

THE CERAMICS AND CHRONOLOGY OF CHOLULA, MEXICO

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Abstract

Chronology is a fundamental prerequisite for problem-oriented, anthropologically relevant archaeology. It is also the shaky foundation that has hampered attempts to reconstruct the culture history of Cholula, Mexico. Cholula is among the oldest continuously occupied urban centers of the New World, yet it remains one of the most enigmatic. This paper evaluates previous cultural sequences for the site, and summarizes recent evidence to construct a chronology using absolute dates and ceramic assemblages from primary depositional contexts. This revised sequence features a clearer understanding of Middle Formative settlement and the definition of ritual and domestic contexts from the Classic period. In addition, there is now evidence for a gradual transition between Late Classic and Early Postclassic material culture; and for the evolution of the Postclassic polychrome tradition within a sequence of short, clearly defined phases.

Chronology is one of the key objectives in archaeology. Strong chronologies are those with fairly short divisions defined by distinctive artifact assemblages allowing for precise identification of cultural sequences; weak chronologies generally have long periods during which the material culture appears uniform. "Static" culture is an anthropological paradox, however, as it is more likely that long periods are the result of inadequate archaeological refinement instead of cultural stagnation. Chronologies with brief, well-defined periods are important stepping stones to understanding the processes that lead to culture change, and thereby facilitate a wide range of subsequent interpretations.

One criticism of the "culture-historical" approach in archaeology, however, has been the overemphasis on chronology building (Binford 1962, 1965; Flannery 1967; Willey and Sabloff 1974), particularly that kind accomplished through seriation and relative dating (Trigger 1989:304–305). The increased use of absolute-dating methods (e.g., radiocarbon, obsidian-hydration, and archaeomagnetic dating) provides the opportunity to date events rather than simply blocks of time, with the archaeological past therefore becoming more of a continuum than a sequence of static stages (Dean 1978).

This ideal has been more successfully achieved in some areas, such as the U.S. Southwest, than in central Mexico where rather coarse chronologies still continue to be used. Not only are Mesoamerican time periods cumbrously long in duration, but they usually rely on few absolute dates for calibration, and often incorporate assumptions based on ethnohistorical accounts of mythico-historical events (Smith 1987).

This paper discusses the chronology of Cholula, Puebla, evaluating existing sequences and summarizing available chronometric dates and ceramic complexes from recent excavations. Cholula is one of the oldest continuously occupied centers in Mesoamerica, with settlement dating back at least into the Middle Formative period (ca. 1000 B.C.). It is located in the Puebla-Tlaxcala valley

(see Figure 2 in Parsons et al. 1996), a broad plain with outstanding agricultural productivity and a natural clay source (Bonfil Batalla 1973). Archaeological investigations at Cholula have continued for more than 100 years (Bandelier 1976 [1884]; Marquina 1939, 1951, ed. 1970; Messmacher 1967; Mountjoy and Peterson 1973; Suárez C. 1985, 1989; summarized in McCafferty 1992:51–69; Merlo 1989; Paddock 1987; Peterson 1987; Suárez C. and Martínez A. 1993), with particular emphasis on the ceremonial precinct surrounding the Great Pyramid. Yet Cholula remains one of the most enigmatic of Mesoamerican centers, and its poorly understood chronology is the shaky foundation that has limited attempts to reconstruct its culture history.

CHOLULA CHRONOLOGIES: PAST AND PRESENT

In 1856, Edward B. Tylor visited Cholula and observed that:

though there was plenty of coloured pottery to be found in the neighborhood of the [Great P]yramid, the pyramid itself had only fragments of uncoloured ware imbedded in its structure; which seems to prove that it was built before the art of colouring pottery was invented (Tylor 1970 [1861]:275).

Despite the numerous archaeological investigations that have since been conducted at the site, understanding of the Cholula ceramic sequence has progressed remarkably little since Tylor's visit. Conflicting sequences proposed by Noguera (1954) and Müller (1970, 1978) were based primarily on stratigraphic excavations into and around the Great Pyramid. Both scholars were influenced by Valley of Mexico sequences to the extent that they recognized little difference between the cultural sequences of the separate areas. Confusion over the Postclassic chronology in particular has had a far-reaching impact on the culture history of Cholula, and

consequently, for all of central Mexico (Nicholson 1982:243–244; Sanders et al. 1979:133; Smith and Heath-Smith 1980:36–37).

In addition to the “Mexico-centrism” of the sequences, however, there was also a fundamental methodological problem. Since most of the investigations have been conducted at the Great Pyramid and its surrounding ceremonial precinct, deep test pits were the standard technique used for obtaining stratified ceramic samples. But the depositional contexts of these units are badly distorted by the monumental construction activities at the mound. Examples of the degree of disturbance can be found in the original reports. Noguera (1954:46–49), for example, described and illustrated one unit where the Classic and Postclassic deposits were inverted. The utility of stratigraphic test pits is well documented, yet problems may occur when pits are used without regard for context or site formation processes, particularly in situations where construction activities involve the extensive use of earthen fill (Schiffer 1987:137–139).

The ceramics from Cholula have been the subject of numerous studies (Acosta 1975; Barrientos 1980; Caskey 1982a, 1982b, 1988; Fajardo 1985; Lind 1994; Lind et al. 1990; López V. 1967; McCafferty 1992, 1994, 1997; Müller 1970, 1978, 1981; Noguera 1941, 1954; Peterson 1972; Suárez C. 1994). Yet ambiguities and even contradictions in these studies have resulted in fundamental problems especially for the interpretation of Postclassic assemblages. These difficulties are caused in part by the tremendous diversity within the Cholula ceramic complex.

The first systematic study of Cholula ceramics was carried out by Eduardo Noguera (1941, 1954), who analyzed pottery recovered during the initial phase of explorations at the Great Pyramid. His samples came from stratigraphic pits, tunnel excavations, and block excavations at the Altar of the Carved Skulls. He published the results in *La cerámica arqueológica de Cholula* (Noguera 1954), which featured numerous illustrations including photographs and color plates.

“Archaic” remains were found beneath the Great Pyramid, in a stratigraphically lower position than Classic-period levels (Noguera 1954:199–200). The earliest pottery featured red paint and incising over a white base coat, and white decoration over red (Noguera 1954:201). Formative-period figurines were related to the sequence developed by Vaillant (1930, 1931) for the Valley of Mexico.

Classic-period ceramics were comparable to those from Teotihuacan, especially from the initial period when Noguera (1954:188) postulates that Cholula was occupied by people ethnically related to those of Teotihuacan. Later developments in Teotihuacan-style ceramics were less noticeable at Cholula, however, suggesting divergence between the two cultural systems. The characteristic ceramic type is a burnished gray/brown-to-black vessel with low, concave walls and a flat base, occasionally with small supports. Decoration is rare, most often occurring as incised geometric patterns. Another decorated type features red and white paint over brown, similar to pottery discovered inside Teotihuacan’s Pyramid of the Sun (Noguera 1954:190).

Noguera (1954:261, 280–281) divided the Postclassic into three phases on the basis of decorated ceramic types, termed Cholulteca I, II, and III. These phases were loosely correlated with the Valley of Mexico sequence of Aztec I, II, and III, but no absolute dates were assigned to define the periods. Cholulteca I was identified by the presence of *polícroma laca* and *decoración negra sobre el color natural del barro*. Cholulteca II was poorly represented, with *polícroma mate* as its only diagnostic. Cholulteca III was defined

by the presence of *polícroma firme*, *decoración sencilla*, and *decoración rojo o negro sobre fondo anaranjado*. The final occupation of the Great Pyramid occurred during the Early Postclassic period, ending about A.D. 1200 (Marquina 1951:119). This date was probably derived from ethnohistoric accounts, supported by the presence of polychrome pottery on the surface of the pyramid.

The second major ceramic study was directed by Florencia Müller (1970, 1978; Acosta 1975), as part of the Proyecto Cholula. The analysis was based on over 2.5 million sherds from stratigraphic pits and features such as burials, wells, and middens (Müller 1978:13).

Müller classified the ceramics based on surface treatment and vessel form. Temporal assignment of the different types used relative similarities with other areas, particularly the Valley of Mexico. Thus Formative-period phases at Cholula were identified using Valley of Mexico site names (e.g., Tlatilco and Ticoman), while Classic-period phases were direct transpositions of Teotihuacan phases (Müller 1978:19).

The enormous effort of the Proyecto Cholula revised the ceramic sequence for the Postclassic period, but it retained Noguera’s original phase names of Cholulteca I, II, and III, while adding IV. Furthermore, Müller collapsed the entire polychrome sequence into a single phase (Cholulteca III), thus introducing a major contradiction between the two schemes, as Noguera had defined his different phases on the basis of specific polychrome types.

Müller assigned dates to the phases, but without reliance on archaeometric dates. Instead, the time periods were apparently adopted directly from historical events in the Valley of Mexico (McCafferty 1992:234–235; Smith 1987:38). For example, Cholulteca II began in A.D. 900, coincidental with the founding of Tollan, and lasted until the foundation of Tenochtitlan in A.D. 1325. Cholulteca III was identified with the Mixteca-Puebla horizon, and lasted until A.D. 1500. The method used by Müller is problematic because it assumes a direct correlation between interregional stylistic similarities, ethnohistorically documented political events, and cultural production processes (Smith 1987).

The Proyecto Cholula ceramic analysis radically changed the Postclassic ceramic sequence while retaining Noguera’s original phase terminology. By considering all assemblages with polychrome pottery as Late Postclassic, earlier Postclassic assemblages became relatively rare. Consequently, Cholula was interpreted as being abandoned following the Classic period, and only regained its status as an urban center in the later stages of the Postclassic period (Dumond 1972; Dumond and Müller 1972; García Cook 1981; García Cook and Merino Carrión 1990; Mountjoy 1987; Suárez C. and Martínez A. 1993).

Excavations on the campus of the Universidad de las Américas (UDLA), located about 2 km east of the Great Pyramid (Figure 1), have produced ceramic sequences and absolute dates useful for revising Noguera’s and Müller’s chronological sequences. Daniel Wolfman (1968) excavated a series of domestic compounds and associated features at UA-1 that provide a ceramic seriation to clarify the Postclassic sequence (McCafferty 1992, 1994, 1997). Mountjoy and Peterson (1973; Peterson 1972) investigated Formative, Classic, and Postclassic deposits and obtained the first ¹⁴C and obsidian-hydration dates from the site. Michael Lind (1979) excavated a variety of Postclassic features that define the Late Postclassic ceramic complex (Barrientos 1980; Caskey and Lind 1979; Lind 1994). Rescue excavations on the campus continue to produce important results, including the discovery of a possible Early Formative occupation (Plunket 1992).

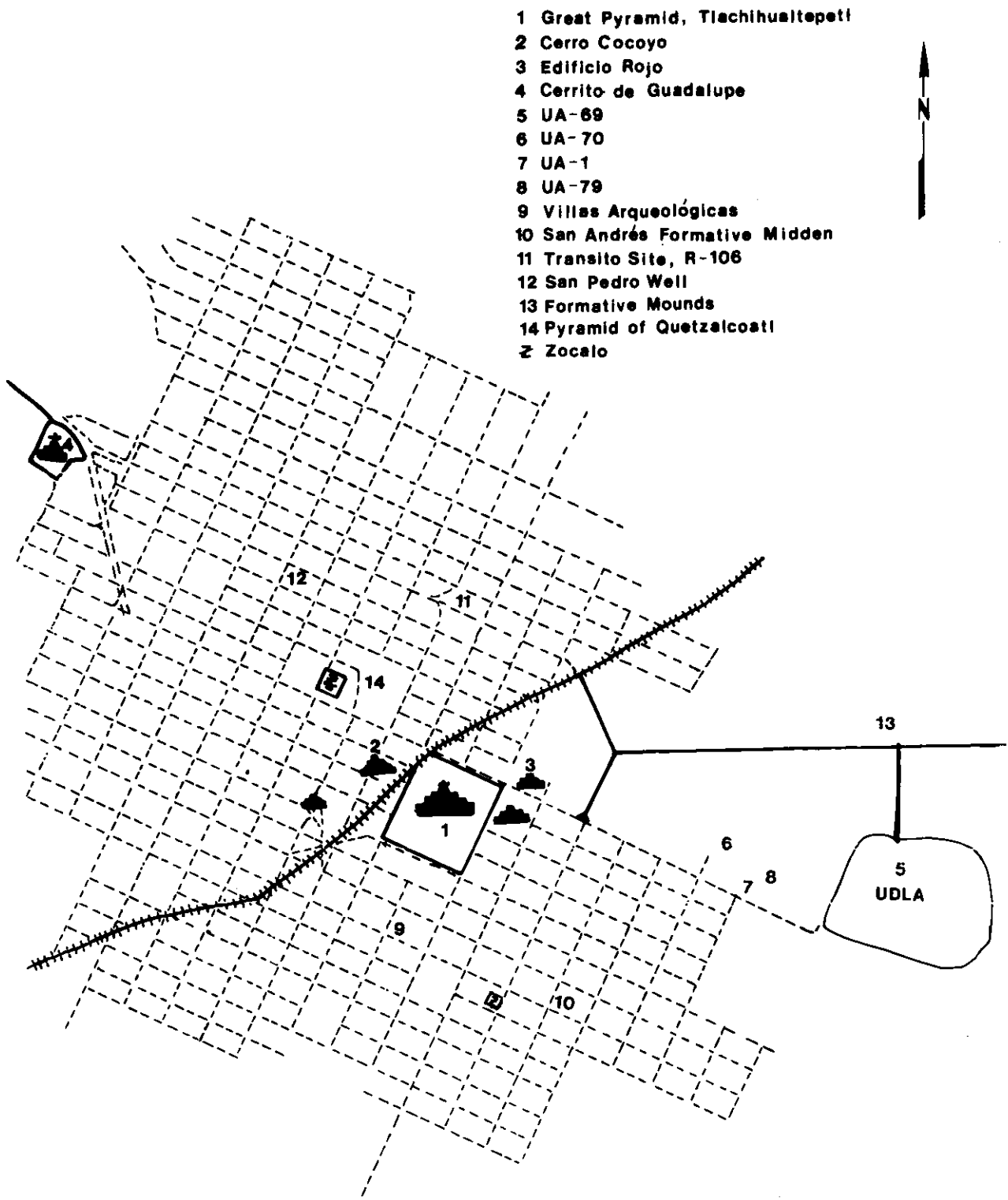


Figure 1. Map of archaeological loci within Cholula.

