The Ceramic History of the Central Highlands of Chiapas, Mexico

by

T. Patrick Culbert

Publication No. 14

New World Archaeological Foundation
Brigham Young University
Provo, Utah
1965
J. ALDEN MASON
EDITOR
UNIVERSITY MUSEUM
UNIVERSITY OF PENNSYLVANIA
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PREFACE

At every stage of the research reported here I was assisted by the generosity, advice, and cooperation of a large number of individuals and institutions. Admitting my inability to discharge my debts of gratitude fully in a few brief paragraphs, I will attempt to give credit to at least some of those who played important roles in the delineation of the ceramic history of the Central Highlands of Chiapas, Mexico.

The work would have been impossible without the deeply appreciated permission and cooperation of the Departamento de Monumentos Prehispanicos of Mexico, to whose directors, Dr. Ignacio Bernal, and, later, Dr. Román Piña Chan, special thanks must be given. Of equal importance was the financial assistance provided by the National Science Foundation of the United States of America, for which I am grateful. Thanks are also due to the officials and personnel of the Museo Nacional de Mexico and the Museo Nacional de Arqueologia y Etnologia of Guatemala for their kindness in making study collections in their institutions available for comparative research.

My deepest gratitude must be expressed to my teacher, Dr. Robert M. Adams, whose advice and assistance made major contributions to this research, both in the realm of theory and in the more practical matters of field operation. I must also thank Dr. Adams for permission to use data from the 1961 field season in the Chiapas Highlands. The sections and drawings of the tombs and tomb vessels from Cerro Ecatepec, as well as all of the site maps, were provided by him.

This research was a part of the "Man-in-Nature" project of the Department of Anthropology of the University of Chicago. The stimulation and encouragement provided by all of the members of the project are gratefully acknowledged. Conversations and correspondence with Dr. Norman A. McQuown, whose lexicostatistical data are used here, provided insight into possible reconstructions of the history of the Maya in the area. Thanks are also due to Dr. Edward E. Calnek and Donald McVicker for sharing with me information concerning archeological work done in 1961 in the Chiapas Highlands and neighboring regions.

I am sincerely grateful to the Board of Directors of the BYU-New World Archaeological Foundation for including this report in the publication series of the Foundation. During my seasons in the field I spent many pleasant and fruitful hours with the field staff of the Foundation examining their ceramic collections and exchanging information about our respective areas. Special thanks are due to Gareth W. Lowe for his assistance in the preparation of this publication, and for information obtained from him about ceramics from several regions in the Central Depression; to Bruce Warren for the opportunity to examine the collections from Chiapa de Corzo and to discuss the ceramic sequence from the site; to Dr. William T. Sanders for information about the ceramics of Santa Cruz; and to Carlos Navarrete, Frederick A. Peterson, and Donald Brockington for information about parts of the New World Archaeological Foundation collections with which they are familiar.

I must profess my most sincere respect and gratitude to the late Frans Blom for sharing with me his profound knowledge of the Chiapas Highlands, and for his permission to refer to and use photographs of some of the ceramics from the site of Moxviquil. Dr. Robert L. Rands was most kind in permitting me to examine his collections from Palenque. Armando Duvalier was equally generous in extending to me the facilities of the Museo Regional in Tuxtla Gutierrez, Chiapas, and in assisting in contacting owners of sites. My appreciation also is extended to the multitude of other people, archeologists, anthropologists, owners of sites, and workmen, whose cooperation aided in this research.

Finally, I am deeply indebted to my wife, Barbara L. Culbert, who prepared all of the illustrations of vessel sections used in this report. Without her loyalty and patience this work never would have been completed.

—T. Patrick Culbert
Figure 1. Map of Mesoamerica
INTRODUCTION

THE BACKGROUND

The ceramic research described in the following report was part of a general anthropological project undertaken by the Department of Anthropology of the University of Chicago in the Central Highlands of Chiapas, Mexico. As part of a program investigating both the present inhabitants and the past history of the region, the principal objective in studying archeological ceramics was to provide a chronological framework within which such broader problems as territorial organization and settlement pattern (Adams, 1961) could be more meaningfully interpreted.

In addition, the ceramic history of the Chiapas Highlands provided some information that could be related to problems of culture history. In the first place, the comparison of ceramic samples from different sites demonstrated a marked increase in regional differentiation between the Classic and Postclassic periods in the Highland region. Secondly, the seriation procedure used to obtain a sequential order of ceramic samples for the major periods of occupation showed several periods of rapid technological change that were designated as the phase temporal boundaries.

Finally, the ceramic data from the Central Highlands add another point of comparison for the general history of Maya ceramics. Ethnohistorical material (Calnek, n.d.) indicates that at the time of the Conquest the Highlands were occupied by speakers of the Tzeltal and Tzotzil branches of the Mayan family of languages. A point of interest in ceramic study was to determine whether any suggestion might be made about the historical depth of Maya occupation in the area. The evidence given in the following pages indicates that throughout the entire history of the Chiapas Highlands the ceramic complexes have their closest outside ties with other parts of the Maya area. Lexicostatistical data (McQuown, 1964) support a conclusion that the Tzeltal and Tzotzil languages began to differentiate in about their present locations at some time in the Classic period. Both the ceramics and other archeological information suggest that, although clearly Maya, the culture of the Central Highlands was always marginal to more sophisticated developments in other parts of the Maya area. In several instances the ceramics demonstrate selective diffusion and cultural lag, both of which can be considered indicators of the marginal position of the culture.

Geography

The area covered in this report, the Central Highlands of Chiapas, Mexico, is one of the major physiographic zones of the state of Chiapas (Fig. 1). It is a highland plateau, the long axis of which, with a northwest-southeast orientation, parallels the Pacific Coast. The Central Highland zone is the fourth physiographic province encountered in moving inland from the Pacific Ocean. Along the coast there is a narrow coastal plain which slopes rapidly upward to the rugged Sierra Madre de Chiapas. The Sierra Madre is separated from the Central Highlands by the Central Depression of Chiapas through which flows the Grijalva River, more commonly called the Rio Grande de Chiapas by the inhabitants of the Central Depression. On the Atlantic side of the Highlands, the terrain breaks gradually downward through a mountainous northern zone to the broad Gulf Coastal Plain which covers the northern part of Chiapas and the neighboring state of Tabasco.

The area considered here to be the Central Highlands proper is approximately rectangular in shape, measuring 80 kms. along the long axis and varying from 30 to 60 kms. in width. The height of the plateau summit is, over most of the area, between 2000 and 2500 m., placing the region clearly in the climatic zone known as tierra fría. The core of the plateau is Cretaceous limestone, much faulted in the process of uplift. Several peaks of Tertiary and Quaternary volcanic origin complicate the geological situation and add to the disruption of the plateau surface. Since, however, a large part of the basic
sedimentary deposits have only a slight inclination, level areas and valleys are not uncommon in the region, particularly along the southwestern perimeter. (Data from Müllerried, 1957, and Adams, 1961.)

A few details might be given about the regions that border the Central Highlands. To the southwest, the highland plateau is bordered by the Central Depression, which is drained into the Gulf of Mexico by the Grijalva River. The descent from the Highlands to the Depression is marked by steep scarps broken by narrow, step-like plateaus. Surface drainage of the plateau summit in this direction is limited, with most of the short, steep streams arising from underground drainage from the Highlands at altitudes well below the summit.

The southeastern corner of the Central Highlands is delimited by the Comitán Valley which slopes downward to the east into the tropical Lacandón forests. Although classified by Müllerried (1957) as part of the Central Plateau, the Comitán Valley is, at its highest part, 500 m. below the plateau summit and is thus in a different ecological zone. For the purposes of this report, the Comitán Valley will not be considered a part of the Central Highlands.

The eastern border of the Central Highlands is marked by a gradual dropping off of ridges and valleys which run in a south-easterly direction to the lowland forested area. The most important of the valleys at the eastern edge of the Highlands is the Ocosingo Valley. Surface drainage is more important on this side of the Central Highlands than on any other. Several river systems, all of which empty into the Usumacinta River or one of its major tributaries, run southeast from the Highlands. Some of these rivers, of which the Tzaconeja is the most notable, penetrate to considerable distances into the Highlands in systems of narrow valleys and canyons.

To the north, the Central Highlands merge gradually into the mountainous region called Montañas del Norte by Müllerried (1957). Although the northern mountain zone does not reach the altitude of the Central Plateau, it is marked by sharp variations of altitude and by numerous small valley systems which do not show any consistent pattern of orientation. Rivers from this zone run directly north, eventually joining the Grijalva in the state of Tabasco.

The northwest corner of the Central Highlands is bordered by the valley in which the town of Ixtapa is located. Like the valley of Comitán at the other extremity of the plateau, the Ixtapa Valley has an elevation 500 m. less than that of the plateau summit and is not here included in the Central Highlands.

