Reyes at the Caballo Muerto complex overlap with the absolute dates from Huaca de los Chinos. This implies a contemporary existence for at least part of their chronological sequences. The lack of absolute dating for a sequential chronology at Puente Serrano and Menocucho, as well as for the beginning and end of the chronology at Huaca de los Chinos makes it impossible at this point to make a comprehensive comparison between their sequences or with that of Huaca de los Reyes. If future research shows that these four sites were contemporary, then part of

their construction could have occurred at the same time, which may imply the need to be able to mobilize and control a larger labor force. At the least, my estimates establish the minimum and maximum corporate labor investment associated with Huaca de los Chinos, and the minimum requirement that would have been placed on the population of the middle valley.

Finally, Spielmann (2002) raises an interesting question regarding whether monumental architecture could be provided by cooperative community action rather than by political control. She offers six areas of evidence for archaeologists to consider in concluding whether particular architecture—like Huaca de los Chinos—was built by a small egalitarian society through cooperative communal effort or by a corporate group using political control. Communal vs. centrally directed construction can be distinguished archaeologically by examining: (1) size and elaborateness of architecture, (2) the level of leadership and financing needed, (3) construction labor requirement, (4) restrictive or open nature of the architecture, (5) manipulation of visibility, and (6) the degree of political centralization.

Huaca de los Chinos was a large-scale, stone monument that was constructed to have a multigenerational longevity. The surfaces of the huaca—including the temple (*Est 1*) on its summit—were coated with plaster. *Est 1* was a bilaterally symmetrical structure containing an atrium with eight precisely constructed columns. Its exterior and interior surfaces, including the columns, were painted with red, black, and white paint. It was an elaborate structure, and if painted designs were present, they likely would have imparted important cultural meaning. However, no evidence was found of painted iconographic images on *Est 1* or to support the hypothesis that the rest of the huaca was painted, which

would make a stronger argument that a few skilled specialists (i.e., artists) may have been a part of the labor force.

Second, the project and architectural design would likely have been conceived and planned by a leader. Procurement of materials, and direction of the multiple aspects of the construction imply the need for supervision. Previous research suggests that leaders in the middle Moche Valley during the Initial period (1800–800 B.C.) and Early Horizon (800–400 B.C.) appeared to have gained some level of control over the sources of water for irrigation, as well as agricultural surplus, and they may have been able to finance the construction of monumental architecture by trading agricultural surplus and access to water for construction labor through a *mi'ta*-type system (Billman 1996, 1999, 2002; Haas 1987; T. Pozorski 1976, 1982).

Third, estimates of the construction labor requirements for Huaca de los Chinos indicate that it could have been constructed in 15 to 21 years by a main labor force of 50 to 70 part-time individuals rotating every two to three months for 300 days per year. This seems to be a relatively small labor effort requiring minimal financing. Although there is evidence that *Est 1* was modified twice and that wall 2A was added to the southeastern side of the huaca between 900–750 B.C., the small labor effort suggests that the huaca could have been constructed to its existing height in a single construction stage. Additional evidence is needed to clarify its construction sequence.

Fourth, evidence from the topographic survey, excavation, and the analysis of activity areas associated with Huaca de los Chinos suggest that it may have been designed for rituals. Access to the ground-level plazas was more open than to the huaca, but the form of rituals

there may have been somewhat prescribed and controlled. Access to the top three levels of the huaca—Plazas D, E, and *Est 1*—was controlled both physically through *Ent 1* and visually by its architectural design. This may have included restricted access to some rituals. Billman (2002: 387–388) suggests that ceremonial architecture in the Moche Valley during the Guañape period (Initial Period, 1800–800 B.C., and Early Horizon, 800–400 B.C.) was designed for public displays to both large numbers of individuals and small groups, and that the public may have been restricted from some rituals.

Fifth, all levels of Huaca de los Chinos could be seen from as close as 500 m to as far away as 2–3 km. The huaca was impressive from afar, and it became more so as each person traveled toward it. It appears to have been designed to impress not only those who saw it, but also may have served to legitimize a leader’s position and power. The huaca’s architecture was also designed to manipulate the visibility of its top three levels. The view of the architecture and activities on the top three levels diminished as one moved from 500–300 m toward the huaca. At a distance of approximately 300 m from the huaca, the architectural design blocked visibility to these levels. I suggest that perhaps the activities taking place on the top three levels may have been sufficiently important and/or restrictive that the upper parts of the huaca were designed to be both physically and visibly restrictive.

Sixth, the labor effort, leadership, supervision, and financing required to construct Huaca de los Chinos appeared to be small and do not imply a high degree of political centralization. However, its large size and the multigenerational nature of its construction, the restrictive nature of certain parts of the huaca, the three-tiered hierarchy of space, and the architectural manipulation of visibility associated with its top three levels, suggest a political

organization that could provide a level of planning, coordination, and control greater than that of a small-scale village society using a cooperative community effort.

### **Summary**

The research for this dissertation has sought to clarify Huaca de los Chinos' sequential chronology and function, and to further understand the nature of the socio-political complexity that existed in the valley during the huaca's active life.