Additional investigations in Cholula have been conducted by the Puebla Regional Center of Mexico's Instituto Nacional de Antropología e Historia (INAH). Most of these excavations have been in the form of *rescate* (rescue) projects in advance of planned

construction, usually as small test pits; occasionally more extensive block excavations are conducted when significant features are encountered (Caskey 1988; McCafferty and Suárez C. 1994, 1995; Suárez C. 1985, 1989).

Table 1. Radiocarbon dates from Cholula

Sample Number	Context	Radiocarbon Age (B.P.)	Calibrated Date(s)	Calibrated 1-Sigma Date Range	Calibrated 2-Sigma Date Range
GX-2256 ^a	UA-70, swamp ^c	2645 ± 110	802 B.C.	897–765 B.C.	1046–410 B.C.
INAH-1340 ^b	R-106, Pozo 5-2	1579 ± 66	A.D. 431, 520, 528	A.D. 408–544	A.D. 272–638
INAH-1339 ^b	R-106, Cala 10S	1539 ± 49	A.D. 537	A.D. 429–575	A.D. 410–640
INAH-1338 ^b	R-106, Pozo 2-1	1490 ± 61	A.D. 564	A.D. 437–640	A.D. 420–660
INAH-1336 ^b	R-106, Pozo 5-1	1428 ± 35	A.D. 639	A.D. 584–645	A.D. 544–663
GX-2447 ^a	Cerro Zapotecas, ballcourt ^c	1345 ± 180	A.D. 670, 685	A.D. 543–937	A.D. 358–1026
GX-2446 ^a	Cerro Zapotecas, Mound 3 ^c	1315 ± 100	A.D. 689	A.D. 644–861	A.D. 544–980
INAH-1102 ^b	San Pedro well	1065 ± 55	A.D. 984	A.D. 897–1018	A.D. 782–1148
INAH-1103 ^b	San Pedro well	960 ± 140	A.D. 1028, 1145, 1146	A.D. 905–1220	A.D. 770–1280
GX-1815 ^a	UA-69, Faculty Housing midden ^c	700 ± 95	A.D. 1290	A.D. 1260–1392	A.D. 1159–1427
INAH-1332 ^b	Patio of the Carved Skulls, N13/W7	681 ± 59	A.D. 1282	A.D. 1266–1387	A.D. 1220–1406
I-14, 614 ^a	UDLA well ^d	500 ± 80	A.D. 1429	A.D. 1333–1448	A.D. 1298–1627

^a Calibration using CALIB Rev. 3.0.3c (Quaternary Isotope Lab, University of Washington).

^b Calibration by Laboratorios de Fechamiento, Departamento de Prehistoria, INAH.

^c Mountjoy and Peterson (1973).

^d Uruñuela and Alvarez-Mendez (1989).

Over the past 25 years a series of absolute dates has been obtained with which to construct Cholula's chronological sequence (Table 1). The total number of dates is still quite small, particularly because they are distributed across a 2,500-year period, but recent efforts by Sergio Suárez C. and the INAH ¹⁴C lab have greatly improved the situation. These dates are useful for calibrating the ceramic sequence based on excavated assemblages. In the remainder of this paper I summarize the results of recent investigations relating to the Formative, Classic, Epiclassic, and Post-classic periods. Included are absolute dates within the context of their artifact assemblages, as well as additional excavation data when the ceramic complexes are useful for defining the ceramic sequence.

FORMATIVE PERIOD

During the Formative Period, Cholula grew from a small lakeside hamlet to a sprawling regional center surrounding its nascent ceremonial precinct. Based on scattered concentrations of Formative artifacts, it appears that Cholula may have covered 2 km², though the population density cannot be estimated because of later occupational overburden.¹ Initial settlement clustered around the shore of a swampy lake on what is now the UDLA campus, presumably to take advantage of the rich lacustrine environment. Excavations on the grounds of the campus have recovered pottery stylistically similar to Middle Formative ceramics from other regions (Baravalle and Wheaton 1974; Mountjoy and Peterson 1973).

In 1969 and 1970, Joseph Mountjoy directed excavations on the UDLA campus at the edge of the "swamp" (Mountjoy and Pe-

terson 1973:13–19, 46–65). Excavation Units 5 and 6 contained rich deposits of unmixed Formative materials. Decorated pottery resembled that from the transitional and upper phases from Tlatilco, with incised double-line breaks and filled geometric patterns on either black- or white-slipped surfaces. Figurines also related to Formative types from the Valley of Mexico. Waterlogged conditions created favorable preservation for organic materials, including wood, corn cobs, and maguey spines (Mountjoy and Peterson 1973:59). No architectural features were detected, and this area was interpreted as a refuse dump at the lake's edge.

One large piece of carbonized wood from Excavation Unit 6 was dated at 897–765 B.C. (2645 ± 110 B.P.; GX-2256; Mountjoy and Peterson 1973:62). This date seems to be several centuries too early, however, based on stylistic comparisons with ceramics from the Valley of Mexico. Ten obsidian prismatic blades were dated using obsidian-hydration analysis, but the results ranged from 2083 ± 118 B.C. to A.D. 149 ± 125. The dates were based on both green and gray obsidian samples without consideration of the possible effects of source on hydration rate.

Formative ceramics have been discovered in several other parts of Cholula. Noguera (1956:214) reports pottery and figurines relating to the Zacatenco I/II phase from the interior of the Edificio Rojo northeast of the Great Pyramid. Similar artifacts were found at the Conejero, an early stage of the ceremonial precinct (Müller 1973; Suárez C. and Martínez A. 1993). Formative pottery is common on the surface beneath the initial levels of the Great Pyramid (Noguera 1954:199–200).

A midden deposit from San Andrés Cholula was found during the backhoe excavation of a municipal waterline (McCafferty 1984). It was associated with a cobblestone platform that measured about 1 m in height, though only a portion of the structure was exposed in the trench profile. Ceramics included kaolin-slipped serving wares (Cholula Cream) decorated with incised, excised, and painted motifs (Figure 2). Other decorated pottery had black (Amalucan Polished Black) and brown (Totimehuacan Red-on-brown) surfaces, with incised and red-painted designs (Figure 3). Figurines correspond to Valley of Mexico types, including Vaillant's Type B–C (Figure 4a; Vaillant 1930:108–109, 124–125) and Niederberger's (1976:211, 217) Pahuacan class from the

¹ Because of Cholula's location on a valley floor and its 3,000-year settlement history it is a deeply stratified site for which traditional methods of surface reconnaissance are only minimally successful. Early deposits are poorly represented on the surface, and therefore attempts at reconstructing diachronic settlement patterns are tentative. Settlement-size estimates presented here are based on surface reconnaissance, observations from deep construction trenches (including a municipal drainage system), and INAH *rescate* excavations.

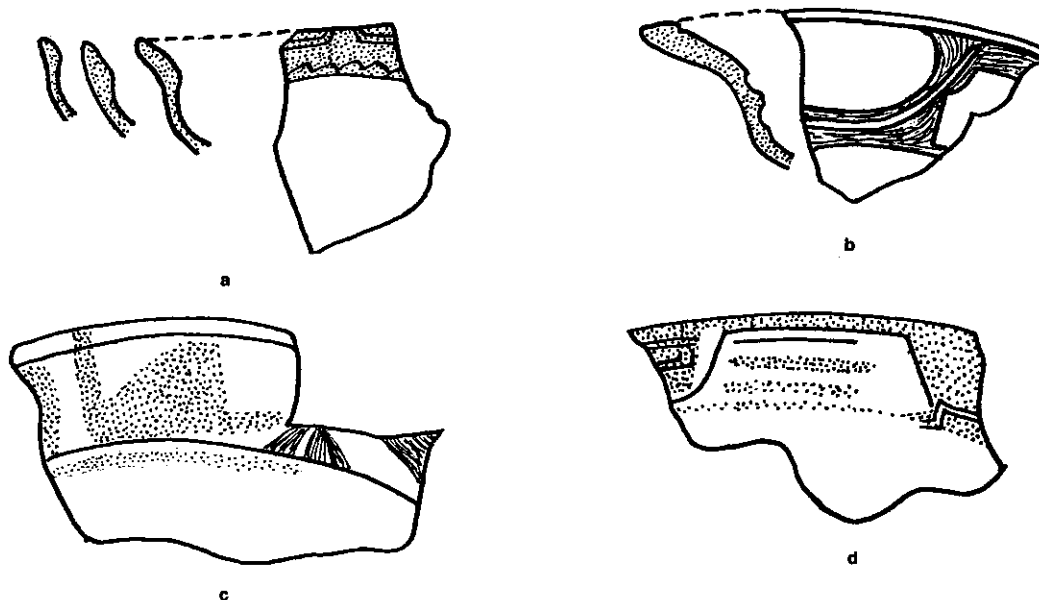


Figure 2. Examples of Cholula Cream. (a, c–d) Red-on-cream Incised; (b) Incised/Excised.

Manantial phase (Figure 4b). Additionally, 56 fragments of a distinctive form of zoomorphic censer cover were recovered, featuring an open mouth and a face with pinched ears and indented eyes (see Fowler et al. [1980:38] and García Cook [1981:245] for comparable examples).

A large feature excavated at the Hotel Villas Arqueológicas (Caskey 1988) included a rich deposit of Middle Formative artifacts, probably representing domestic refuse. Ceramic types and relative frequencies were very similar to those of the San Andrés midden.² Caskey (1988:79–80, 142) used this feature to define his “Cabañas phase,” 800–500 B.C.

A final Formative-period locus was discovered to the north of the UDLA campus, on what may have been an island in the swampy lake. It featured several possible mounds, though they had been modified to form a modern *jaguey* (reservoir). Ceramics included kaolin-slipped Cholula Cream with double-line incising in designs more similar to those from the UDLA excavations than either the San Andrés or Villas Arqueológicas middens. Unfortunately, this site was bulldozed during a land dispute in the early 1980s, and no systematic collections are available.

Formative-period ceramics from Cholula represent at least two definable complexes. The earlier features (1) Cholula Cream kaolin-slipped pottery with incising, excising, and red paint; (2) Totimehuacan Red-on-brown, including incised subtypes; (3) Amalucan Black, with an Incised subtype; and (4) Coapan Monochrome utilitarian forms (Table 2; Caskey 1988; McCafferty 1984; also Baravalle and Wheaton 1974). Stylistically, these types are earlier than the dated assemblage from the UDLA campus, and similarities link both the ceramics and figurines with the Valley of Mexico and Chalcatzingo

Table 2. Middle Formative (Cabañas) ceramic rim frequencies

Type/Site	Villas Arqueológicas ^a (n/%)	San Andrés ^b (n/%)	UDLA Exc. No. 6 ^c (n/%)
Cholula Cream	280/60	236/39	136/31
Plain	(92/33)	(57/24)	—
Incised/Excised	(66/24)	(37/16)	(122/90)
Red-on-cream	—	(10/4)	(14/10)
Red-on-cream Incised	(122/44)	(132/56)	—
Totimehuacan Red-on-brown	84/18	131/22	3/7
Plain	(18/21)	—	—
Brown	—	(38/29)	—
Brown Incised	—	(3/2)	—
Incised	(66/79)	—	—
Red-on-brown	—	(15/11)	(3/1)
Red-on-brown Incised	—	(75/57)	—
Pilopa Incised	(9/1.9)	—	—
Brown	(8/89)	—	—
Red	(1/11)	—	—
Coapan Reddish-brown	66/14	143/24	46/11
Amalucan Black	31/7	56/9	245/56
Plain	(12/39)	(17/30)	—
Pattern Burnished	—	(1/1.8)	—
Incised	(19/61)	(38/68)	(223/91)
Red-on-black	—	—	(17/7)
Red-and-black Incised	—	—	(2/1)
Red-and-white-on-black	—	—	(2/1)
White-on-black	—	—	(1/4)
Manzanilla Sandy Orange	—	20/3	—
Plain	—	(19/95)	—
Incised	—	(1/5)	—
Unidentified	—	(22/4)	7/1.6
Total rims	470/100	(608/100)	437/100
Total bodies	1,540	894	—

Note: Numbers in parentheses indicate frequencies of selected subtypes relative to the basic type.

^aData from Caskey (1988).

^bData from McCafferty (1984).

^cData from Mountjoy and Peterson (1973).

² For the purpose of standardized terminology, type names defined in the San Andrés report (McCafferty 1984) are substituted for the names given by Caskey (1988). These include: Cholula Cream for Cabañas White, Totimehuacan Red-on-brown for Villa Red-over-brown, Coapan Reddish-Brown for Martínez Monochrome, and Amalucan Black for Varela Black. No parallel was identified for Caskey's Pilopa Incised, so that term is retained.