Climate

The climate of the plateau summit of the Central Highlands is cold and of medium humidity, with a summer rainy season of six months duration and a winter dry season during which heavy frosts are not uncommon at higher altitudes. Vegetation in the higher parts of the zone is pine forest which gives way to evergreen oak forest at slightly lower elevations. The climate and rainfall of the plateau summit afford only a single annual crop of corn, squash, and beans. There is never a shortage of water in the Central Highlands, but access to available water is a problem in some localities. On parts of the plateau there are enough small streams to supply the needs of the modern communities, while in other areas surface water is rare during the dry season and settlements must be located near the scattered springs and water holes. Springs are rare on the ridges and hilltops which are the locations of prehistoric ruins, and the transportation of water must have been a time-consuming occupation for the ancient inhabitants of the region.

The climate is variable in the regions that border the Highlands. To the west, southwest, and southeast, including the valleys of Ixtapa and Comitán, the climate is semi-arid and semitropical to tropical, depending on the altitude. In these areas, the growing season is restricted to the summer months when there is rain, and severe droughts are not unknown. Current agricultural production in these areas includes the standard highland crops plus bananas, citrus fruits, and, near streams or in irrigated areas, crops more typical of moist tropical climates. To the east and north, the gradual descent from the Central Highlands leads into moist tropical areas characterized by extremely heavy summer rains. In some of these areas tropical rain
forests can be encountered at elevations as high as 1000 m. These areas have flora and fauna typical of wet tropical regions, and, of course, the agricultural potential of such regions. Even if the prehistoric inhabitants of the Central Highlands did not themselves have lands at lower elevations, they must have had ample opportunities to trade for products from the tierra caliente, for there are few areas of the Highlands that are more than a two-day walk from a warmer climatic zone.

Previous Archeological Investigations

Previous knowledge of the archeology of the Central Highlands was very scanty. A number of the explorer-archeologists of the 19th and early 20th centuries passed through the region, but none of them reported any sites. Considering the unprepossessing nature of the Highland remains and the absence of stone sculpture and monumental architecture of Maya style, this lack of reports is not surprising.

In more recent times Schumann (1936) visited the site of San Gregorio and reported a Plumbate vessel that was recovered from the site. Shook (1956) made inquiries about sites along the Pan-American Highway, but merely reports the sites and does not seem to have visited all of them. All of the sites reported by Shook are described by Adams (1959), with the exception of the platform mounds reported by Shook on the floor of the Amatenango Valley. My intensive survey in the Amatenango Valley failed to reveal mounds, and it seems likely that Shook was referring to low natural eminences on the valley floor, some of which have a deceptively mound-like appearance when seen from the highway. Blom and Weiant (information from Frans Blom) excavated at the site of Moxviquil at the edge of the San Cristóbal Valley. References to their data and collections are included in the ceramic analysis that follows.

Archeological investigation in the lowland areas bordering the Central Highlands has been similarly sparse, and has usually been of a sort that does not contribute to the present study. Only in the Central Depression of Chiapas has a body of data been amassed that includes thorough ceramic studies. In the Grijalva Valley the New World Archaeological Foundation is conducting an extensive program of survey and excavation, and there are a number of reports in print or in the process of publication (Papers 1-3, 5-17; Brockington, personal communication; Warren, personal communication). Much of this material, unfortunately, is not directly pertinent to the research reported here since it refers mainly to the Preclassic periods, remains of which were almost totally unrepresented in the Chiapas Highlands.

To the east of the Central Highlands, the Classic Maya ruins in the Ocosingo and Comitán Valleys attracted the attention of a number of early travelers and archeologists. Dupaix (see Lord Kingsborough, 1831-48), Stephens (1841), the Selers (Seler, C., 1900; Seler, E., 1901), and Blom and LaFarge (1926) visited the ruins of Toniná near Ocosingo and published maps and data concerned with architecture and sculpture of the site as well as a few illustrations of pottery from graves. The Selers and Blom and LaFarge also reported on several of the Classic-period sites in the Comitán Valley. Since Toniná and the Comitán Valley sites are the points closest to the Chiapas Highlands at which such Classic Maya features as dated stelae and corbeled arches occur, the sites are of considerable interest for this research. Unfortunately, none of the reports listed above contain more than a few paragraphs dealing with ceramics, and, since the illustrated vessels were all mortuary offerings, they cannot be considered to have been representative of the ceramic inventories of the sites involved. Some ceramic data for Toniná and two sites in the Comitán Valley were obtained, however, from surface collections made by the University of Chicago Project in 1961.

With the exception of the Central Depression reports of the N.W.A.F., the sites or areas closest to the Central Highlands for which ceramic reports are available include the Tabasco Coastal Plain (Berlin, 1956), Palenque (Rands and Rands, 1957; Rands, 1961), and Piedras Negras (Butler, 1935) to the north and east, and Zaculeu (Woodbury and Trik, 1953), Nebaj (Smith, A. L., and Kidder, 1951), Zacualpa (Lothrop, 1936; Wauchope, 1948), the Alta Verapaz (Butler, 1940) and Tajumulco (Dutton and Hobbs,
1943) to the southeast. All of these sites are separated by a wide gap of unknown territory from the region covered in this report.

**CHRONOLOGY**

Since the detailed presentation of the data that follow is most meaningful in the light of the final results of the research, it seems advisable to introduce at this point the names and dates of the phases defined in the prehistory of the Central Highlands of Chiapas. It has already been demonstrated by Adams (1961) that there were differences in other elements of culture that correlated with the time periods defined on the basis of ceramic study, so it is possible from the outset to refer to these periods as phases and omit specific names for ceramic complexes. The Highland Chiapas phases are presented in Table 1.

<table>
<thead>
<tr>
<th>Cultural Period</th>
<th>Phase</th>
<th>Estimated Dates</th>
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<tr>
<td>Late Postclassic</td>
<td>Lum</td>
<td>A.D. 1250-1524</td>
</tr>
<tr>
<td>Early Postclassic</td>
<td>Yash</td>
<td>A.D. 1000-1250</td>
</tr>
<tr>
<td>Late Classic</td>
<td>Tsah</td>
<td>A.D. 700-1000</td>
</tr>
<tr>
<td>Early Classic</td>
<td>Kan</td>
<td>A.D. 300-700</td>
</tr>
<tr>
<td></td>
<td>(discontinuity)</td>
<td></td>
</tr>
<tr>
<td>Late Preclassic</td>
<td>Sak</td>
<td>300 B.C. - A.D. 100</td>
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SITES AND EXCAVATIONS

The initial problem in obtaining a ceramic sequence for the Central Highlands of Chiapas was to discover refuse deposits that would demonstrate changes in ceramic styles. It was planned originally to excavate extensively at a single site with a long history of occupation, and deep, undisturbed cultural debris. Very little field work had been done before it became evident that there was little hope that such a site would be found in the area. Most of the ruins were located on steep hillsides where neither topography nor climate were favorable for the accumulation of deep deposits. In addition, most of the sites proved to have had relatively short periods of occupation that rarely exceeded two phases.

Considering the nature of the deposits, the most profitable approach was to emphasize limited excavations at a number of sites, each of which would provide a segment of the ceramic sequence. Where an overlap between sites could be found, the sequence would become continuous rather than a collection of discrete phases. In addition to the fact that this method seemed to be the only feasible way of obtaining a sequence within the time and resources available, it provided a better understanding of intraregional variation than excavation at a single site would have done, and made it possible to do small-scale testing of features of other than ceramic interest at sites pertaining to several different phases.

Two field seasons, from September 1958 through January 1959 and from January through March 1960, were devoted to the collection of ceramic samples. I made stratigraphic excavations at six prehistoric Highland sites, Mercedes de la María, Cerro Campanatón, Yerba Buena, Rancho San Nicolás, San Gregorio, and La Hermita, and in the modern towns of Amatenango and Teopisca. Dr. Adams participated in some of this work. During a field season in 1961 in which I did not participate, Adams, Calnek, and McVicker (personal communication) made further excavations in the Highlands at the sites of Cerro Cuchumtán and Cerro Ecatepec. I had the opportunity briefly to review collections from these sites in order to add supplementary data on the western sector of the Highlands. Collections obtained by Blom and Weiant from excavations at the site of Moxviquil were also inspected. Locations of all of the sites referred to are marked in Figure 2.

The sites at which I excavated cluster along the southwestern periphery of the Central Highlands. The reason for this distribution was that the project under which the work was begun was confined to a narrow transect in this area, extending downward from the more elevated parts of the Highlands near Chanal to a point a few kilometers short of the Grijalva River in the Central Depression. During the second field season, the area sampled was expanded to include almost the entire southwestern periphery by excavations in the San Cristóbal Valley, near the western limit of the Highlands, and at Yerba Buena, about 20 kms. short of the descent into the Comitán Valley which marks the eastern boundary of the region. Sampling was also extended into the northeastern Highlands by excavations at San Gregorio, a site on the Tzaconejá River, one of the rivers which provide access to the Maya Lowlands to the east. The third field season provided a larger sample from the San Cristóbal Valley by extensive excavations at Cerro Ecatepec, and extended coverage to the area north of San Cristóbal by excavations at Cerro Cuchumtán. Although the coverage of the Central Highlands was far from complete, the work included a large enough area to indicate some of the patterns of regional variation, and to suggest that the major features of the ceramic sequence (p. 4) hold true for most of the plateau. The far northern extremities of the Highlands remain unknown, and the Preclassic and Early Classic periods of the western part of the Highlands are poorly understood, but with these exceptions the ceramic history of the region is fairly well controlled.