Early formative period populations who accessed the middle Moche Valley may have noticed that the small hill at the mouth of one of the large quebradas contained human shapes formed by the natural rock formations. These anthropomorphic shapes are clearly recognizable today after 3,000 years of damage by wind and earthquakes. It is likely that they were less damaged and more clearly recognizable during the formative period. Mountains, hills, and caves were believed to be the dwelling place of the spirits of ancestors and deities, and those with these types of natural formations were thought to have strong spiritual energy. This hill likely became a sacred place and a location for early religious rituals. Sometime between 1300 and 800 B.C. (last half of the Initial period), the corporate group in the Moche Valley initiated the construction of a large stone platform mound over a ridge of this sacred hill next to the anthropomorphic figures and beneath the three peaks, and the two structures—one natural and the other man-made—became integrated. The huaca was a man-made extension of the hill and may have become a hierophany, the intersection between the three cosmic zones and a sacred place where humans could interact with the spiritual world.

Between 900 –750 B. C. a second construction episode was carried out on *Est 1* that expanded and altered its architectural design, and a large architectural feature was added to the southeastern side of the huaca. Toward the end of this time span, *Est 1* burned and, subsequently, its remains were buried by a third construction episode. Huaca de los Chinos may have declined throughout the Early Horizon (800–400 B.C.) and was abandoned during the latter part of the horizon or early in the subsequent Salinar phase (400–1 B.C.). Evidence supporting this chronology came from relative and absolute dating provided by architecture and radiocarbon dates.

The first indication that Huaca de los Chinos had a religious ceremonial function was its integration with the sacred hill, Cerro El Castillo, and its placement next to anthropomorphic rock formations and beneath the three peaks that may have represented the three points of life or the three cosmic zones. Other evidence supporting this function was the architectural design of the huaca and its surrounding plazas as ritual areas, the general communicative aspects of rituals that were possible in each area, the huaca's association with cemeteries, and a lack of evidence of domestic activity (i.e., use-period trash and evidence of food production or storage). It appeared to function as a ritual center for the Moche Valley and may have served as a regional center based on its location with easy access to the Virú Valley and the Carabamba Plateau, and its association with the Quebrada Alto de las Guitarras sacred road system.

Social inequality was suggested at Huaca de los Chinos by evidence of controlled access to the huaca, especially the top three levels. Access may have been restricted to certain rituals associated with the Plaza D and E complexes and with *Est 1*. The ground-level plazas

appeared to have more open access, although certain entrances appeared designed to limit access.

The research carried out by Brian Billman (1996, 1999, 2002) and Thomas Pozorski (1976) implied that political centralization in the middle Moche Valley during the Initial period (1800–800 B.C.) was characterized by the construction of elaborate, large ceremonial mounds, a three-tiered hierarchy of sites, and a three-tiered spatial hierarchy of architecture within these sites, which may suggest a multilevel leadership organization. The preliminary evidence from Huaca de los Chinos regarding scale, size, elaborateness, level of leadership and financing, and construction labor requirement suggest a much lower level of political centralization. However, a three-tiered spatial hierarchy of architecture was present at Huaca de los Chinos and corroborated this element of political centralization expressed by the previous research. This spatial hierarchy was indicated at Huaca de los Chinos in several ways: a progressive decrease in plaza size as elevation on the huaca increased; the position of the three cemeteries; and a hierarchical pattern of activity areas (ground level, the first three levels of the huaca, and the top three levels of the huaca).

### **Future Research**

Several questions remain unanswered at Huaca de los Chinos. The beginning and end of its chronological sequence need to be clarified with radiocarbon dates, and the function and interrelationship of some parts of the huaca need to be studied. Further research, including excavations, are needed in the following areas:

- Radiocarbon dates for the beginning and end of the sequence (my highest research priority).

- The function of structure 2 beside *Plaza E* and structures 3–8 around *Plaza D*.
- Clarification of the three cemeteries.
- A complete type analysis of the diagnostic ceramics found at Huaca de los Chinos.
- The function of Room 7 and its relationship to *Est I*.
- The form and function of the *Plaza CH* area.
- The extent of Huaca de los Chinos's regional influence through continued detailed ceramic analysis.
- Verification of the chronological sequence of the Plaza B complex.
- Clarification of the size and extent of the Huaca de los Chinos site.

This research will encompass numerous future field seasons, but I think it is important to thoroughly understand the Huaca de los Chinos site. In the long term, it is important to carry out the same type of detailed excavation-studies at the archaeological sites of Menocucho and Puente Serrano and to clarify their chronological sequence (including radiocarbon dates), function, and socio-political complexity. Fully understanding these aspects of Huaca de los Chinos, Huaca de Menocucho and Puente Serrano, along with the information that is already known about Caballo Muerto will indicate if these primary Initial period centers in the Moche Valley existed contemporaneously or sequentially; how they functioned individually and related together; and what type of social and political structure existed among them. A contemporary versus sequential occupation has very different implications about political centralization during this period. This new information could further clarify the developmental of civilization in this valley and the surrounding region, and thus provide crucial information about the process of state development in Perú.