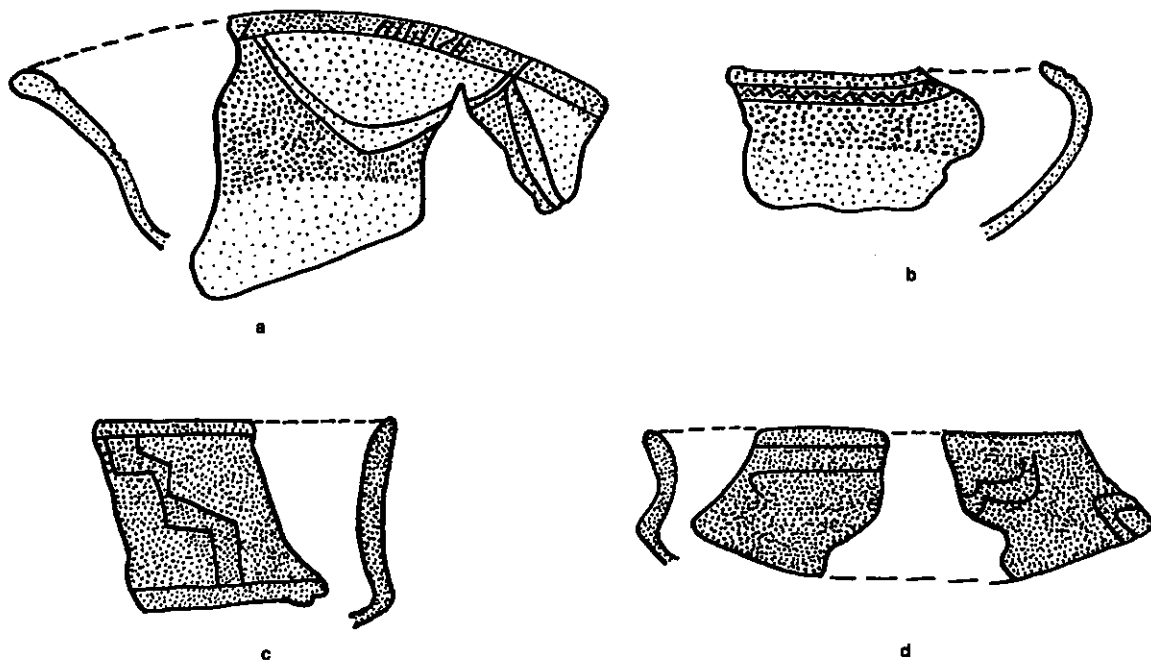


Figure 3. Examples of Totimehuacan Red-on-brown [a–b] and Amaluca Polished Black [c–d].

in the early Middle Formative period (1000–700 B.C.; Cyphers Guillén 1987; García Cook 1981; Niederberger 1976).

The second complex features complex-silhouette vessels with incised decoration including filled geometric motifs, especially triangles, on black- and white-slipped vessels (Mountjoy and Peterson 1973; Noguera 1956). Kaolin-slipped pottery is still prominent in the second complex, but decoration is limited to simple incised patterns such as zig-zags and life breaks. This complex may date to the late Middle Formative (700–300 B.C.), although it is associated with the single ^{14}C date from the UDLA excavation that would place it slightly earlier.

Late Formative ceramics are known from other sites in the Cholula region, such as Coapan and Amaluca (Fowler et al. 1980), but thus far are rare at Cholula. An Early Formative complex has been reported from the UDLA campus (Plunket 1992). Additionally, several mammoth bones have been found in deep deposits, suggesting the possibility of a Paleoindian-period occupation.

Classic Period

Cholula became a principal religious center during the Classic period, as the Great Pyramid went through three major construction stages until it measured 350 m on a side and 66 m in height (Figure 5; Marquina 1970, 1975; McCafferty 1996). Cultural remains of the city cover about 4 km², though most of this area is beneath later Postclassic and Historic occupations. Several additional pyramidal mounds stand out like islands in a sea of modern development, including Cerro Cocoyo, the Cerrito de Guadalupe, and an adobe nucleus that has been stripped of its original facade.

Relatively little attention has been paid to subdividing the Classic period. Müller and Noguera both adopted ceramic sequences from the Valley of Mexico, noting the “impoverished” nature of Cholula’s ceramic assemblage (Dumond and Müller 1972:1209). The diagnostic pottery type is Tepontla Burnished Gray/brown, which usually occurs as serving wares that range in color from

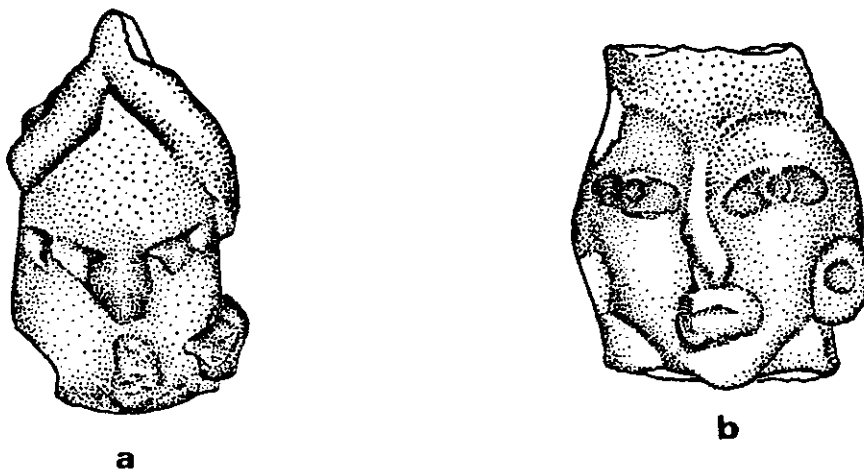


Figure 4. Middle Formative figurines from midden deposit at San Andrés Cholula: [a] example corresponding with Valley of Mexico types; [b] example corresponding with Pahuacan class from Manantial phase at Zohapilco.

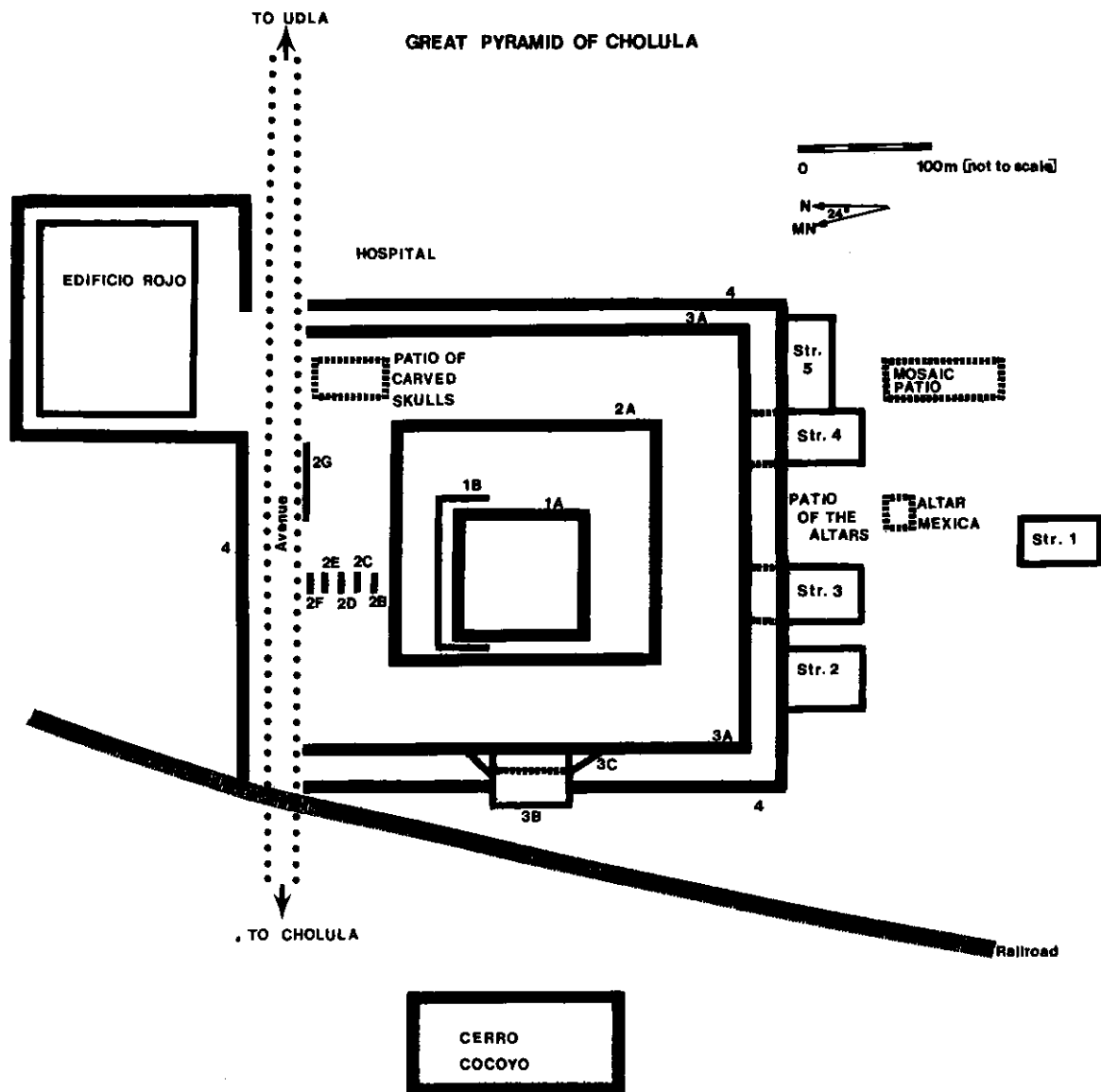


Figure 5. Plan of the Great Pyramid and ceremonial precinct.

light gray to dark brown to black (McCafferty 1997). The surface is lightly burnished to polished. The most common vessel form is a conical bowl with a flared rim and flat bottom (Figure 6). Decoration is rare but may include pattern burnishing, incising, or simple painted designs. Acozoc Tan/orange is the principal utilitarian

ware, and occurs as both ollas and *casuelas*. Teotihuacan Thin Orange and local variations occur in low frequency.

The most extensive excavated context for refining the Classic-period chronology is the Transito site (R-106), a domestic structure with associated features including an obsidian workshop

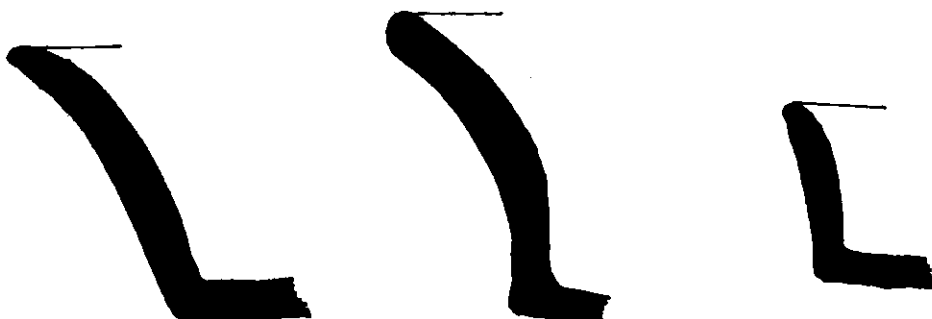


Figure 6. Tepontla Burnished Gray/brown vessel forms.

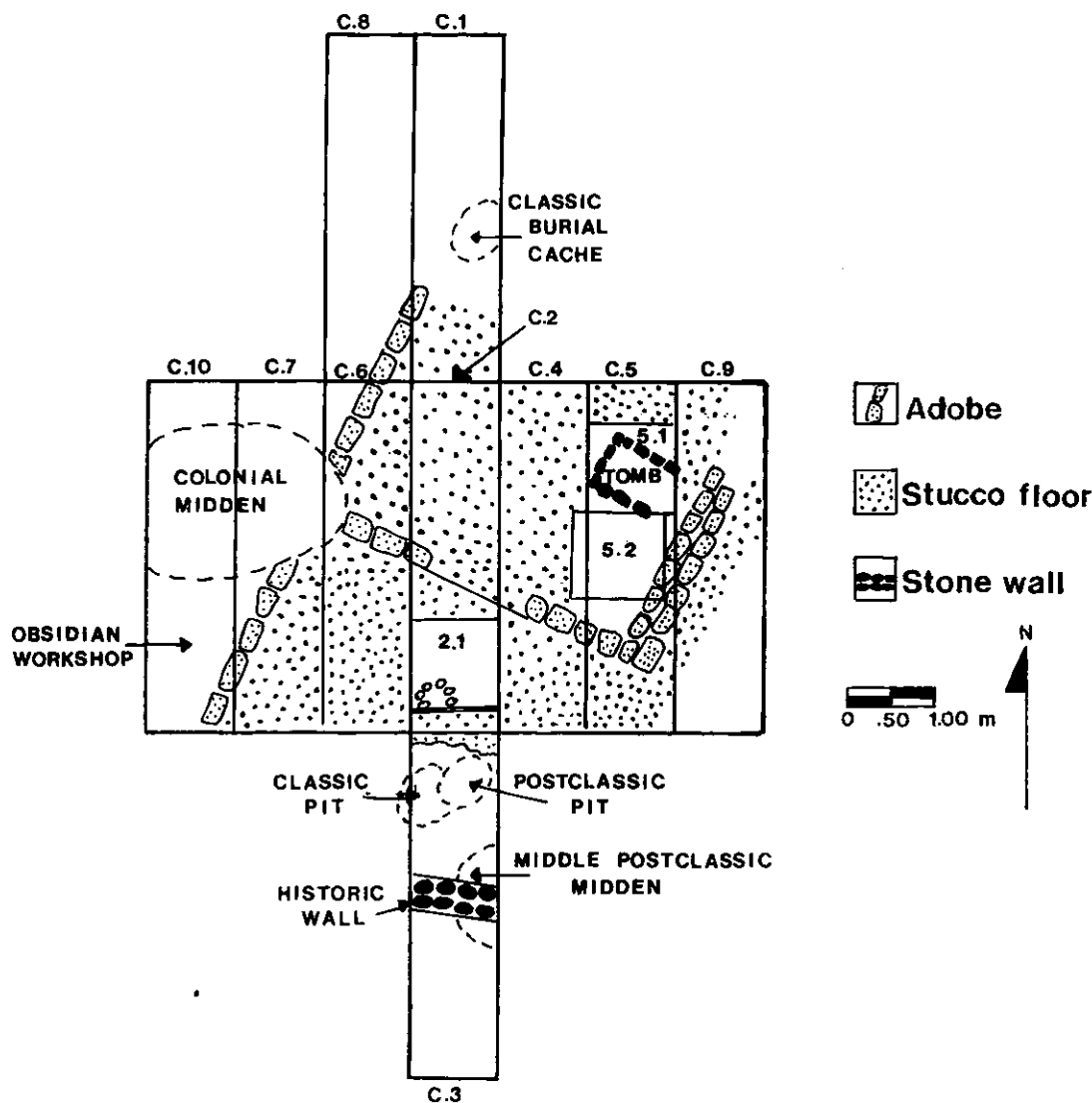


Figure 7. Plan of the Transito (R-106) site.