The test pits were stratigraphically subdivided in levels 25 cm. in depth although, wherever possible, natural or architectural features were substituted for arbitrary levels.
Figure 2. SITES IN THE CHIAPAS HIGHLANDS

1 Mojón de Madronal
2 Unnamed
3 Mercedes de la Maria
4 Cerro Pelón Paraje
5 Cerro Pelón
6 Holna Kerem
7 Piña Parada
8 Unnamed
9 Amawitz
10 Rancho San Nicólas
11 Cerro Tzontawitz
12 Cerro Pedregal
13 Rancho Campana
14 Yerba Buena
15 Lomulhón
16 Cerro Campanatón
17 Xuma
18 Colonia Porvenir
19 Unnamed
20 Cerro Xakiltik
21 Cerro Tzenam
22 Cerro Chavin
23 Cerro Mispia
24 Cerro Chenikultik
25 Santo Ton
26 San Juan de la Hatnaca
27 Pueblo Viejo Soyatitán
28 Cerro de Yalchuch
29 Ska’pin Antivo
30 Corral de Piedra
31 Cerro Ecatepec
32 Copanaguastla
33 La Hermita
34 El Frutal
35 La Mesita
36 La Tinaja
37 Vulkán Huitepec
38 Unnamed
39 Santiago
40 Unnamed
41 Tajalucum
42 Cerro Cuchumtón
43 San Gregorio
Although there were very few sealed samples, both the excavation data and the results of seriation indicate that most of the refuse deposits had been undisturbed since the time of deposition.

The following section gives a brief description of the sites at which excavations were made, and discusses the most important stratigraphic pits at each site. It also presents the history of each site insofar as it was revealed by the ceramic analysis. Site descriptions generally follow those given by Adams (1959).

**MERCEDES DE LA MARÍA**

The site of Mercedes de la María (Fig. 3) is located on the floor of the Amatenango-Teopisca Valley about 1 km. northeast of the town of Teopisca. The only visible structures are a single large mound and two smaller mounds, all of which have been badly destroyed in the process of recent earth moving. Mercedes is unique in several respects among the sites at which excavations were made. It is the only one of these sites located on a valley floor, the central mound was originally larger and more dominant than was common in the Central Highlands, and it is the only excavated site that produced ceramics dating from the Late Preclassic period.

Three test pits were made in refuse deposits outside of the area of visible architecture. A stone pavement encountered in one of the pits and quantities of ash and charcoal from all of them suggested that the area tested had probably been the residential part of the site. All of the test pits reached fairly deep sherd-bearing deposits beneath a layer of sterile topsoil which measured between 50 and 100 cm. in thickness. The quantity of sherds recovered was too small to permit an exhaustive analysis, but the fact that the common types and forms occurred at all levels indicated that there were no major changes during the time represented by the deposits. The surface of the soil is being constantly built up by wash from the nearby hill slopes, so the depth of the refuse deposits need not have been indicative of any great length of occupation. All that can be said on the basis of the small sherd sample available is that the site of Mercedes de la María was occupied for an indeterminate length of time during the Late Preclassic period.

**CERRO CAMPANATÓN**

The site of Cerro Campanatón (Fig. 4) is located on a range of low hills at the outer edge of the Villa Las Rosas shelf, one of the steplike plateaus that break the descent from the Central Highlands to the trough of the Grijalva River. Since the elevation of the Villa Las Rosas shelf is 1250 m., Cerro Campanatón is in a location which is intermediate between the Highlands and the river valley. The ceramics, however, clearly demonstrated that the area was part of the Central Highlands ceramic province in prehistoric times.

The hills on which the architectural features of the site were placed overlook the
steep descent to the next lower shelf, but offer only a slight and gradual elevation when approached from the Las Rosas shelf. In this sense, the topographic placement is intermediate between the valley-floor sites of the Late Preclassic and the hilltop sites of the Late Classic. The site consists of at least two terraced hillside regions, several small pyramids, and a widespread scatter of occupation debris.

Four test pits were made at Cerro Campanatón, three in small mounds, the fourth in an area where there was a heavy concentration of surface sherds but no architecture. None of the pits provided more than three 25 cm. levels of cultural material. The analysis of ceramic types indicated only a short time span between the upper and lower levels in the excavations, and all of the ceramics pertained to the early part of the Kan phase. Since the Cerro Campanatón collections were the earliest Classic-period ceramics recovered in the excavations, and since the site is close to the Xakiltik site which seems to extend back into the Sak phase (Adams, 1961:342), the Villa Las Rosas shelf is the only area where there is known to be evidence of the transition from the Preclassic to the Classic.

YEBA BUENA

Yerba Buena (Fig. 5) was one of the largest sites encountered during archeological reconnaissance in the Chiapas Highlands. The ruins cover several hills and ridges overlooking the Pan-American Highway at a point about 25 km. west of Comitán. There were at least two ceremonial groups of altar— or shrine— platforms at the site, the larger of which contained an L-shaped ball court and several plazas. The ceremonial centers occupied the summit of the ridge, and the area of occupation and terracing extended several kilometers along the hills and ridges and reached down into the small valley at the foot of the slope.

Seven stratigraphic pits were made at Yerba Buena. All of them were either in the largest of the ceremonial centers or on the first few terraces just below it. The collections obtained make possible an outline of the history of activity in the ceremonial center, and give good stratigraphic confirmation to the trends of ceramic change indicated by seriation. In view of the complex history of the site, and the fact that its ceramics were an important factor in adding continuity to the ceramic sequence, a detailed discussion of the more important pits at the site seems worth while.

Pit 1 was excavated in the center of the ball court floor. At this point, the intrusion of a cache into bedrock had badly mixed the deposits, so the pit was of little use for stratigraphy. The ceramic collection did, however, provide a rough estimate of the date at which the ball court was constructed. The upper level of sherds, which was collected from the surface to a point slightly below the badly destroyed ball court floor, dated largely from the early part of the Tsah phase with some admixture of both earlier and later types. A lower sherd level, collected from fill and pits in bedrock, dated from the Kan phase, although there was some mixture with later ceramics. These samples indicate that the ball court was certainly in use during the Tsah phase.

There were two parts to the cache encountered in the Yerba Buena ball court. One of them was located in the approximate center of the ball court. At this point, about 25 cm. beneath the present ground surface, there was a cap of large rocks that measured 140 by 110 cm. The rocks had been laid without mortar and with little attempt at symmetrical placement. Removal of the upper cap of rocks disclosed two large, flat slabs which covered a small cache pit 25 by 45 cm. in size and 60 cm. deep. The sides of the cache pit had been formed by the careful placement of flat slabs similar to those that were used as capstones.

The cache pit contained half of a large urn which was decorated by the figure of a priest or god formed in modeled clay on the exterior of the vessel (Fig. 6, b). Since the pit was sealed and no trace of the missing half of the urn could be found, it must be concluded that it was fragmentary when it was placed in the pit. The fact that the fracture neatly bisects the figure on the exterior may indicate that breakage was intentional rather than accidental. The urn is similar in concept to the famous urns of Monte Albán and other sites in Oaxaca (Caso and Bernal, 1952), but the figure portrayed is not equivalent to any of the figures known from Oax-
Figure 6. CACHES, CISTS, AND VESSELS FROM THE CHIAPAS HIGHLANDS

a: Fragment of large Chanal modeled-carved-ware vessel from San Nicolás. b: Fragmentary large urn in cache pit, Yerba Buena. c: Slabs covering tomb in Pit 3, Yerba Buena. d: Ceramic contents of tomb, Yerba Buena. e: Large bowl that contained the burial, Yerba Buena.

The closest parallels to the Yerba Buena urn are several urns discovered by E. Seler in the caves of Qu'en Santo in Nentón, Huehuetenango, Guatemala (see E. Seler, 1901: Figs. 244-48, 250, 258-62). Since the Qu'en Santo caves are close to the border between Mexico and Guatemala and just on the far side of the Comitán Valley, trade connections between that area and the Central Highlands of Chiapas are not surprising. Vaillant (1927:375) gives a stylistic date of A.D. 550 to 650 for the Qu'en Santo material.

The fragmentary urn was the only artifact discovered in the first cache pit in the Yerba Buena ball court. Underneath the urn, however, were a number of fragments of bone which seem to have been the remains of the skeleton of a tiny bird. It seems likely that a small bird was included as a part of the offering when the ball court was dedicated.

At one side of the ball court, very close to the bench, a second cache was discovered. This offering was not so carefully covered as
the cache described above, nor had pains been taken to prepare a symmetrical cache pit. In this case, a small pit roughly carved in bedrock served as the cache chamber. This second offering contained a tubular jade bead, perforated along the long axis, a rectangular jade plaque with rounded corners, and a mirror of iron pyrite thin flat segments cemented to a round stone disk. A few very poorly preserved fragments of human bone that were also found in the pit seem to be a secondary burial. The offering did not include any ceramics.

A badly broken cylindrical vessel (Fig. 7, a) was found in the fill immediately over the cache in the center of the ball court at Yerba Buena. Although there is no certainty that this vessel was intentionally placed at the same time as the cache, the fact that reconstructible vessels were extremely rare in the refuse and fill deposits in the Central Highlands suggests that the cylinder may also have been a dedicatory offering at the time of construction of the ball court. The vessel was of a monochrome yellow-orange type that was probably foreign to the Chiapas Highlands. The cylindrical form is rare at sites in the Highlands, and is usually associated with caches.

Pit 2 was located at the edge of a low platform that extended outward from the bottom of the stairs of a large pyramid into what could be called the main plaza at Yerba Buena. Pit 2A was on the platform, while Pit 2B was off the front edge of the platform in the plaza. Remains of a platform floor were uncovered in Pit 2A, but there was no indication in Pit 2B that the plaza surface had ever been floored. The upper levels of both parts of the pit showed a mixture of ceramics from all three phases during which the site was occupied. The single level below the platform floor and the bottom level of the pit in the plaza provided what was probably the earliest Kan-phase sample recovered from Yerba Buena.

Pit 7 tested a low elevation near the center of the main plaza. Only two levels of sherds were recovered, and both proved to contain a mixture of ceramics from the Kan.

Figure 7. BURIAL AND CACHE VESSELS FROM YERBA BUENA

a: From cache 2. b-f: From the tomb burial. a: Yellow-orange monochrome cylindrical vessel. b: Large red-slipped burial vessel. c,d: Red-slipped annular-base bowls. e: Red-slipped, flat-base plate. f: Red monochrome tripod bowl with rattle feet.
Tsah, and Yash phases. The combined evidence of Pits 2 and 7 indicated that the area of the main plaza had been in heavy use throughout the history of the site. The platform that was tested by Pit 2A was probably constructed during the Kan phase, or at least no later than the very early part of the Tsah phase. If the platform was not constructed during the Kan phase, the concentrated deposits of Kan ceramics in the lowest levels make it seem likely that some other nearby construction dated from the Early Classic.

Two pits on the terraces immediately below the main ceremonial center gave excellent stratigraphic evidence for the ceramic sequence. Pit 3 and Pit 6 were made in a high terrace below the main plaza. No evidence of houses or platforms was encountered in either pit, but a stone-lined tomb was uncovered by Pit 3. The ceramic offering from the tomb indicated that the burial had been made about the middle of the Tsah phase. Despite the presence of the burial and the necessity of abandoning the pits at 100 and 75 cm. respectively, the samples gave excellent data. The seriation analysis indicated that the upper levels from both pits pertain to the Yash phase, and were among the latest samples from Yerba Buena. The second level in both pits dated to the Tsah phase. Although this level from Pit 3 showed the effects of the construction of the tomb by some admixture of earlier material which must have been thrown up from deeper deposits when the tomb was built. Below 50 cm., both Pit 3 and Pit 6 showed ceramic samples that were highly characteristic of the Kan phase. In terms of architectural activity, the presence of pure Kan-phase ceramics so close to the surface indicated that the terrace wall must already have reached a height of several meters during the Early Classic, for if the terrace wall had not been there, Kan ceramics would have been washed down the slope.

The first indication of the existence of the tomb in Pit 3 was the presence of two large slabs of rock that were lying across the pit at a depth of about 25 cm. below the surface. At one end of these slabs, and at a slightly lower level, the capping stones of the tomb began to appear. There were several layers of capstones that formed a roughly circular outline. The final (lower) layer consisted of three flat stone slabs of irregular shape that measured about 1 m. in length by 20 to 50 cm. in width, with a thickness varying between 5 to 10 cm. (Fig. 6, c). The tomb itself was circular in section with a diameter of 75 cm. and a depth of 1 m. It was constructed of small stones, square or rectangular in shape, that had been placed without much interest in obtaining a smooth face. The tomb was floored with similar stones, also placed without attention to obtaining a smooth surface. There were no traces of the use of either plaster or mortar in the tomb construction.

The body had been placed in a large restricted-orifice bowl (Fig. 6, e), but the preservation was too poor to determine whether the skeleton was still articulated when it was introduced into the bowl. A round, perforated jade bead was the only artifact found in the bowl. The ceramic contents of the tomb consisted of six vessels (Fig. 6, d). The restricted-orifice bowl that contained the remains was of a local red-slipped type, but the form was not diagnostic of a particular period. The burial bowl was covered, however, with an open-mouth fillet bowl of Yerba Buena Fine (see Fig. 7, b). The presence of this vessel indicated that the burial almost certainly took place during the Tsah phase.

Four additional vessels had been placed in the tomb as an offering. Two of these vessels (Fig. 7, c, d) were round-side bowls with annular bases which were made of a red-slipped type that was probably of Highland manufacture. The third offering vessel was a red-slipped round-side plate with flat base (Fig. 7, e). This form is known from other sites in the Chiapas Highlands, but is very rare in the area and may have been either of local manufacture or an import from outside the Highlands. The final vessel in the tomb was a monochrome red, outflaring-side tripod plate with hollow rattle feet (Fig. 7, f). This form was not native to the Chiapas Highlands, and the vessel must have been either imported or a copy of an imported vessel. Monochrome vessels of this form were common toward the end of the Late Classic period in the Maya lowlands, at a time equivalent to Tepeu 3 at Uaxactun (see Smith, 1955:193-4 for literature references; Fig. 51, b, 1-12).
Pit 4 was excavated on a very high terrace slightly above that on which Pits 3 and 6 were placed. A short distance below the surface, the excavation brought to light the wall of a buried structure which had stood on an earlier terrace. The wall was preserved to the height of 1.3 m., and was found to rest on a well-plastered floor. The wall had been plastered on both surfaces and contained a large sample of sherds in the fill between the rocks. This sample, which dated from the middle of the Tsah phase, was the only sealed sample of Tsah ceramics recovered during the Highland Chiapas excavations. The structure was apparently not in use for very long before it was filled to permit the construction of a higher terrace wall. The fill from inside the wall was a homogeneous sample dating from the end of the Tsah phase, except for a slight admixture of earlier ceramics in the surface level.

In total, the ceramic samples from Yerba Buena indicated an occupation that began during the Kan phase and continued through the Tsah and Yash phases. The depth and quantity of Kan ceramics indicated a fairly long and intensive Early Classic occupation for at least the part of the site tested. The system of terraces was established during this phase, and construction in the major ceremonial center was probably begun as well. The Tsah phase saw a continued heavy use of the ceremonial center accompanied by further, and probably expanded, construction, which included further work on the terraces and the probable construction of the ball court. There was no building activity that can with certainty be assigned to the Yash phase. The impression given by the distribution of Yash ceramics is that of a marked decline in population and activity.

RANCHO SAN NICOLÁS

The major excavation efforts of the first field season were devoted to digging at Rancho San Nicolás. A total of 14 stratigraphic pits and architectural explorations were made. These included a thorough test of all three structures in the main ceremonial center and 6 pits on the terraced hillsides which were probably the living area of the site.

Excavations in the ceremonial center at Rancho San Nicolás included surface clearing of all three pyramids, short axis trenches through two of them, and pits in the center of the ball court and in what seemed to have been the plaza. The samples recovered were of little interest from the stratigraphic viewpoint, for neither deep refuse nor meaningful architectural stratigraphy were encountered. Ceramics of the Yash phase were scattered over the surface of all the buildings, but seem to have been the result of the same sort of diminished activity that occurred at Yerba Buena during the Yash phase. The major part of the construction dated from the Tsah phase. Two of the pyramids were completely constructed at that time.
and, since one of these pyramids served as one side of the ball court, the court must also date from the Tsah phase. The trench through the third pyramid disclosed the remains of a low platform which had been completely covered by the final structure. Unfortunately the ceramic sample from the early platform was too small to give significant data, but Kan types seemed to predominate. It seems probable that a small platform dating from the Kan phase had been rebuilt to serve as one side of the Tsah-phase ball court.

A cache consisting of two vessels and a small jade piece was found in almost the exact center of the ball court at Rancho San Nicolas. The cache had been placed inside a small stone enclosure, the top of which was 50 cm. below the present ground surface. A tree that was growing exactly above the cache had seriously displaced the stones that formed the cache pit, but the pit seemed to have been roughly square, and to have measured 40 cm. on a side. It was constructed in part of large stones which had been dressed on only one or two sides, and in part of thin stone slabs which had been placed on end to serve as parts of the wall. Another large flat slab was used as a capstone.