(Figure 7; Edelstein 1995; McCafferty and Suárez C. 1994). The structure could not be completely delimited due to intrusive disturbances (such as a large Colonial midden). The house featured plaster-covered adobe walls over a thick stucco floor. Excavation units through the upper floor encountered three additional floor levels. A stone-lined tomb was associated with the earliest floor level, but it was later reopened to inter a second individual prior to surfacing the final floor level. Grave offerings from the tomb included six vessels (including a small olla with gadrooning, coffee-bean appliqué, and nubbin supports), greenstone beads, and several figurines.

Four ^{14}C samples date the construction sequence of the structure. Charcoal samples recovered from sealed contexts above the lower floor in Pozos 5-2 and 2-1 dated to A.D. 408–544 (1579 ± 66 B.P.; INAH-1340), and A.D. 437–640 (1490 ± 61 B.P.; INAH-1338), respectively. A sample from above the capstone of the tomb in Pozo 5-1 dated to A.D. 584–645 (1428 ± 35 B.P.; INAH-1336). The fourth sample came from obsidian-workshop debris against the outside of the west wall, dated at A.D. 429–575 (1539 ± 49 B.P.; INAH-1339). The depositional sequence therefore spans the Late Classic from about A.D. 400 to 650.

Diagnostic artifacts associated with these dates include ceramics and figurines (Table 3). Teponitla Burnished Gray/brown comprised about 50% of the assemblage, while Teotihuacan Thin Orange made up another 8%. The most distinctive pottery decoration was a diagonal criss-cross motif pattern-burnished onto the exterior of flared-rim conical bowls (Figure 8). Vessels often featured nubbin supports. Ceramics and anthropomorphic figurines correspond to those of the Tlamimilolpa and Xolalpan phases at Teotihuacan.

Other Classic-period loci have been excavated that provide additional data for the ceramic sequence. At the Hotel Villas Arqueológicas south of the Great Pyramid, Suárez C. and Caskey (Caskey 1988) excavated a section of a possible house (including a stucco floor and stone-lined hearth) and an associated burial with an extensive offering. The burial pit penetrated through the stucco floor, but no evidence was recovered to suggest that the pit was ever sealed by later construction (Caskey 1988:158). A partial skeleton of an adult male, probably a secondary interment, was found with an offering of 125 complete vessels, two greenstone beads and two other worked stones (Caskey 1988:164). The ceramics were almost all of the monochrome Teponitla Burnished Gray/brown type, with no examples of Teotihuacan Thin Orange. No

Table 3. Late Classic ceramic rim frequencies from the Transito site (R-106)

Type/Context	2-1 Subfloor (n/%)	5-2 Subfloor (n/%)	5-1 Subfloor (n/%)	5-1 Tomb Fill (n/%)	Total (n/%)
Acozoc Tan/orange	16/20	18/24	27/27	39/34	100/27
Pattern Burnished	—	—	2/2	2/1.8	4/1.1
Black/tan	1/1.2	—	—	—	1/3
Coapan Laca Polychrome	—	—	1/1	—	1/3
Coarse Gray	3/4	2/3	1/1	2/1.8	8/2
Impressed Rim	—	1/1.4	1/1	—	2/5
Coarse Orange	1/1.2	2/3	—	1/9	4/1.1
Cocoyotla Black/natural	—	—	1/1	—	1/3
Comac Red/buff	1/1.2	—	—	—	1/3
Momoxpan Orange	—	4/5	—	—	4/1.1
Red-on-orange	—	—	—	3/3	3/8
Red-and-white/brown	—	—	—	1/9	1/3
Teotihuacan Thin Orange	9/11	8/11	4/4	10/9	31/8
Incised/Puntate	1/1.2	—	—	1/9	2/5
Imitation Thin Orange	—	—	—	—	—
Thin Brown	—	—	1/1	—	1/3
Thin Gray	—	—	—	1/9	1/3
Thin Gray Incised	—	—	—	1/9	1/3
Imitation Thick Orange	—	—	—	1/9	1/3
Tepontla Gray/brown	43/53	35/47	50/50	45/39	173/47
Incised	2/2	1/1.4	3/3	1/9	7/1.9
Pattern Burnished	4/5	3/4	7/7	2/1.8	16/4
Tepontla Red Rim Banded	—	—	1/1	—	1/3
Xicalli Plain	—	—	1/1	4/4	5/1.4
Subtotal	81/100	74/100	100/100	114/100	369/100
Percentage of total	90	76	86	66	78
Unidentifiable ^a	9/10	24/24	16/14	58/34	107/22
Total	90	98	116	172	476

^aSherds measuring less than 2 × 2 cm in size are too small to identify as to type.

vessels with nubbin supports were found (Caskey 1988:218). A distinctive vessel form was the *vaso*, a tall conical beaker that may have been used for consuming pulque (Caskey 1988:196–202). Also present were flared-rim conical bowls and hemispherical bowls



Figure 8. Teopontla Burnished Gray/brown flared-rim, conical bowl with pattern-burnished decoration and nubbin supports.

similar to those found at the Transito site. Caskey (1988:232) concludes that the offering dates to the Protoclassic period (A.D. 0–200).

A platform (Structure 3) was discovered at UA-1 from the UDLA campus (Wolfman 1968), and subsequent excavations disclosed a series of related architectural features (Mountjoy and Peterson 1973:22–26, 65–91). Ceramics were identified as Late Formative through Middle Classic, though discrepancies were noted in the correlation of the Cholula materials with the Valley of Mexico sequence (Mountjoy and Peterson 1973:87).

Suárez C. (1985) excavated a burial with an offering near the southwest corner of the Great Pyramid at the Patio Abierto above (Structure 2). The skeleton was of an adult male with distinctive tabular oblique cranial deformation and inlaid teeth, both rare traits at Cholula but characteristic of the Maya area (Suárez C. 1985:35). Ten ceramic vessels were associated with the burial. All were of the Tepontla Burnished Gray/brown type, and five were flared-rim conical bowls. Two of the vessels were tall *vasos* similar to those found at the Villas Arqueológicas site. Suárez C. (1985:68–69) dates the burial to the Late Classic period (A.D. 500–700) based on Müller's (1978) ceramic sequence.

A final "context" for interpreting the Classic-period ceramic sequence is the elaborate Bebedores mural from the *tablero* of Structure 3-A-1 of the Patio of the Altars on the south side of the Great Pyramid (Marquina 1971; Müller 1972). The Bebedores mural spans over 50 m in length, and depicts about 100 individuals in the process of ritual drinking. The figures often hold ceramic drinking ves-



Figure 9. Details from Bebedores mural showing vessel forms used by drinkers.

sels, and sit next to larger pots holding (presumably) alcoholic and possibly hallucinogenic pulque (Figure 9). Müller (1972:143) identified four vessel forms from her ceramic typology and consequently dated the murals to the Early Classic period (A.D. 100–300).³

Both Caskey (1988:200–202) and Suárez C. (1985:68) relate their Classic-period ceramic complexes to the vessels depicted in the murals and try to justify their temporal framework with the murals. This is particularly true for the *vasos* found in both assemblages. Müller (1978:93) dates this form to her “Cholula IIa” phase (A.D. 200–350). But Caskey places the Villas Arqueológicas burial

earlier (A.D. 0–200), while Suárez C. (1985:71) dates the Patio Abierto burial to the Late Classic (A.D. 500–700). If the *vasos* were used for ritual drinking, then perhaps they were not as temporally sensitive as Müller originally suggested. This form was not prominent in domestic debris at the Transito site, however, and was not among the vessels interred as offerings in the tomb. That this vessel form is used to support periodizations for the Protoclassic and Early and Late Classic phases is indicative of the lack of resolution in the Classic-period ceramic chronology.

The Classic-period sequence remains indivisible due to a lack of distinctive types or forms. The different assemblages identified at the Transito site were remarkably similar despite the temporal range indicated by the ¹⁴C dates. The burial ceramics from the Villas Arqueológicas lacked Thin Orange, but this may be due to the specialized nature of the offering. Vessel forms in the Tepontla

³ Based on a reinterpretation of the construction history of the Patio of the Altars, the Bebedores mural may actually date to the Epiclassic period (McCafferty 1996; see below).

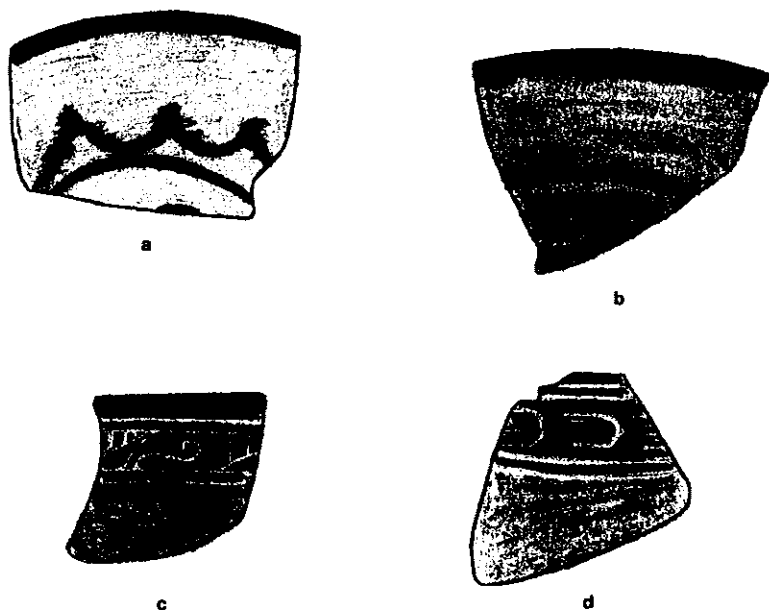


Figure 10. Examples of Cocoyotla Black-on-natural (a–b) and Cocoyotla Incised (c–d).

Burnished Gray/brown type are relatively consistent, with the exception of the *vaso* form. At present the most likely characteristics that could potentially be useful as diagnostics for future temporal division are nubbin supports and pattern burnished decoration, which were present at the Transito site but absent from both the Villas Arqueológicas offering and the Patio Abierto. Until additional assemblages from primary contexts become available for seriation, the Classic period cannot be subdivided into more specific phases.

Epiclassic Period

The most controversial stage in Cholula's history is the transition between the Classic and Postclassic periods, in part because interpretations have changed through time. Following the initial phase of archaeological investigations, and influenced by ethnohistorical accounts, Marquina (1951) and Noguera (1954) suggested that Cholula was occupied continuously, with the Great Pyramid abandoned at the end of the Early Postclassic period when Nahua Tolteca-Chichimeca overthrew the "tyranny" of the Olmeca-Xicallanca rulers (Chadwick 1971; *Historia Tolteca-Chichimeca* 1976; Jiménez Moreno 1942, 1966; Olivera and Reyes 1969; Torquemada 1975–1983 [1615]). Investigators from the Proyecto Cholula challenged this theory with evidence that the pyramid, and perhaps the entire city, were abandoned at the end of the Classic period due to a variety of possible factors: volcanic eruption,⁴ flooding, and/or social upheaval related to the wider Classic-period "collapse" (Dumond and Müller 1972; Marquina 1975; Müller 1970, 1978; Suárez C. and Martínez A. 1993). Under this sce-

nario, nearby Cerro Zapotecas was occupied as a defensible site for refugees from the urban center (Mountjoy 1987; Mountjoy and Peterson 1973).

Recently, I have argued that Cholula was not abandoned and that the Great Pyramid continued as a ceremonial zone at least into the Early Postclassic period (McCafferty 1996). The first line of evidence to support this reinterpretation comes from the ceremonial precinct on the south side of the Great Pyramid. A miniature pyramid-altar with the unfortunate misnomer of "Altar Mexica"⁵ is associated with an early stage of the Patio of the Altars. It contained offerings that included Cocoyotla Black-on-natural (sometimes called "Aztec I") pottery diagnostic of the Epiclassic and Early Postclassic periods (Acosta 1970a; McCafferty 1997). A nearby stratigraphic test found that virtually all of the 6 m of deposition above the Mosaic Patio was Postclassic (Müller 1970:132, Figure 22). Cocoyotla pottery was also associated with Str. 1 (Matos Moctezuma and López V. 1967) and Altar 2 (Acosta 1970b). The implication is that the Patio of the Altars and other elements of the southern precinct (including the Bebedores murals) span the Late Classic to Early Postclassic in a continuous sequence (McCafferty 1996).⁶

Cocoyotla Black-on-natural features black-painted decoration over the tannish-orange of the unslipped surface (Figure 10). Designs include horizontal straight or wavy lines on the interior wall. More complex subtypes can include a panel of black paint through which designs are incised. The typical vessel form is a subhemi-

⁴ Claus Siebe (personal communication 1996) suggests that the Popocatepetl volcano went through a period of violent eruptions between A.D. 800 and 1000 that may have effected Cholula as well as its rural hinterland. To my knowledge no evidence of volcanic debris has been found at the site, but future excavation should address this possibility and also the effects of resultant ash fall and mud slides on subsidiary population centers and agricultural lands.

⁵ The "Altar Mexica" probably derives its name from having "Aztec I" ceramics among its offerings; in the Cholula archaeological zone the altar is identified with a descriptive text discussing the Mexica/Aztec culture. In fact, "Aztec I" (Cocoyotla Black-on-natural) ceramics are Epiclassic and Early Postclassic diagnostics, and therefore the Altar Mexica predates the Mexica culture by at least 300 years.