The more interesting of the vessels in the offering was a flat-bottom cylinder, 20 cm. in height and 14 cm. in diameter. It still exhibited a few traces of pink and green stucco, but it was impossible to determine either the technique or the designs of the original stucco decoration. The paste, form, and stucco decoration all indicate that the cylinder was a trade piece, for no similar vessels were encountered elsewhere in the Chiapas Highlands. The paste of the vessel appeared to me to be very similar to that of a common type from Palenque, where stuccoed cylindrical vessels also occur.

The second vessel in the cache was a straight-side dish with flat base. It was decorated with a monochrome red-orange slip and was probably of Yerba Buena Fine. The jade offering which had been placed inside of the cylindrical vessel was a rectangular piece, 3.4 by 3.7 cm., with rounded corners. One face was highly polished, the other less so. The highly polished face had a circular depression in the center, and the piece had been perforated in the center of this depression.

The pits in the terraced hillsides at Rancho San Nicolas provided data of interest for both the ceramic study and the history of the site. Pit 12, the only one on the hill slope to the southeast of the main ceremonial center, revealed a 2 m. deep deposit of almost pure Tsah-phase ceramics. It was obvious that this terrace had not been constructed until the Late Classic period, but from a single test there was no basis to decide whether this represented an isolated instance or whether this entire hill had remained undeveloped until the Tsah phase.

Pits 7 and 8, which tested a heavy sherd concentration on a terrace to the northwest of the main ceremonial center, provided a large sample of Kan ceramics with only a surface scatter of Tsah-phase material. Pit 15, several terraces above Pits 7 and 8 on the northwestern hill, encountered a 2.5 m. deposit of cultural debris, the lower half of which was sealed by a plastered floor. The ceramics beneath the floor pertained to the Kan phase, while Tsah ceramics were the major component in a mixed sample from above the floor. Pit 13, on a slightly lower extension of the same terrace in which Pit 15 was made, turned into an extensive excavation of a burial area. The vessels included as offerings were of forms common to both the Kan and Tsah phases and could not be securely dated, but the deposit into which the burials were intruded was of Kan date.

The terrace platform on which the burial area was located is about 25 m. in width, and tests covered a length of 75 m. without encountering the end of the burial ground in either direction.

Although the remains of more than twenty individuals were recovered from the test pits made in the burial area, they yielded relatively little information about burial practices. The burial area was discovered when only ten days of the digging season remained and had to be investigated rapidly. My own inexperience plus that of the workmen, the poor preservation of the remains, and the disturbed nature of the area, in which fragments from apparently earlier burials gave frequent false alarms, precluded the careful excavation that would have been desirable.
The burials at Rancho San Nicolás were normally made in groups containing from two to four individuals. All of the evidence, however, indicated that the burials were primary rather than secondary. Of the seven skeletons for which the position of burial could be determined, five were seated with the legs and arms flexed, the back sometimes resting against a large rock. The other two skeletons were in a flexed position and lying on the right side. No effort had been made to orient the heads in any particular direction.

The remains had frequently, but not always, been placed in crudely made stone cists. In some instances these consisted of no more than a circle of one or two courses of large rocks. In other cases the cist was of a beehive shape with a large flat slab of rock serving as a capstone.

Four of the burials or burial groups were accompanied by offerings of from one to six vessels. Since there were several whole vessels and many large sherds that could not be associated with any burial, as well as stray fragments of human bone, it seems likely that the burial area was in use for an extended period of time, and that earlier burials were sometimes disturbed in the process of placing subsequent ones. The vessels placed with the burials offered little ceramic information of importance, for most of them were of types and forms native to the Central Highlands, and even those that were not of standard Highland types and forms could not be related to other ceramic sequences.

Burials 1-3, a group of three individuals, were accompanied by an offering of four vessels: a round-side bowl with annular base, a round-side bowl with flat base, a round-side bowl with a slightly restricted orifice and flat base, and a round-side dish with flat base. The first three vessels mentioned were monochrome with red to reddish-orange slip, while the fourth was red orange with a black line around the interior of the lip. With the possible exception of the black on reddish-orange vessel, all were probably of local manufacture, and even the bichrome vessel may have been a variant of Yerba Buena Fine.

Burials 7 and 7A, an adult and a juvenile, were accompanied by an offering of six vessels and a stone mano. The vessels included: a round-side bowl with annular base, a round-side bowl with flat base, a straight-side plate with flat base, an outcurving-side bowl with flat base, an outcurving-side dish with flat base, and a round-side dish with flat base. The first four vessels mentioned had a reddish-orange slip and were probably of Yerba Buena Fine. An attempt had apparently been made to fire the outcurving-side dish black, but the result was a mottling of black and reddish-orange. The round-side dish was decorated on the interior with a simple pattern of dark red ovals on a reddish-orange background. Once again, the last two vessels may be nothing more than variants of local types.

Burials 8 and 9 were accompanied by an offering of two vessels, a round-side bowl with annular base and a composite-silhouette bowl. Both of these vessels are of monochrome red. The round-side bowl with annular base is of a very typical Highland form. The composite-silhouette form is rare in the Central Highlands, but does occur in a few other instances.

Burial 15 offered clear evidence of the occasional disturbance of early burials at Rancho San Nicolás. It was located just outside of the rock tomb that housed Burials 10-14. The skeletal remains consisted of only a skull cap and a few vertebrae, and there was no evidence that any sort of cist had existed in this location. Near the bones there was a large fragment of an outflaring-side bowl of Soyatitán Polychrome. It seems likely that the remains called Burial 15 had been disturbed by the intrusion of Burials 10-14. No vessels were discovered with the latter group burial, so no date can be given for the group, but the Soyatitán Polychrome bowl associated with Burial 15 is earlier than the vessels that were associated with other group burials in the area.

What could be determined of the burial practices in the burials encountered at Rancho San Nicolás contrasts sharply with the more formal tombs containing only a single individual that were encountered at Yerba Buena and Cerro Ecatepec. The poor construction of the cists, the haphazard placing of several individuals in the same cist, and the failure to include offerings with some of the burials suggest either haste or a lack of attention to care of the dead. Since all of
the offerings found with the group burials could have been contemporary, it is possible that these burials are a result of some fatal catastrophe, such as a war or epidemic, that precluded the attention normally given to the dead. The presence of Burial 15 and large fragments of other early vessels, however, demonstrated that the burial area had been in use for some time, and the bedrock in the area was too close to the surface for formal tombs to have been constructed at any time. Whatever the situation that accounted for the group burials, it is necessary to conclude that there were also social differences that separated these burials from those at other sites. The fact that burials at all other sites were encountered only at locations close to ceremonial centers, while the burial area at Rancho San Nicolás was well removed from its ceremonial center, perhaps indicates that, by chance, a burial ground of the common people was encountered here, while only tombs of individuals of higher status were found at the other sites.

The history of Rancho San Nicolás closely parallels that of Yerba Buena. The site was first occupied during the Kan phase, at which time the terrace system was begun and there was some building in the ceremonial center. The latter reached its final form during the Tsah phase when activity at the site seems to have been at its peak. The Yash phase was a period of decline, with a smaller population and little or no new building. The fact that the pits in the terraces usually encountered evidence of only a single phase suggests that the population of the site was never very large, for only a part of the available space was in use at any one time.

SAN GREGORIO

The group of ruins known as San Gregorio (Fig. 9) is located on two adjacent hills overlooking the Tzaconeja River. San Gregorio was the dominant prehistoric settlement of the section of the river valley in which it was located, and in size and architectural development it was exceeded among the sites tested only by Yerba Buena.

There was a clear separation between the sacred and secular precincts at San Gregorio. The ceremonial center occupied the more northerly of the two hills, farthest from the river; it consisted of a series of plazas ascending the ridge that leads to the summit of the hill. The most important part of the ceremonial center included a ball court, a large plaza, and a number of large pyramids. The domestic area occupied the hill closer to the river, and consisted almost entirely of terraces and low house mounds. A large pyramid at the summit of the hill and a small feature which was probably a ball court were the only structures to which a ceremonial character could be assigned.

Ten test pits and trenches, divided evenly between the two hills, were made at San Gregorio. In spite of the size of the site, ceramic remains were very scanty and the deposits were uniformly shallow. Only two pits, both in the area of house mounds, provided as many as three 25 cm. levels of sherds. These two pits showed a clear trend of ceramic change with Yash-phase ceramics at the bottom, and ceramics from the early part of the Lum phase at the top. Two other pits, both on the "domestic" hill closest to the river, yielded good samples of early Lum-phase ceramics. Since one of these latter pits was close to the ceremonial mound on the top of the hill, it seems likely that this mound was still in use during the Lum phase. A brief test of the small ball court on the "domestic" hill did not provide enough ceramics for quantitative comparison, but did show many late forms.

The major group of ceremonial buildings on the northern hill yielded a disappointingly small collection of ceramics. Fairly numerous sherds were encountered only during extensive clearing and trenching of a building on the north side of the main plaza. This sample, as well as other samples from the ceremonial center, dated from the Yash phase and contained very little material of a later date. It seems likely that the ceremonial center was little used after the end of the Yash phase, a conclusion that is supported by the fact that the stone facing from the sides of the large ball court had been systematically removed in prehistoric times.

The Yash phase was certainly the most important period in the history of San Gregorio. At that time, both hills were in use, one as a ceremonial center, the other largely for residence. At the end of the Yash phase, the ceremonial center fell into disuse, but
occupation continued on the other hill, with some ceremonial activity probably being connected with the large pyramid and ball court that were located there. The site seems to have been totally abandoned very early in the Lum phase, for the early Lum ceramic samples reveal little more than the transition between the Yash and Lum phases.

**LA HERMITA**

La Hermita or Cerro Santa Cruz (Fig. 10) was one of a complex of late sites which occupied the hills and ridges surrounding the valley of San Cristóbal Las Casas. La Hermita is located on a steep hill at the southeastern corner of the valley, and its natural defensive advantages were supplemented by the construction of a trench across the only easy route of access. The site seems to have served an essentially domestic function, with a single small pyramid at the summit of the hill being the only evidence of ceremonial construction. The rest of the site consisted of the usual terraced hillside although, in this case, there were no house mounds visible on the surface.

Six test pits were made at La Hermita. One of these was at the base of the small pyramid, while the rest were in a large, flat area just below the crest of the hill. Although sherds were plentiful and several of the deposits reached depths of a meter or more, there was no evidence of ceramic change during the period of occupation. The ceramic sample pertained to a short period at the end of the Lum phase, and, although there was no direct evidence for this conclusion, it is highly likely that the site was occupied at the time of the Conquest.

**AMATENANGO AND TEOPISCA**

In addition to the prehistoric sites described above, excavations were undertaken in and near the modern towns of Amatenango and Teopisca. It was hoped that one or both of these towns might yield refuse deposits which would provide a link between the present day and the prehistoric past. It would
have been of particular interest to trace back into pre-conquest times the ceramic industry that exists today in Amatenango.

In both cases the hopes of encountering early colonial and prehistoric remains were disappointed. Although eight pits were made in various places in Teopisca and fifteen pits in Amatenango, the collections recovered showed almost no pottery that could not be duplicated in present-day inventories. While the archeological work was in progress in Teopisca, the telephone company placed poles along the main street from one end of town to the other. All of the post holes were checked for evidence of deep refuse deposits, but all were uniformly shallow. With such a complete test, it seems very unlikely that important deposits were missed. Both Amatenango and Teopisca must have been the result of a resettlement of the native population during Colonial times. Since not even any ceramics were recovered upon which a Colonial ceramic complex could be based, the samples from Amatenango and Teopisca were not included in the ceramic analysis.

**Cerro Cuchumtón**

Brief mention must be made of three sites in the Central Highlands which produced ceramic collections that served as supplementary data in this study (Cerro Cuchumtón, Cerro Ecatepec, and Moxviquil). Since I was not present at any of these sites during excavations there, site descriptions and excavation data are derived from Adams (1959) and from personal communication with Robert M. Adams and Frans Blom.

Cerro Cuchumtón is a large site on a ridge some 15 km. north of the town of San Cristóbal. In spite of an extensive system of terraces, there does not seem to have been any great amount of construction assignable to ceremonial functions. Limited test excavations were made at the site by Adams, Calnek, and McVicker in 1961. In general, refuse deposits were shallow, and the sherds few in number and badly weathered. Only three pits, Pits 3, 4, and 5, produced usable data, and none of these was deeper than 1 m. There was little evidence of ceramic change in any of them, but the total collection indicated that the site was occupied during the Lum phase, with the start of occupation at the end of the Yash phase or beginning of the Lum phase, with occupation probably continuing until the time of the Spanish Conquest. The ceramics were regionally variant from both the ceramics of the San Cristóbal Valley and those of San Gregorio, the only other locations at which ceramic material of a comparable date was recovered.

**Cerro Ecatepec**

Cerro Ecatepec is a large ridge-top site located at the southwestern corner of the San Cristóbal Valley. Like other late sites in the area, it showed a well developed and extensive terrace system, but no great amount of ceremonial building. Extensive testing of the site was done by Adams, Calnek, and McVicker during 1961. Although the quantity of sherds recovered was high, most of the pits either encountered sterile soil within 50 cm. of the surface or failed to show evidence of ceramic change. A few of the stratigraphic pits and architectural excavations, however, gave enough data to indicate the ceramic history of the site. Pit 4 tapped a refuse deposit 1.25 m. deep which showed a development from ceramics of the Yash phase in the bottom levels to ceramics of the Lum phase in the top level. The excavation of Structure 2 produced two fill samples from different stages of construction. The upper fill contained a mixture of sherds from the Tsah and Yash phases, while the lower sample dated entirely from the Tsah phase. Structure 3 showed a history similar to that of Structure 2. The fill was a mixture of Tsah and Yash ceramics, but a deep pit in the corner of the structure, underlying the final fill sample, was entirely from the Tsah phase.

Pits and trenches in the first terrace below the ceremonial center (Fig. 11) encountered a series of six tombs and a cist which contained an unusually rich collection of ceramics. Tomb construction, although not demonstrating much sophistication in the techniques of masonry, was formal and identical in general plan for all the tombs (Fig. 12). The bodies had been placed extended on their backs with no consistent directional orientation of the heads. The Cerro Ecatepec tombs are an additional evidence of the tremendous diversity of burial practices during the Tsah and Yash phases in the Central...
Highlands of Chiapas. Although many features of the culture were common to the entire region, the customs associated with burials differed completely from one site to the next and sometimes varied between different locations at the same site.

The similarity in tomb construction and the fact that the same ceramic types were common to several tombs leads to the conclusion that the burials must have been approximately contemporaneous. For this reason, the ceramics from all of the tombs will be discussed as a group. Much of the pottery recovered from the Cerro Ecatepec tombs was trade ware from outside of the Central Highlands, and the local pottery that appears is of types whose exact temporal distribution is not known. For this reason, the tomb ceramics do not help much in relating the local sequence to those of other parts of Mesoamerica, but they do provide an indication of some of the trade relationships that existed between the inhabitants of the Central Highlands and people from other regions.

The most striking of the vessels from Cerro Ecatepec is a polychrome barrel-shape vessel that pictures a procession of persons approaching an individual seated upon a throne (Fig. 13, a). The lip of the vessel is encircled by a band of Maya glyphs and a few glyphs appear scattered among the figures. Cylindrical and barrel-shape vessels decorated with glyph bands and figure painting had a wide distribution in the Maya area during the first half of the Late Classic period. The vessels are most common in the Maya lowlands, and may well have been distributed from that region (see Smith, 1955: 168-9; Figs. 2, a, c; 72, b). The combination of colors used in the Ecatepec vessel, however, is not the same as that in any of the figure-painted polychromes with which I am familiar, and the vessel may have come from...
some part of the Maya region that is still unknown archeologically. The closest approximation of the colors of the Ecatepec vessel is on a cylinder of unknown provenience that was purchased from a collector in Tabasco, Mexico, by the Mexican National Museum (Cook de Leonard, 1954). Whatever the source of the Ecatepec vessel, the date is very probably equivalent to either Tepeu 1 or Tepeu 2.

Another style of polychrome decoration is exhibited by three dishes from Tomb 4 (Fig. 13, b-d). This decoration, in red and black on orange, features figures of animals portrayed in a semiabstract style. Although these vessels are probably from somewhere within the Maya Lowlands, they are unlike any examples I know from the Tikal-Uaxactún area, for they combine a sort of representation most common in the Early Classic of that region with a vessel form that is typically Late Classic. Again, they may well represent trade of the Highlands with a lowland region closer than the central region. A recent personal communication from Bruce Warren states that these vessels are closely similar to his Berriozábal Polychrome, Berriozábal Variety, a pottery type widespread in the western end of the Central Depression, the latter being an area of Zoque domination.