⁶ In his review of this paper, Joseph Mountjoy writes "The problem is the virtual absence of Metepec and Oxtotitpac material. There is a 300-year gap between the beginning of Metepec and Aztec I." I believe that the beginnings of what has been called "Aztec I" (i.e., Cocoyotla Black-on-natural) may be as early as A.D. 700, and therefore there is no gap. Nevertheless, this issue is far from resolved, and additional research must address the problem.

spherical bowl with a flattened bottom that was occasionally stamped with a decorative pattern. Cocoyotla pottery resembles "Aztec 1" Black-on-orange pottery from the Valley of Mexico in both form and decoration, although it does not fit neatly into any of the categories defined by Hodge and Minc (1991).⁷

Since Str. 3 and 4 of the Patio of the Altars attach to the exterior of Stage 3A of the Great Pyramid (Salazar O. 1970), they postdate the "classic" *talud-tablero* facade. On the west side of the pyramid, Stages 3B and 3C also postdate the *talud-tablero* architecture, but are then covered over by yet another layer of adobe fill (Stage 4). Stage 4 was either never completed, or the stone and stucco surface was removed for later construction, perhaps for the Postclassic ceremonial center built by Tolteca-Chichimeca immigrants that included the "new" Pyramid of Quetzalcoatl (see below). Further evidence for the abandonment of the Great Pyramid complex is found in the Patio of the Altars, where Altars 1 and 3 were shattered (Acosta 1970c; Contreras 1970), and in the case of Altar 3 the pieces were then dispersed. This may be evidence of violent conflict between rival ethnic factions, as illustrated on the nearby Cacaxtla murals (McVicker 1985), or of a "termination ritual" intended to symbolically release the power of the ceremonial center (cf. Mock 1997).

Epiclassic and Early Postclassic ceramics cover the surface of the Great Pyramid, where they are associated with buildings from the final construction stage (Noguera 1954:219–226). Pottery types include Cocoyotla Black-on-natural, San Pedro Polished Red, Ocotlán Red Rim, San Andrés Red, and even Torre Polychrome (McCafferty 1997). On the basis of his ceramic sequence, Noguera (1954:226) inferred two distinct phases of occupation on the pyramid: Cholulteca I that was characterized by Cocoyotla Black-on-natural; and Cholulteca III, characterized by *policroma firme* (Torre Polychrome) and stamped-bottom bowls. By reordering the ceramic sequence (as discussed in the following section) this can be reinterpreted as a simple progression from Epiclassic to Early Postclassic periods.

Noguera's most extensive excavations were on the northeast platform of the Great Pyramid at the Altar de los Cráneos Esculpidos (Altar of the Carved Skulls; Noguera 1937; 1954:225–226). The altar itself was a miniature, pyramid-shaped tomb, nearly identical to the "Altar Mexica" in the Patio of the Altars, but with plaster-covered sculptures of human skulls attached to the exterior. Skeletons of an adult male and female were found within the altar, buried with an elaborate offering of pottery vessels, copper jewelry, obsidian projectile points, spinning and weaving tools, a bone musical rasp (*omichicahuaztli*), and the jaw bone of a dog (Noguera 1937:9–10). The altar was located in a small patio surrounded by stairways leading up to platforms on at least two sides. The patio and altar were sealed beneath a later floor (Noguera 1954:226). Cocoyotla Black-on-natural pottery was found within the tomb and in the fill sealed by the upper floor.

During the summer of 1994 I had the opportunity to conduct additional excavations at the patio surrounding the Altar of the Carved Skulls (McCafferty and Suárez C. 1995). Test pits on the south, east, and north sides of the patio identified six construction stages as the patio was modified and finally filled and sealed (Figure 11). Stage

1 featured an earlier pyramid-altar, similar to the one excavated by Noguera. Stage 2 represents an expansion of that altar and a portion of an associated stucco floor; an intrusive burial pit with the skeleton of a seated adolescent was discovered just north of the altar. The original altar was then partially dismantled on the south and west sides to accommodate the north staircase of the Patio of the Carved Skulls (Stage 3). On the west side of the patio this staircase was built in three successive stages. Interestingly, while the patio itself corresponds to the orientation of the Great Pyramid at 24° north of west, the Altar of the Carved Skulls is oriented at 17° north of west, conforming with sites in the Valley of Mexico such as Teotihuacan and Tula (Tichy 1981). Finally, the altar and the rest of the patio were filled and then covered by a stucco floor (Stage 6).

Material remains in the construction fill from the various stages of the Patio of the Carved Skulls complex are remarkably consistent, despite substantial alterations to the architectural plan; this assemblage is the basis for defining the Early Tlachiuhaltepetl phase (A.D. 700–900). The two principal serving ware types were Cocoyotla Black-on-natural and Tepontla Burnished Gray/brown (Table 4). These ranged in frequency between 23 and 31% for Cocoyotla, and 26 and 32% for Tepontla; Cocoyotla became slightly more abundant through time, while Tepontla decreased slightly. Aco-

Table 4. Early Tlachiuhaltepetl ceramic rim frequencies from the Patio of the Carved Skulls

Type/Context	Post-Stage 2 (n/%)	Post-Stage 4 (n/%)	Post-Stage 5 (n/%)
Acozoc Tan/orange	24/22	48/35	11/13
Cerro Zapotecas			
Sandy Plain	3/3	2/1.4	1/1.2
Cholula Cream	0	1/7	0
Incised	0	1/7	0
Cocoyotla Natural	8/7	7/5	12/15
Black Rim	6/5	5/4	3/4
Black-on-natural	12/11	17/12	9/11
White-on-natural	0	0	1/1.2
Incised	2/1.8	0	3/4
Comac Red-on-buff	1/9	1/7	1/1.2
Mazapan Red-on-orange	0	0	0
Momoxpan Metallic			
Orange	9/8	9/7	9/11
Ocotlan Red Rim			
Banded	1/9	0	0
San Andres Red	0	1/7	2/2
San Pedro Polished Red	0	0	1/1.2
Tepontla Burnished			
Gray/Brown	34/31	34/25	19/23
Incised	0	2/1.4	1/1.2
Red Rim	1/9	4/3	1/1.2
Red-on-black	0	0	1/1.2
Xicalli Plain	10/9	5/4	6/7
Unidentified A			
Incised Tan	0	0	1/1.2
Unidentified B			
Red-on-brown	0	1/7	0
Subtotal	111/100	138/100	82/100
Unidentifiable ^a	17	3	12
Total	128	141	94

^aSherds measuring less than 2 × 2 cm in size are too small to identify as to type.

⁷ One Cocoyotla subtype, Chalco Black-on-orange, closely resembles the Mixquic variety described by Hodge and Minc (1991) in terms of design configuration and particularly a characteristically everted lip. Chalco Black-on-orange is most common in the Late Tlachiuhaltepetl phase.

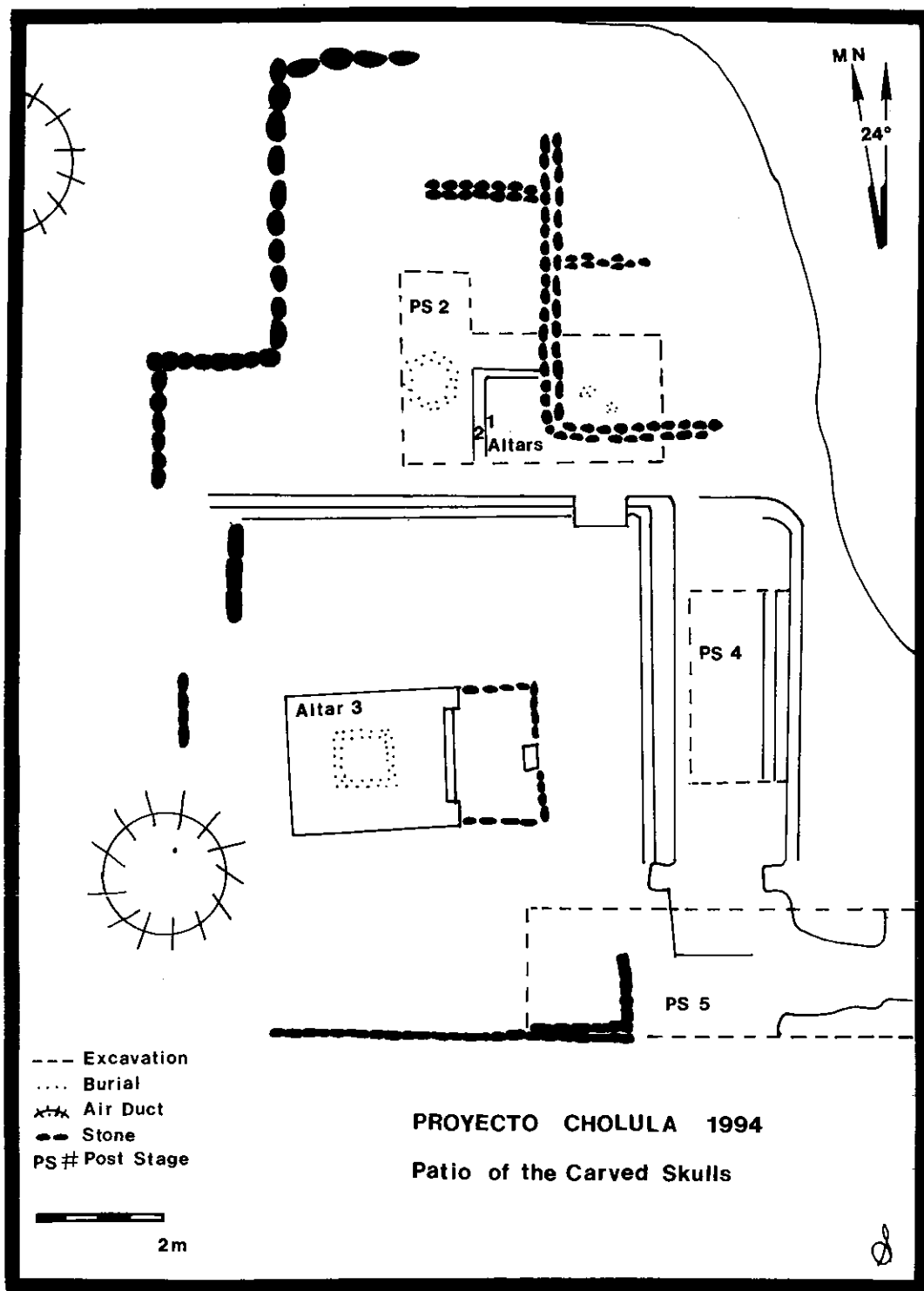


Figure II. Plan of the Patio of the Carved Skulls.

zoc Tan/orange was the principal utilitarian type present, though Post-classic types such as Momoxpan Orange and San Andrés Red were present in very low frequencies. The co-occurrence of the Classic-period diagnostic Tepontla Burnished with the Early Postclassic diagnostic Cocoyotla Black-on-natural suggests that the transition *did not* involve a major break in the cultural sequence. The lack of Teo-

tihuacan Thin Orange indicates that this is not simply redeposited fill, since in that case some Thin Orange would be expected.

Only a single polychrome rim sherd (Ocotlán subtype Sencillo) was found, though Noguera (1954:226) noted that it was present in other parts of the platform, and in fact surface reconnaissance of an adjacent but stratigraphically later area west of the patio did

discover polychrome ceramics. A single sherd of Mazapan Red-on-buff was found at the patio (Cobean 1990:267–280), as were several sherds imported from the Gulf Coast.

Five ^{14}C samples were submitted for dating by the INAH lab, but because of the small size of the samples only one date has been returned. Charcoal recovered from above the stucco floor of Stage 2 was dated at A.D. 1266–1387 (681 ± 59 B.P.; INAH-1332). This date is far too late, since by A.D. 1000 polychrome pottery is well documented from Cholula (see discussion in the next section); the date may correspond to disturbance related to the intrusive burial pit. Future testing at the site will hopefully produce additional materials suitable for dating.

Another source for evaluating the Classic to Postclassic transition is the nearby site of Cerro Zapotecas, located about 2 km west of Cholula (Mountjoy 1987; Mountjoy and Peterson 1973). A broad natural terrace contains numerous small mounds and a ballcourt. Pottery included diagnostic types from the Late Classic through Epiclassic that can be tentatively identified as Tepontla Burnished Gray/brown with incised and stamped designs, and Comac Red-on-buff,⁸ possibly a precursor of Cocoyotla Black-on-natural based on design similarities (Mountjoy 1987:142, Figure 4; Mountjoy and Peterson 1973:112–113, 136). Two ^{14}C dates were obtained: Mound 3 was dated at A.D. 644–861 (1315 ± 100 B.P.; GX-2446); and the ballcourt (Mound 4) was dated at A.D. 543–937 (1345 ± 180 B.P.; GX-2447). An archaeomagnetic sample from Mound 2 dated to A.D. 785–820 (Wolfman 1990:280–281).

The Early Tlachiualtepetl ceramic assemblage at the Patio of the Carved Skulls combined Classic and Early Postclassic diagnostic types, suggesting a gradual transition with the addition of new elements (e.g., Cocoyotla Black-on-natural and Momoxpan Metallic Orange). That there was not a dramatic disruption in the material culture argues against the concept of a major break in the cultural sequence, such as would be caused by site abandonment or invasion by a foreign ethnic group. Furthermore, no evidence has been discovered to indicate either volcanic eruptions or flooding. An alternative model for the Classic to Postclassic transition might therefore be one of gradual intermarriage with a group of newcomers, possibly from the Gulf Coast based on ceramics and architectural elements from the Great Pyramid (McCafferty 1996). It should be noted that this does not conform to the ethnohistoric model of Olmeca-Xicallanca conquerors driving out the *quinametin* (“giants”) as recorded by Ixtlilxochitl (1975–1977 [1625]:529–530). Nor does it agree with the image of ethnic conflict depicted in the Cacaxtla battle murals (McCafferty and McCafferty 1994; McVicker 1985; Quirarte 1983), and implied by the destruction of monuments in the Patio of the Altars.