The three black modeled-carved vessels in Figure 14 are probably all of the same ceramic type and come from a source outside of the Chiapas Highlands. The vessel
Figure 13. VESSELS FROM TOMBS AT CIZEO ECACTEP

a: Barrel-shaped polychrome vessel from Tomb 1.
b-d: Red and black on orange polychrome dishes from Tomb 4.
Figure 14. VESSELS FROM TOMBS AT CERRO ECATEPEC

Black modeled-carved bowls. a and b from Tomb 3. c from Cist 1.
Figure 15. VESSELS FROM TOMBS AT CERRO ECATEPEC

a: Slab-foot tripod bowl, Tomb 1. Dark red paint on unslipped buff clay; probably Ixtapa Fine.
b: Tripod bowl, Tomb 1. Dark red paint on unslipped buff clay; probably Ixtapa Fine.
e: Unslipped stamp seal, Tomb 2. f: Straight-side bowl, Tomb 6. Dark red paint on unslipped buff clay; probably Ixtapa Fine.
g: Tripod bowl, Tomb 6. Dark red paint on unslipped buff clay; probably Ixtapa Fine.
h: Unslipped monkey effigy whistle, Tomb 2. i: Round-side bowl with bosses, Tomb 2. Red slip inside and lip outside; section with bosses unslipped; probably Ixtapa Fine.
j: Tripod bowl, Tomb 3. Red slip over white base slip; Ixtapa Fine.
k: Straight-side bowl, Tomb 3. White base slip with traces of overlying decoration in red and black; Ixtapa Fine.

with monkeys appliquéd into a carved panel (Fig. 14, a) is, as far as I know, unique. The vessels carved with glyphlike designs (Fig. 14, b, c) are vaguely similar to a type of vessel that occurs in the Guatemalan highlands around Lake Atitlán (Lothrop, 1933), but the resemblance is not very close.

The vessels of Ixtapa Fine that were recovered from the tombs at Cerro Ecatepec (Fig. 15, a, b, d, f, g, j, k) were probably of local manufacture. The variety of color combinations used in the decoration of these is typical of Ixtapa Fine, but all of the design elements are relatively simple.

On the whole, the ceramics from the Cerro Ecatepec tombs show a greater ceramic sophistication and a wider sphere of trade contacts than do the ceramic collections from other sites. It is unfortunate that the tombs cannot be exactly dated in terms of the local sequence. Ixtapa Fine, the only local type represented, was produced during the Tsah, Yash, and Lum phases. A communication from Bruce Warren indicates that the Berriozábal polychrome types correspond best with Tepeu 1-2, and the Ixtapa Fine with the Maravillas cist vessels of Chiapa de Corzo (Agrinier, 1961: Figs. 122-125) thus an early Tsah date seems most probable for these Cerro Ecatepec tombs.

In connection with Cerro Ecatepec, mention should be made of two small sites, CV-38 and CV-44 (Adams, 1961), both of which are located at the foot of the slope that is surmounted by the larger site of Cerro Ecatepec. Both sites produced ceramic samples that
date from the end of the Lum phase, of a date comparable to that of the occupation of La Hermita at the other side of the valley. CV-44, however, was located on top of an earlier site which was probably of Early Classic date. The ceramic sample from the earlier site was completely unrelated to Early Classic ceramics from other sites tested in the Chiapas Highlands, but showed very strong connections with Early Classic sites in the northern part of the Grijalva Valley (Lowe, 1959:15).

The total ceramic collections from Cerro Ecatepec indicated an occupation that continued from the Tsah phase until the Conquest. In the last century or two before the Conquest, the inhabited area was extended onto the valley floor at the foot of the hill. The Early Classic site at the foot of the hill was unrelated to any later activity at the site.

Moxviquil

Moxviquil is a typical hilltop site of the Central Highlands, located on one of the hills that enclose the San Cristóbal Valley on the north. In size and site plan, Moxviquil is almost identical to Rancho San Nicolás. Blom and Weiant excavated at the site and gathered a sizable ceramic sample, which included a number of whole vessels from tombs. The general ceramic collection suggests that Moxviquil was occupied during the Tsah and Yash phases. The tomb pottery includes several Fine Orange vessels that indicate trade between the Central Highlands and the Gulf Coast of Tabasco.
SEQUENCING THE CERAMICS

The extent of the area covered by the archeological research in the Central Highlands of Chiapas and the failure to find lengthy periods of occupation represented in any single deposit posed problems in the construction of a ceramic sequence that would cover the total period of occupation of the region. There was enough evidence from stratigraphy and from general relationships with other sequences so that there was rarely doubt about which collections were early and which were late, but questions about the specifics of ceramic change could not be easily answered. Data from different pits and from different sites had to be fitted together, taking account of regional as well as temporal variation.

Because of these problems and because of the nature of the collections, not all of the phases could be sequenced by the same method. Where it was possible, a seriation procedure was used to study ceramic change. The collections from the Sak and Lum phases, however, did not provide material suitable for seriation, so the ceramics of these phases had to be considered as simple units without internal differentiation.

The small Sak-phase collections provided only minimal information about the ceramics of the earliest of the Highland phases. Because of the close relationships with Grijalva Valley ceramics, however, the Preclassic date of the Sak phase was clear, while the lack of continuity between Sak ceramics and those of later phases indicated a temporal gap at this point in the sequence.

Beginning with the Kan phase and extending through the early part of the Lum phase, there were sufficient data to attempt a more sophisticated study of ceramic change. The system of classification outlined in a following section made possible the separation and tabulation of the ceramic types and vessel forms encountered in the ceramic collections from this period. There were clear differences among the samples in the ceramic inventories represented that were presumed to be due to changes in ceramic styles through time. These data had to be ordered in a manner that would provide maximum information about the order of succession of the various ceramic elements and the fashion in which elements were replaced by others with the passage of time. Although preliminary inspection of the ceramics from several fairly deep pits had indicated the direction of trends of change, the majority of pits failed to show noticeable change or were too shallow to give convincing evidence. To enlarge the number of usable samples, and make it possible to bridge the gaps between different pits and different sites, the most promising method of operation was the seriation method (Phillips, Ford and Griffin, 1951).

Seriation

In the seriation procedure used for the Chiapas Highlands ceramics, all of the samples were considered to be independent and separate. The samples were arranged, without consideration of site or stratigraphic position in the test pits, to show an orderly pattern of increase or decrease of the elements.

The ordering of the samples was then validated by reference to the stratigraphic data. Since undisturbed refuse deposits encountered close to the surface of the ground are more recent than deposits buried beneath them, each series of superimposed samples had a known temporal order that was independent of the order achieved by seriation. When the two methods of ordering the data produced the same results, there remained little doubt that the sequence of ceramic changes had been correctly interpreted.

Two separate sets of data from the Central Highlands were used for seriation. The primary seriation charts were based upon the ceramic types. Types proved to have changed in a regular fashion through the part of the Highland ceramic sequence for which the samples could be seriated, but the changes were relatively slow, and all major types spanned at least two phases. To provide a more sensitive chronology for the dating of surface collections, changes in vessel forms were also studied by means of seriation. The seriation of vessel forms showed that a number of forms had had short spans.
of existence. These forms provided a "type fossil" sequence for use with mixed collections for which the frequency of ceramic elements was not significant.

Data from three of the six sites at which I excavated were used in preparing the seriation charts. The collections from the sites of Mercedes de la María and La Hermita were so different from each other and from those of the rest of the sites that they did not provide enough common elements to make comparison by seriation possible. The reason for the difference was that both sites were separated from the others by temporal gaps, while the ceramics from La Hermita were regionally variant as well. Although the collections from Rancho San Nicolás pertained to the time range for which seriation could be used, they were sorted during the first season of field work when the method of classification on the basis of paste and temper had not reached complete reliability. The type breakdown for Rancho San Nicolás was not, therefore, completely comparable to that from the other sites, and could not be used for seriation.

No attempt was made to seriate the sherds recovered from Cerro Cuchumtén and Cerro Ecátepec during the 1961 season. Most of the body sherds had been discarded before I reviewed the collections, and the use of rim sherds alone would have distorted type frequencies in favor of the finer types, the smaller vessels of which produce more rim sherds when broken than do the larger vessels of coarse types. Even if the body sherds had been available, it seems unlikely that the seriation of types would have been reliable. The regional variation between the areas tested in 1961 and those from which the bulk of the material was gathered was great enough so that it could not be expected that the varieties of known types that occurred would necessarily have had the same temporal range as the varieties from the better-known eastern sector of the Highlands. The seriation of ceramic types was, therefore, based upon the collections from the sites of Cerro Campanátón, Yerba Buena, and San Gregorio, and covered the period from the early part of the Kan phase through the early part of the Lum phase.

The frequencies of ceramic types in each sample were graphed, and the graphs arranged to give the chart presented as Chart 1. This and the succeeding seriation charts do not include data from six samples that would not fit the pattern made by the rest of the samples. It was encouraging to note that these six mixed samples, which could not have represented the short occupation span necessary for seriation, were, with one exception, from surface levels. Since some mixing is only to be expected in surface samples, the necessity of discarding these samples does not challenge the validity of the procedure.