The Classic to Postclassic transition remains the most problematic period in Cholula’s culture history, in part because the ethnohistoric accounts do not correspond well with the archaeological evidence. The recent investigations at the Patio of the Carved Skulls have contributed important information to the question, but additional work is urgently needed to expose both earlier and later stages of the construction sequence, and to obtain datable material with which to calibrate the ceramic sequence.

Postclassic Period

Postclassic Cholula was a major religious center for central Mexico, compared in Colonial-period accounts to Mecca or Rome (Rojas 1927 [1581]; Sahagún 1950–1982 [1547–1585], Introductory Volume:70). It covered an area of about 8 km², with a population estimated at 38,000–50,000 (Peterson 1987; Sanders 1971:29–31). Early Colonial accounts describe “more than 430 towers . . . all of temples” (Cortés 1986 [1519–1521]:75) in the city at the time of the Conquest; local residents still remember leveling mounds for agricultural fields. The ceremonial center of the city in the Late Postclassic was the Pyramid of Quetzalcoatl, located beneath what is today the Cathedral of San Gabriel on the plaza of San Pedro Cholula (Olivera 1970).⁹ Pilgrims from throughout Mesoamerica visited Cholula to attend religious ceremonies, and foreign nobles kept estates in Cholula where they stayed when they visited the Temple of Quetzalcoatl to receive legitimation (Rojas 1927 [1581]). The Great Pyramid was partially abandoned by the Late Postclassic but was still an important shrine for a rain deity, *Chiconauqui-auhuitl* (Rojas 1927 [1581]), possibly a female avatar of the Aztec goddess Chalchiuhtlicue (McCafferty 1996). The discovery of hundreds of Late Postclassic burials from the Great Pyramid’s ceremonial precinct indicates that it was still considered a locus of ritual activity (López et al. 1976).

Cholula was a center for artisans, and *pochteca* merchants affiliated with the Quetzalcoatl/Yacatecutli cult brought exotic goods to the Cholula marketplace (Durán 1971 [1576–1579]:129, 278; Pineda 1970 [1593]). It was particularly famous for its beautiful polychrome pottery that was considered a hallmark of the Mixteca-Puebla stylistic tradition (Lind 1994; McCafferty 1994; Nicholson 1960, 1982; Noguera 1954; Suárez C. 1994). Cholula polychrome was the preferred tableware of the Aztec king (Díaz del Castillo 1963 [1580]:226). Yet despite scholarly recognition of its artistic quality, the evolution of Cholula polychrome has remained poorly understood. The confusion stems from Müller’s assignment of all polychrome types to her Cholulteca III phase, after A.D. 1325. Since polychrome pottery was well developed in other central Mexico sites well before this date, Müller effectively eliminated Cholula from having contributed to the development of the artistic style for which it was most famous (but see McCafferty 1994, 1997).

Recent excavations and analyses of Postclassic contexts contribute to a reinterpretation of the Postclassic sequence, and thereby push back the date for the origins of Cholula polychrome to at least A.D. 900. The earliest absolute dates come from a pre-Hispanic well excavated in downtown San Pedro Cholula by Sergio Suárez C. (1994). The well was filled with domestic refuse; judging from mends from widely separated levels it was probably filled over a fairly brief period of time. Two ^{14}C samples produced dates of A.D. 897–1018 (1065 ± 55 B.P.; INAH-1102) and A.D. 905–1220 (960 ± 140 B.P.; INAH-1103). Ceramics found in the well included Cocoyotla Black-on-natural, Xicalli Plain, and Ocotlán Red Rim, including the polychrome subtypes Cristina Matte and Elegante. Diagnostic Postclassic utilitarian types such as Momoxpan Orange and San Andrés Red were well represented in the assemblage.

⁸ Joseph Mountjoy provided valuable unpublished information on decorative elements of ceramics from Cerro Zapotecas.

⁹ Archaeological investigations in 1993 and 1994 by the Universidad de las Américas searched for traces of the ceremonial complex beneath the convent associated with the cathedral.

A Postclassic trash deposit excavated on the UDLA campus was dated at A.D. 1260–1392 (700 ± 95 B.P.; GX-1815; Mountjoy and Peterson 1973:30). It contained a diverse assemblage of polychrome types (Mountjoy and Peterson 1973:33), including “Cholula Polychrome A” (Apolo Red-and-black-on-orange Polychrome, Aquiahuac Burnt Orange Polychrome, and Coapan Laca Polychrome; 22%), “Cholula Polychrome B” (Aquiahuac subtype Barracuda; 14%), and “Cholula Polychrome D” (Torre Polychrome; 6%).

Late Postclassic ceramics were found at the UA-79 excavations from the UDLA campus, particularly in the F-10 trash midden (Barrientos 1980; Lind 1979, 1994). Apolo-Red-and-black-on-orange Polychrome (33%) was the most abundant decorated type found, but Aquiahuac subtype Zócalo (4%), Torre Polychrome (4%), and

Coapan Laca (3%) were also present. A pre-Hispanic well from the UDLA campus with a similar ceramic assemblage was ^{14}C dated at A.D. 1333–1448 (500 ± 80 B.P.; I-14, -614; Uruñuela and Alvarez-Méndez 1989:70, in Lind 1994:81, Note 4).

A diverse assemblage of Postclassic ceramics was recovered at the UA-1 excavation on the UDLA campus (Table 5; McCafferty 1992, 1997; Wolfman 1968). A variety of primary depositional contexts were found in association with two domestic structures, including middens, wells, burials, and floor contact deposits (Figure 12). Although no absolute dates exist from this excavation, 13 discrete ceramic assemblages were seriated using Gelfand’s Method II (Marquardt 1982:419–421) to construct a ceramic sequence for the Postclassic period (McCafferty 1992:456–466,

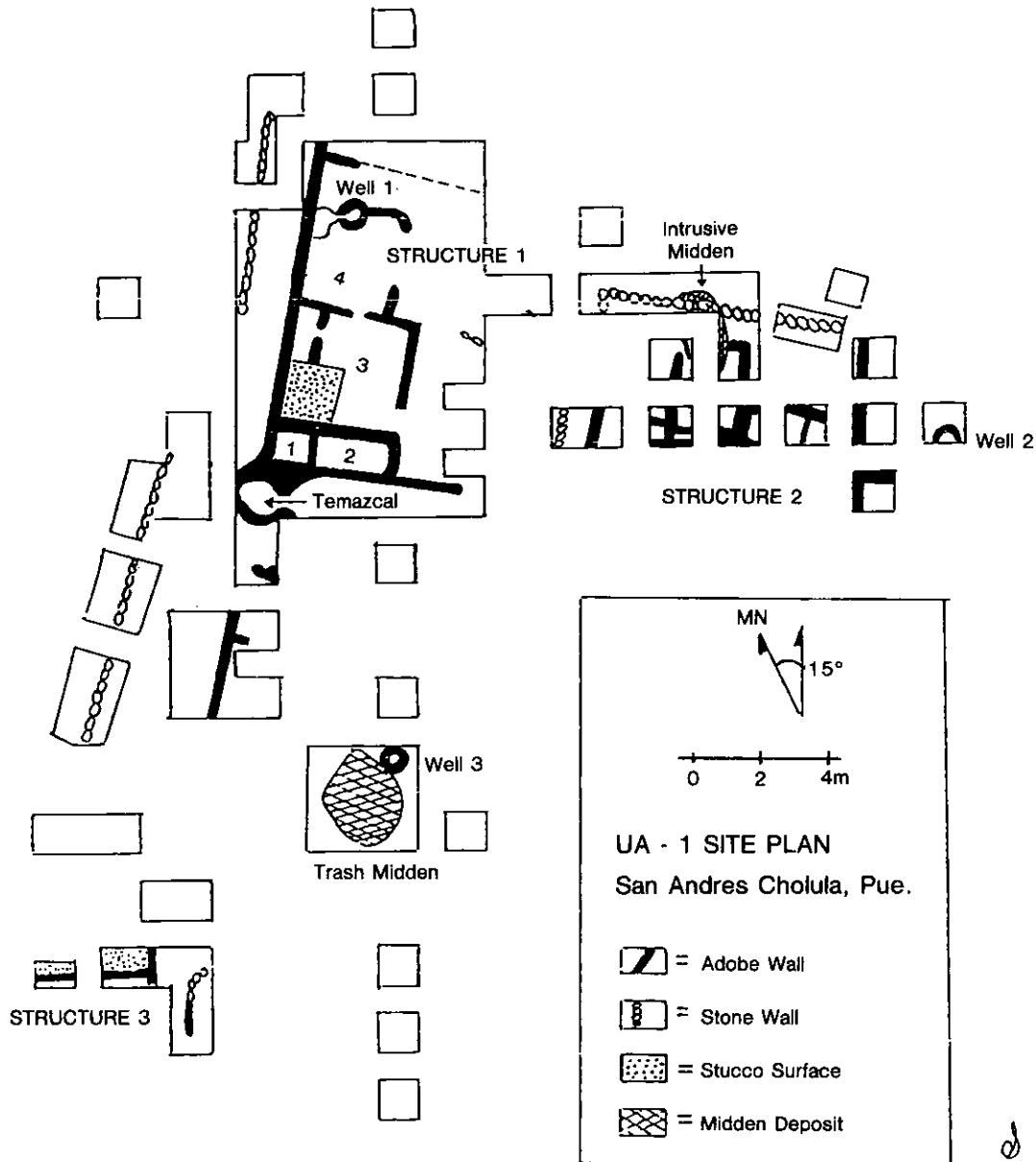


Figure 12. Plan of the UA-1 site.

Table 5. Postclassic ceramic rim frequencies from UA-I contexts

Type	Str. 1 Floor (n/%)	Well 3 (n/%)	Trash Midden (n/%)	Intrusive Midden (n/%)	Str. 2 Above Floor (n/%)	Well 1 (n/%)
Major decorated types						
Apolo Black-and-red/orange	7/1.6	0	12/4	6/4	43/11	163/46
Aquiahuac Burnt Orange	3/7	0	7/2	36/21	30/8	14/4
Coapan Laca	0	0	0	1/6	4/1	1/3
Cocoyotla Black/natural	47/11	20/8	204/7	10/6	8/2	0
Sencillo	(39/83)	0	(65/32)	(4/40)	(2/25)	0
Incised	0	0	(5/2)	0	0	0
Banded	(5/11)	(17/85)	(110/54)	(3/30)	(4/50)	0
Banded Elegante	(1/2)	(3/15)	0	(3/30)	0	0
Chalco Black/orange	(2/4)	0	(24/12)	0	(2/25)	0
Cuaxiloa Matte	15/3	62/25	237/8	7/4	19/5	6/1.7
Ocotlan Red Rim	118/27	21/8	332/11	11/6	33/8	1/3
Sencillo	(91/77)	(16/76)	(246/74)	(6/55)	(21/64)	0
Elegante	(16/14)	(2/10)	(19/6)	(2/18)	(4/12)	(1/100)
Cristina Matte	(3/3)	(1/5)	(56/17)	(1/9)	(6/18)	0
Other subtypes	(8/7)	(2/10)	(11/3)	(2/18)	(2/6)	0
San Pedro Polished	10/2	3/1.2	65/2	4/2	6/1.5	2/6
Torre Red-and-orange/white	2/5	27/11	228/8	6/4	16/4	2/6
Major undecorated types						
Cerro Zapotecas Sandy Plain	5/1.2	4/1.6	97/3	2/1.2	12/3	3/8
Momoxpan Metallic Orange	84/19	39/16	587/20	42/25	81/20	84/24
San Andres Red	32/7	25/10	216/7	17/10	52/13	50/14
Tepontla Burnished	11/3	3/1.2	75/3	4/2	9/2	3/8
Xicalli Plain	98/23	44/18	841/29	22/13	81/20	15/4
Minor types						
Colonial/historical	0	0	1/0.3	0	4/1	0
Late Postclassic	0	0	1/0.3	1/6	0	7/2
Early Postclassic	0	1/4	11/4	0	1/2	0
Classic	1/2	0	20/7	1/6	1/2	2/6
Preclassic	1/2	0	4/1	0	0	1/3
Unidentified	0	0	11/4	0	0	1/3
Subtotal identifiable rims	434/100	249/100	2,949/100	170/100	400/100	355/100
Percentage of total	84	95	76	68	68	80
Unidentifiable ^a	83/16	13/5	909/24	79/32	191/32	90/20
Total rim sherds	517/100	262/100	3,858/100	249/100	591/100	445/100

Note: Numbers in parentheses indicate frequencies of selected subtypes relative to the basic type.

^aRims that were burnt, eroded, or too small (sherds measuring less than 2 × 2 m in size).

1994). Four phases are identified: the Middle Tlachihualtepetl phase (A.D. 900–1050), characterized by Cocoyotla Black-on-natural (subtypes Sencillo and Incised), Ocotlán Red Rim (subtypes Sencillo, Incised, and Elegante), and Xicalli Plain (Figure 13); the Late Tlachihualtepetl phase (A.D. 1050–1200), characterized by Cocoyotla Black-on-natural (especially subtypes Banded and Elegante), Ocotlán Red Rim (especially subtypes Banded and Cristina Matte), Cuaxiloa Matte, and Torre Polychrome (Figure 14); the Early Cholollan phase (A.D. 1200–1350), characterized by Cuaxiloa Matte, Torre Polychrome, Aquiahuac Black-on-orange, and Apolo Red-and-black-on-orange (Figure 15); and the Late Cholollan phase (A.D. 1350–1550), characterized by Apolo Red-and-black-on-orange and Coapan Laca Polychrome (Figure 16).

Additional Postclassic deposits have been found in *rescate* excavations throughout Cholula. A Late Tlachihualtepetl phase mid-

den was found at the R-106 Transito site (McCafferty and Suárez C. 1994), with Torre Polychrome (9%), Cuaxiloa Matte (7%), Cocoyotla Black-on-natural (5%), and Aquiahuac Black-on-orange (4%). Suárez C. (1989) excavated a Late Cholollan mass burial in San Andrés Cholula in which 51 individuals were interred with grave offerings that included Apolo Red-and-black-on-orange and Coapan Laca Polychrome.

The Postclassic-period chronology at Cholula is probably the best understood,¹⁰ in part because the highly distinctive polychrome pottery is a sensitive medium for identifying stylistic change through

¹⁰ Michael Lind (1994; Lind et al. 1990) has recently proposed an alternative set of ceramic type and phase names based on UDLA ceramic assemblages (see McCafferty [1994] for a correlation of terms).

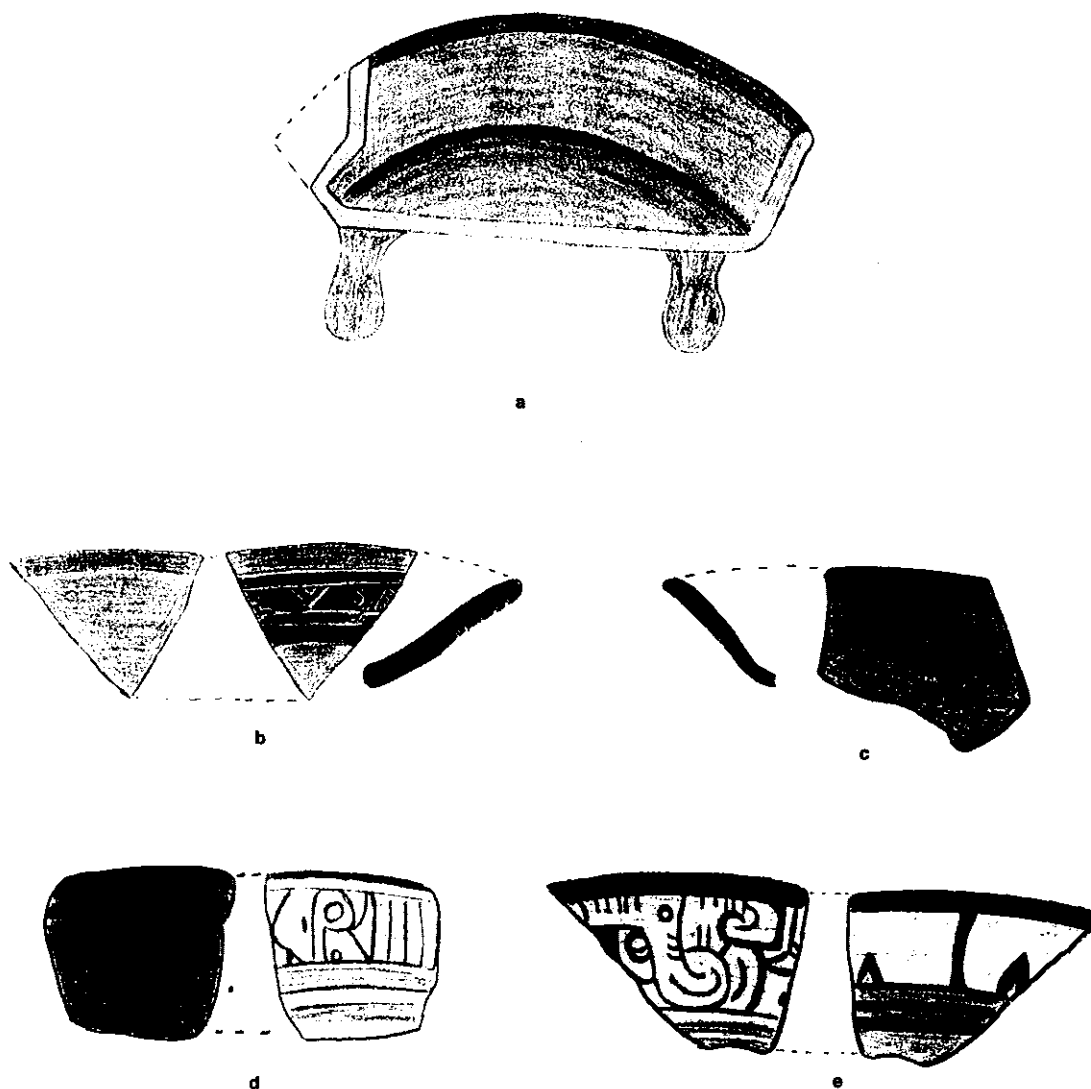


Figure 13. Middle Tlachiuhualtepetl polychrome types: (a) Ocotlán Red Rim Sencillo; (b) Ocotlán Incised; (c) Ocotlán Banded; (d) Ocotlán Banded Elegante; (e) Ocotlán Elegante.

time. On the other hand, there are still relatively few analyzed contexts with which to test this sequence, and even fewer chronometric dates with which to calibrate the periods.

CONCLUSIONS

yn aia qujmomachitia in tlalli, in tapalcatl cololoa

[they are those who know nothing, those who pile up earth (and) potsherds [Sahagún 1950–1982 (1547–1585):Bk. 6:2]

In contrast to Sahagún’s pessimistic characterization, archaeologists learn about the past precisely by “piling earth and potsherds.” Over the past 100 years, archaeologists studying Cholula have generated huge mounds of both, and consequently a culture history spanning 2,500 years can now be reconstructed, even if it is still very tentative.

Confusion over Cholula’s chronological sequence has hindered the ability to address fundamental questions about its history and the processes of historical change, especially in relation to the Epiclassic transition and the origins of the Mixteca-Puebla polychrome ceramic tradition. Investigations over the past 25 years contribute to a reinterpretation of the sequences proposed by Noguera (1954) and Müller (1970, 1978). The revised chronology is informed by absolute dates, but also by excavated ceramic assemblages from primary depositional contexts. Consequently, a sequence of ceramic complexes is constructed that is calibrated using ¹⁴C and other archaeometric dating techniques (Figure 17).

Note, however, that although the number of ¹⁴C dates has increased dramatically in recent years, most phases are still represented by only a single date, and no phase has more than one dated assemblage, so independent confirmation is as yet impossible. Only a single chronometric date exists from the ceremonial precinct of the Great Pyramid, and it is questionable. More dated contexts are

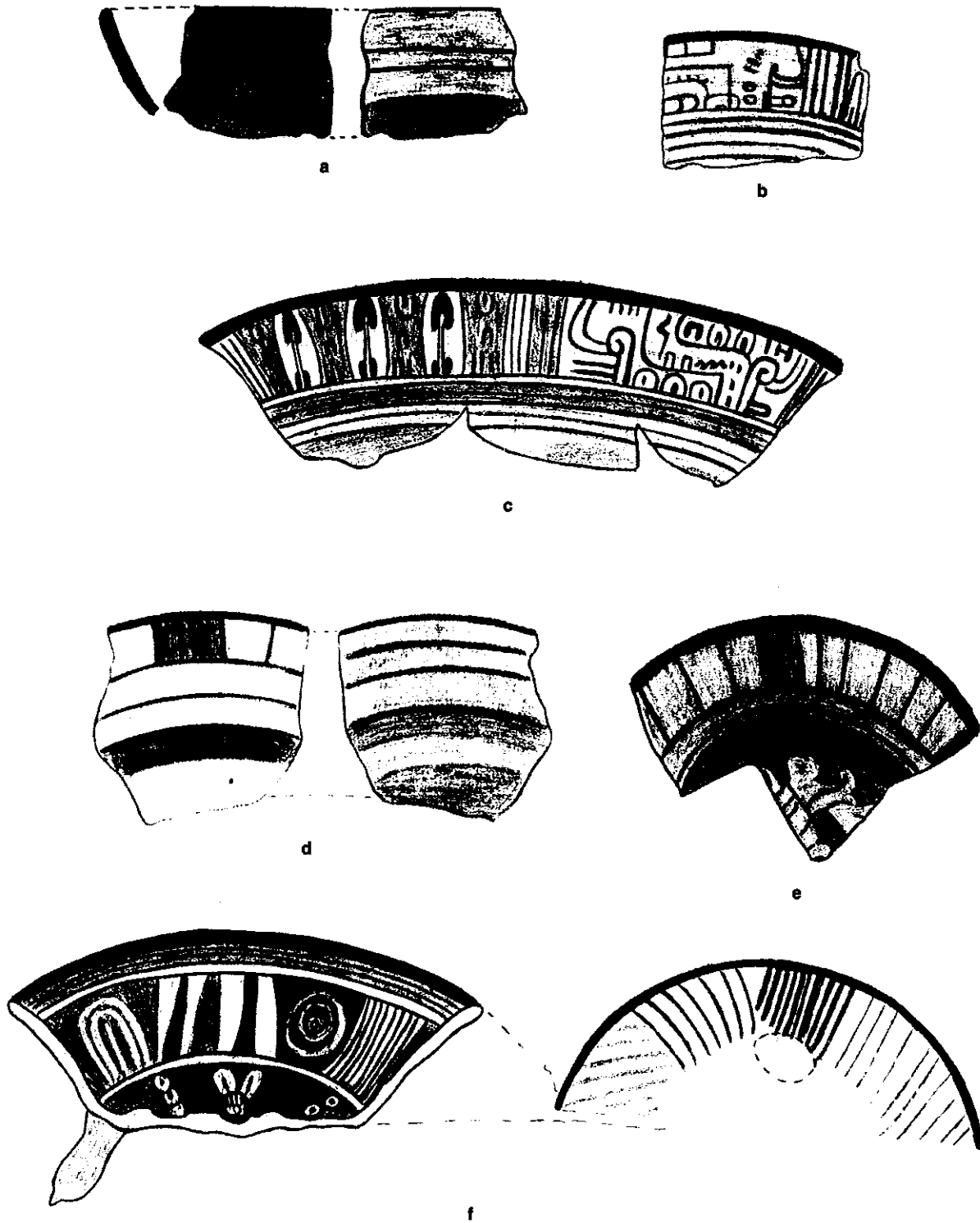


Figure 14. Late Tlachiuhaltepetl polychrome types: (a) Cocoyotla Banded; (b) Cocoyotla Elegante; (c) Ocotlán Elegante; (d–e) Cuaxiloa Matte; (f) Torre Polychrome.

needed to fill in the chronological sequence with representative ceramic assemblages for comparative analyses.

As stated at the outset, a good chronology is one that can accurately and unambiguously order material culture through time.

However, while this is an ideal representing normative, unilineal change, it does not reflect cultural practice, where objects are used purposively to symbolize a variety of specific, multidimensional strategies. For example, whereas polychrome pottery certainly does re-

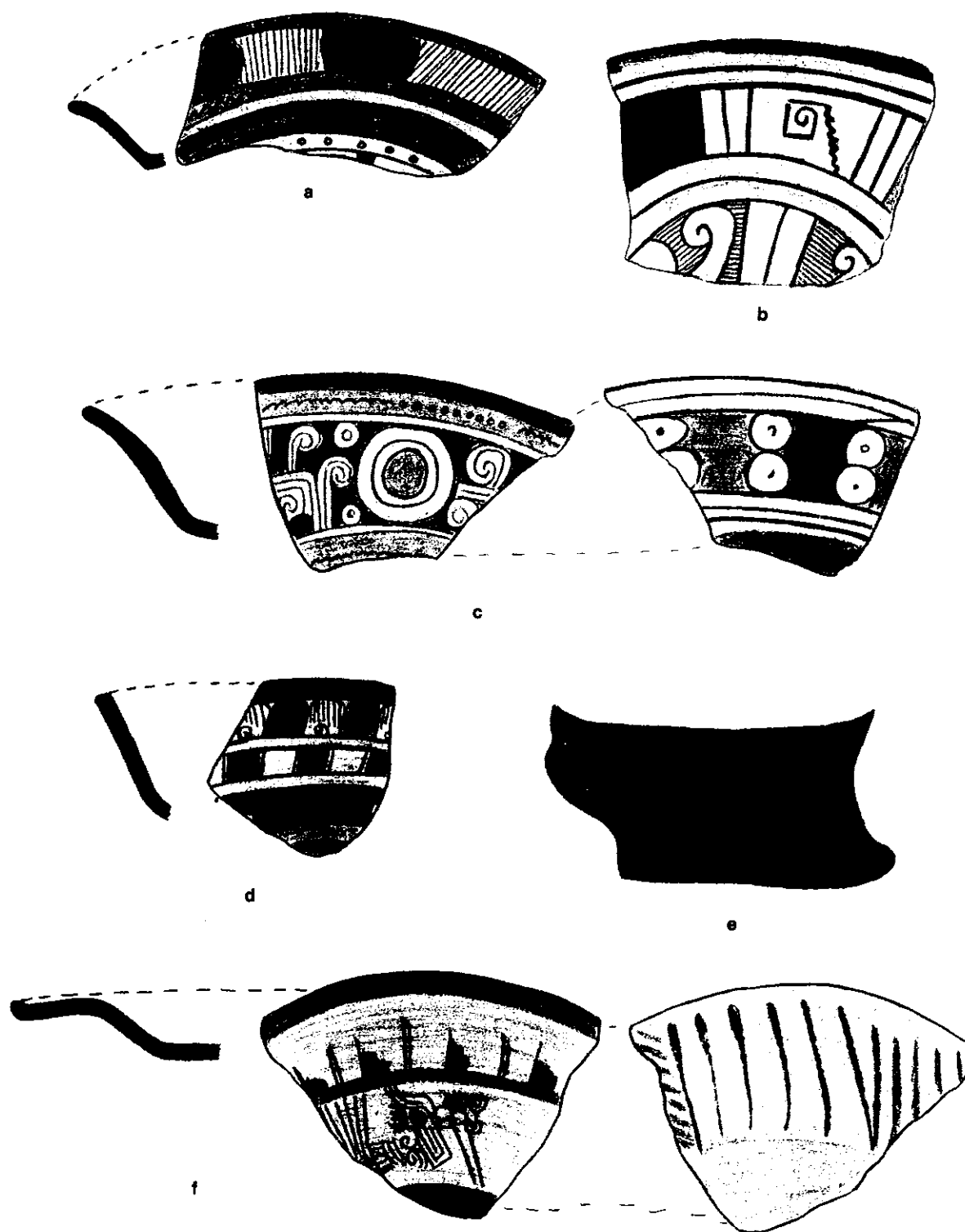


Figure 15. Early Cholollan polychrome types: (a–b) Cuaxiloa Matte; (c) Torre Polychrome; (d) Torre subtype Universidad; (e) Aquiahuac subtype Zocalo; (f) Aquiahuac subtype Sencillo.

flect a sequence of stylistic changes, more focused analyses may identify social factors that select for change or continuity as strategic choices in constructing cultural identities (Hodder 1979, 1982; Miller 1982; Wobst 1977). This level of analysis is not possible with-

out finely tuned chronological control, but it is always important to keep in mind that the construction of a diachronic sequence is not the end of the analysis. Instead it is the portal to more interesting and anthropologically meaningful questions. And, because of the inher-

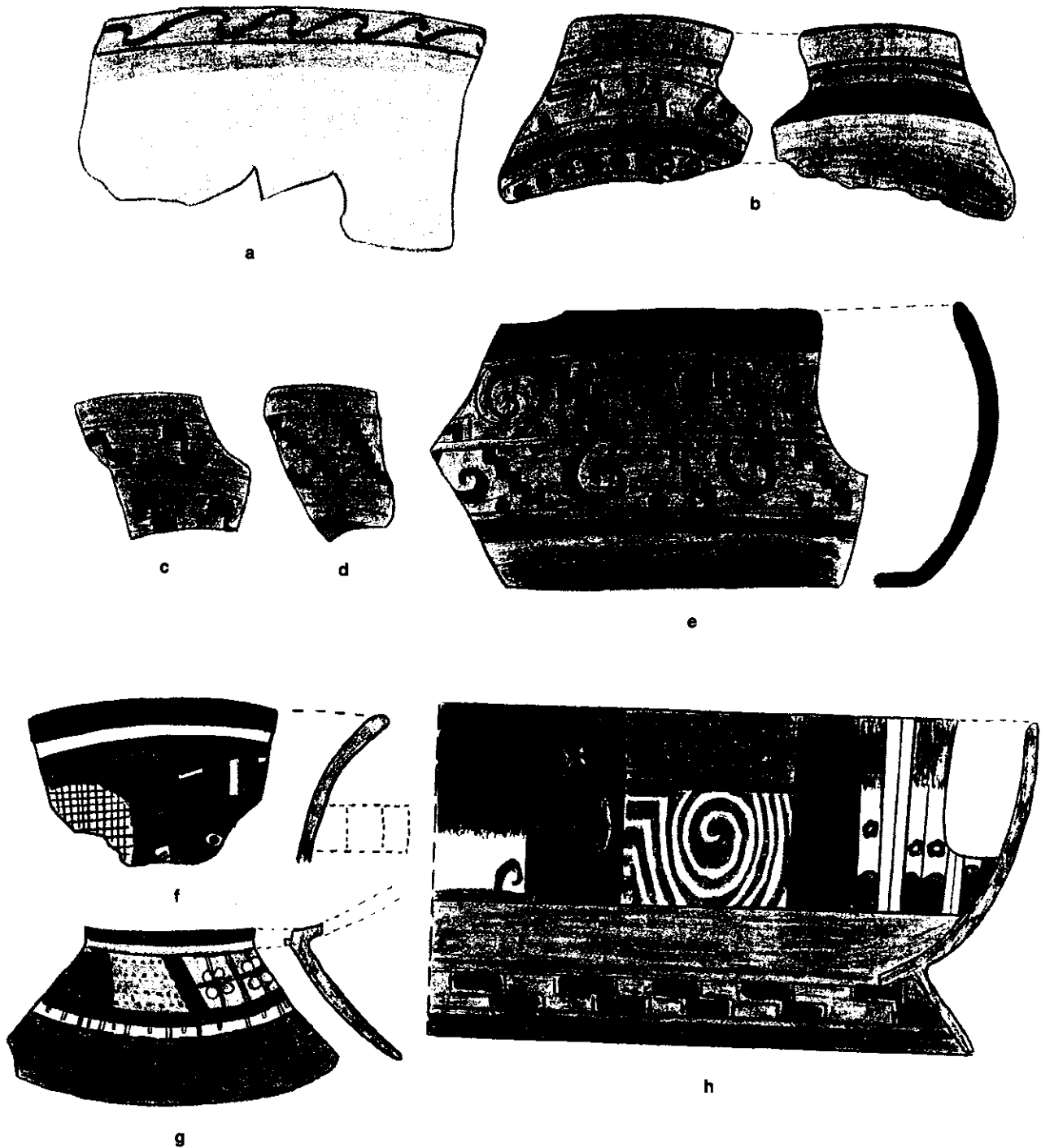


Figure 16. Late Cholollan polychrome types: (a) Apolo Sencillo; (b-d) Apolo Geometrico; (e) Apolo Elegante; (f-h) Coapan Laca.

ent dialectic between stylistic change, chronology, and social change, these factors must be critically reevaluated on an ongoing basis.

Cholula has had a long and complex history, and therefore offers tremendous potential for addressing a wide range of substantive and theoretical research questions. Past confusion over site chronology has severely limited interpretation, while discouraging attempts to incorporate Cholula in broader syntheses of Mesoamerican culture history. The chronological sequence presented

herein is intended to provide a framework for future investigations. Significant gaps still exist, and further refinement is needed for all periods; nevertheless, important discoveries have been made in the reconstruction of Cholula's historical development. Hopefully we can now move beyond chronology to address more problem-oriented research questions that will allow Cholula to contribute meaningfully to the broader debates in Mesoamerican archaeology.

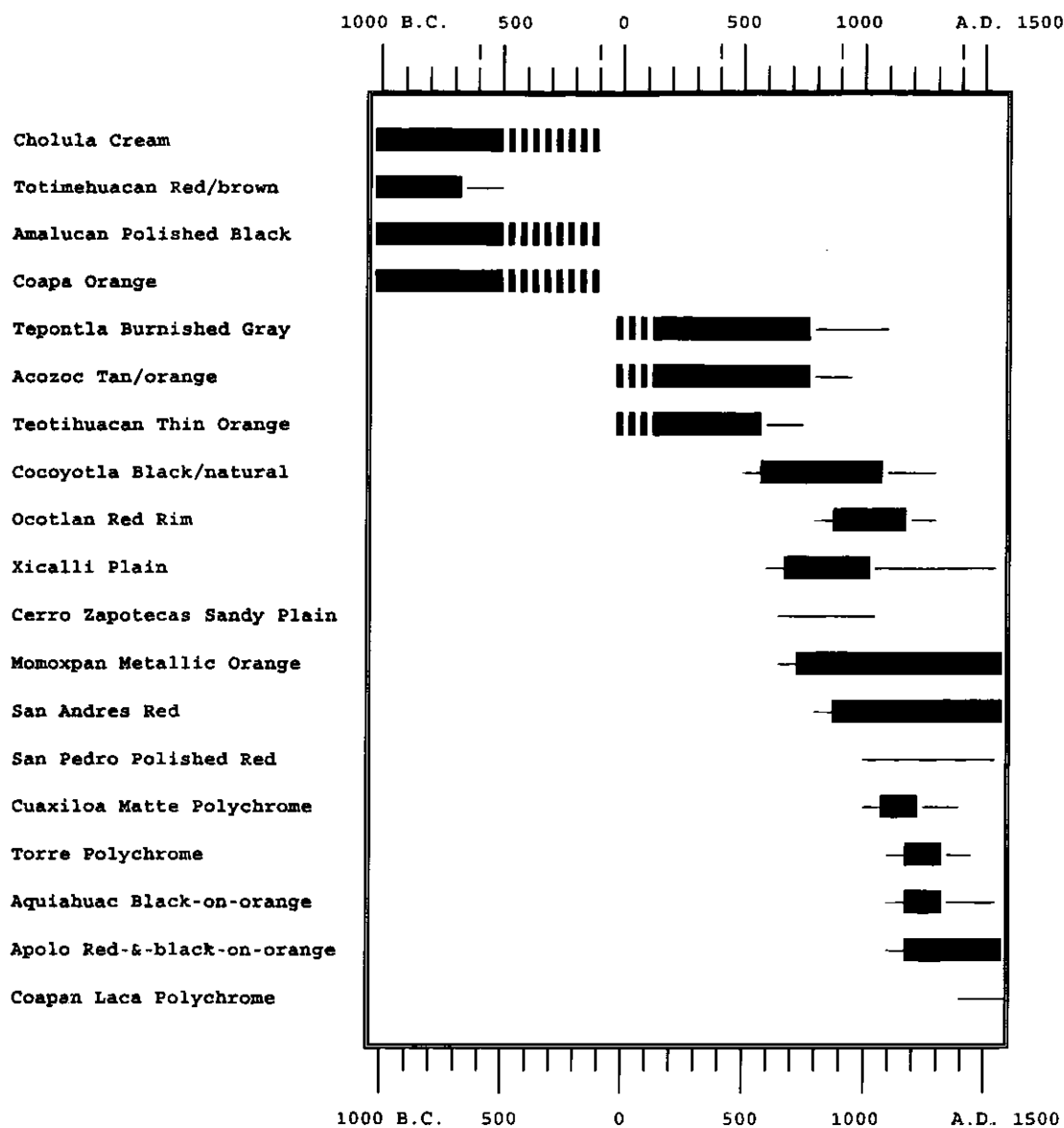


Figure 17. Diachronic distribution of ceramic types.

RESUMEN

Cholula fue un centro urbano y religioso por lo menos 2,500 años. Este ensayo documenta la cronología del sitio arqueológico durante su historia prehispánica, usando la secuencia de cerámica calibrada con fechas absolutas de radiocarbón y arqueomagnetismo. Resultados de esta síntesis indican que Cholula fue ocupada continuamente desde el preclásico medio, aunque hubieron varios cambios culturales y étnicos. Esta conclusión contrasta con interpretaciones recientes, especialmente las del Proyecto Cholula, pero están más de acuerdo con interpretaciones basadas en fuentes ethnohistóricas. Las diferencias entre las dos interpretaciones pueden ser explicadas por avances metodológicos: un énfasis en excavaciones contextuales y en el uso de métodos de datación absolutos.

Investigaciones arqueológicas en Cholula fueron conducidas por más de 100 años. La mayoría de estas excavaciones se concentró en la zona

ceremonial alrededor de la Gran Pirámide, con muy poca atención a la zona urbana. La compleja estratigrafía de la Gran Pirámide hace difícil interpretar la secuencia de construcción, y como consecuencia la cronología ha estado sujeta a varias interpretaciones. Específicamente, la transición entre el clásico y el postclásico ha sido interpretada como un abandono del sitio así como una ocupación continua.

Con nuevos datos de excavaciones recientes y reinterpretaciones de evidencia anterior, podemos empezar a apreciar la historia completa de Cholula. Los restos más tempranos de Cholula ocurre alrededor de una antigua laguna al noreste de la Gran Pirámide, cerca de los terrenos de la Universidad de las Américas (UDLA). Cerámica típica del preclásico medio se ha encontrado en varios lugares, incluyendo basureros de San Andrés Cholula, el Hotel Villas Arqueológicas, y UA-69 y UA-70 de la UDLA.

Una muestra de ^{14}C dio una fecha de 897–765 a.C. Es durante el preclásico que las etapas más tempranas de la zona ceremonial fueron construidas, y la zona urbana de Cholula creció a 2 km².

La Cholula del período clásico se conoce mejor por los niveles 1–3 de la Gran Pirámide, cuando varios rasgos (incluyendo la cerámica) se asemejan a Teotihuacan. Excavaciones recientes de un conjunto doméstico, denominado R-106, produjo cuatro fechas de carbón entre 400 y 650 d.C. con un complejo de cerámica que define el clásico tardío. Otras excavaciones recientes han descubierto restos clásicos en la falda de la Gran Pirámide y en el Hotel Villas Arqueológicas.

La época más problemática en Cholula todavía es el epiclásico, entre 700 y 1000 d.C. Distintas interpretaciones sugieren tanto el abandono del sitio como ocupación continua. Evidencia en el cercano Cerro Zapotecas indica otra ocupación, posiblemente de refugios, con numerosos montículos y una cancha de juego de pelota. Sin embargo, nuevas excavaciones en el Patio de los Cráneos Esculpidos, donde Noguera excavó en los años 30, produjeron un complejo de cerámica que combina rasgos del clásico y postclásico temprano, indicando un transición gradual. En base a esta evidencia, parece que Cholula no fue abandonada, aunque sí hubo un transición con introducción de rasgos nuevos, probablemente indicativa de una entrada de gente del grupo étnico olmeca-xicalanca. Durante el epiclásico, la

Gran Pirámide fue ampliada a su máxima extensión, con rasgos estilísticos del Golfo.

En el postclásico Cholula llegó a su tamaño máximo, con una población de 38,000–50,000 en una área de aproximadamente 8 km². En esta época Cholula fue centro religioso del culto de Quetzalcoatl; mercaderes pochteca de Cholula viajaron por todas partes de Mesoamérica intercambiando bienes exóticos por artículos del estilo "mixteca-puebla." La cerámica policroma estilo mixteca-puebla está presente en Cholula desde por lo menos 900 d.C. Las excavaciones del sitio UA-1 que documentan la secuencia evolutiva de la cerámica policroma, la cual se divide en cuatro fases. Durante el postclásico, el centro ceremonial de Cholula cambió al presente zócalo de San Pedro Cholula, en donde se asentó la Pirámide de Quetzalcoatl descrita por los conquistadores españoles. La Gran Pirámide permaneció en uso como santuario; los terrenos del recinto sagrado contuvieron más de 400 entierros postclásicos.

Con 13 fechas absolutas ya es posible construir una secuencia cronológica para Cholula. De todos modos, es muy poco considerado la larga duración del centro arqueológico. Las interpretaciones presentadas aquí se consideran como hipótesis simplemente; esperamos nuevos datos para evaluar y ampliar estas sugerencias.

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