Little comment need be added to the representation of ceramic change presented by the type-seriation chart. All major types showed the expected unimodal distribution curve with good continuity between sites. In all of the pits that produced two or more stratigraphic levels, there were only two instances in which the levels appeared on the seriation charts in an order that reverses their stratigraphic position. One case of reversal occurred in Pit 1 at San Gregorio, where Level 1, the 0-25 cm. level, showed an earlier series of ceramic types than did Level 2, the 25-50 cm. level. Occurring as close to the surface as it did, this transposition can be explained as a result of erosion or construction activity which displaced an earlier ceramic sample onto a house mound of later date. The second case of transposition was in Pit 4 at Yerba Buena. In this pit, Level 1A, a surface stripping only 15 cm. thick, provided an earlier ceramic sample than did any of the deep fill samples that lay beneath it. Since this case again involved a surface level in a very steep part of the site, the same explanation can be applied as was suggested for the reversal in Pit 1 at San Gregorio. There was, then, a high correlation between the temporal order obtained by seriation and that indicated by stratigraphy. This agreement could not have been obtained had there been any major error in classification or in seriation.

The samples from the three sites used in the seriation study do not overlap in Chart 1. Levels from Cerro Campanátón occupy the bottom, levels from Yerba Buena the middle, and levels from San Gregorio occupy the upper part of the chart. This might be taken as an indication that the occupation spans of the three sites did not overlap. Another, and more likely, explanation is that there
### Chart 1. Seriation of Ceramic Types

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**Scale**

- % of total sherds
- 1% = 10 ft
- 2% = 20 ft
- 5% = 50 ft
### Chart 2. Seriation of Ceramic Types - Corrected Data

<table>
<thead>
<tr>
<th>Layer</th>
<th>Ceramic Type</th>
<th>Sta Elena</th>
<th>Y Buena FINE</th>
<th>Y Buena COARSE</th>
<th>Hustain HARD</th>
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<tr>
<td>Zonas and Fases</td>
<td></td>
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<tr>
<td>Tzah Phase</td>
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<tr>
<td>Y Buena P4, Fill 1</td>
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<tr>
<td>Y Buena P4, Fill 2</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Y Buena P4, In Wall</td>
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<td></td>
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</tr>
<tr>
<td>Y Buena P6, L.2</td>
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</tr>
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<td>Y Buena P3A, L.2</td>
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<td>Y Buena P7, L.2</td>
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<tr>
<td>Y Buena P4, AB. Fl.</td>
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<tr>
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</tr>
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<tr>
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<tr>
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<tr>
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<td>C. CT</td>
<td>P3, L.3</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Scale:**
- 1 ft = 18 in
- 3 ft = 90 in

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**Note:**
- The chart represents the seriation of ceramic types corrected with data from various zones and phases.
- Columns indicate different ceramic types and their presence in Sta Elena, Y Buena, and Hustain layers.
- The chart uses symbols to indicate the presence and absence of ceramic types in each layer.
- The scale at the bottom right corner helps in understanding the spatial distribution and density of ceramic types.
were slight regional differences in ceramic frequencies that made the samples from each site more like each other than like the samples from other sites. It is probable that there was some, but not much, overlap between the later levels at Yerba Buena and the earlier levels at San Gregorio, and between the earlier levels at Yerba Buena and the later levels at Cerro Campanatón.

Yash-phase deposits from Yerba Buena and San Gregorio demonstrated one clear instance of regional variation. The data presented in Chart 1 show unexpectedly low frequencies for almost all ceramic types in the earlier levels from San Gregorio. These same levels have a high frequency of Tzaconejá Red, a type that was rare at Yerba Buena and Rancho San Nicolás during the Yash phase.

Since Tzaconejá Red appears suddenly in the San Gregorio samples at almost peak frequencies, it was suspected that the absence of the type at Yerba Buena was due to regional rather than temporal variation. This hypothesis was checked by eliminating Tzaconejá Red from the tabulations of types for San Gregorio and recalculating the frequencies of other types. The seriated results of the recalculations are presented in Chart 2. All types show considerably greater continuity between Yerba Buena and San Gregorio when Tzaconejá Red sherds are omitted from the calculations. If there were a time differential between the end of occupation at Yerba Buena and the beginning of occupation at San Gregorio, the seriation chart could not have been smoothed by the elimination of Tzaconejá Red, for the ratio between the later types, San Gregorio Coarse and Huistan Hard, and the predominant earlier type, Yerba Buena Fine, would still have showed variation between the two sites. The evidence thus supports the hypothesis that Tzaconejá Red was a local or northeastern Highland type which did not reach the more southerly sites in any quantity.

The seriation data for vessel forms is presented in Charts 3, 4, 5, and 6. For this seriation, the data from Rancho San Nicolás were added, for the vessel forms used in sorting the San Nicolás collections were essentially of the same categories as were used in sorting the collections from the other sites. In preparing the charts, the order of levels obtained from the type seriation was used, but data from all levels that had provided fewer than 25 rim sherds were either omitted or combined with data from an adjacent level if one of the adjacent levels also provided too few rims for inclusion.

The seriation of vessel forms gave a much less regular pattern than did the seriation of ceramic types. Simple forms, such as the round-side bowl, small outcurving-side bowl, small straight-side bowl, and small-mouth jar, showed distributions that covered long spans of time with no clear pattern of increase or decrease. Other forms, such as the restricted-orifice fillet bowl, open-mouth fillet bowl, deep, outcurving-side bowl, polychrome outflaring-side dish, comal, vague-neck jar, flat-lip jar, perforated jar and wide-mouth jar, were clearly restricted in their distributions, and can serve as "type fossils" whose presence in a collection gives evidence of cultural remains from a specific period of time.

Even the forms with restricted temporal distributions failed, in many cases, to show
### Chart 3. Seriation of Vessel Forms (Bowls)

#### Bowl Forms

1. Round-Side Bowl or Dish.
2. Restricted-Orifice Fillet Bowl.
3. Open-Mouth Fillet Bowl.
5. Lateral-Ridge Bowl.
8. Incensario, Frying-pan Type.
10. Small Straight-Side Dish.
11. Comal.
12. Polychrome Flaring-Side Dish.
CHART 4. SERIATION OF VESSEL FORMS (JARS)

Jar Forms
15. Flat-Lip Jar.
17. Perforated Jar or Colander.
18. Wide-Mouth Coarse Jar.
20. Tall, Outcurving-Neck Jar.
smooth frequency curves. The probable reason for the lack of regularity in the seriation of vessel forms is the small size of the samples that resulted from using only form-indicative sherds. With such small samples, random variations in sampling or the displacement of even a few sherds from their correct level in the deposits would have been capable of producing an exaggerated effect on the charts. On the theory that small sample size was the primary cause of the irregularities in form seriation, each phase was sub-divided into two or three equal divisions, and combined form totals for each division were calculated. The seriation of the combined totals is presented in Charts 5 and 6. The regularity of the frequency curves was greatly improved by the lumping process, but there were still several instances of split peaks or discontinuous distributions. Whether these variations were still due to sampling error, mixed deposits, or actual variations of popularity could not be determined.

In summary, the seriation sequence obtained by charting the frequencies of ceramic elements indicates an orderly pattern of change in the ceramic history of the Central Highlands of Chiapas. The almost complete agreement between seriation and stratigraphic data leaves little doubt that a correct temporal ordering of the samples was achieved.

The Last Prehistoric Centuries

The seriation procedure that was applied to the majority of the ceramic samples from the Central Highlands of Chiapas yielded a ceramic sequence that is complete from the beginning of the Kan phase, about A.D. 300, through the early part of the Lüm phase, which ended about A.D. 1350. The seriation sequence thus terminated at a point in time about two centuries prior to the conquest of the area by the Spaniards in 1524. Data for the final period of the prehistoric ceramic sequence could not be seriated, but enough
evidence was available from scattered sites that had been occupied during the latter part of the Lum phase to make possible the completion of the sequence. Although conclusions concerning the ceramic history of the last centuries before the Conquest must be advanced with less confidence than is possible for those relating to earlier periods, the general ceramic inventory and the patterns of regional variation have been fairly well established.

Ceramic samples were recovered from six sites in or near the Central Highlands which were judged to have been occupied until the end of the Lum phase. One of these sites, La Hermita, was tested by me during the 1960 season; four of the sites were excavated by Adams, Calnek, and McVicker during the 1961 season (Cerro Ecatepec, CV-38, CV-44, and Cerro Cuchumtön); and a surface collection was obtained from the site of Chacalxib in 1961.

La Hermita was the only site covering the late part of the Lum phase at which excavations were aimed primarily at recovering a ceramic sample, and also the only site for which there was time to complete a full analysis of the ceramics. Unfortunately, the pottery from La Hermita was so variant from that recovered at other sites excavated during the 1959 and 1960 seasons that no direct connections with earlier parts of the sequence could be proposed, and the site was dated as Late Postclassic only by the elimination of other possibilities. Also, the short period during which the site had been occupied produced ceramic samples that were essentially homogenous, with no indications of trends of change or of what sort of ceramic complex had preceded the La Hermita complex.

Excavations in the San Cristóbal Valley in 1961 provided additional samples of Lum ceramics and additional evidence for the temporal placement of the phase. The two small, unnamed sites, CV-38 and CV-44, which are at the foot of the steep ridge occupied by the site of Cerro Ecatepec, produced ceramic samples comparable in types and forms with samples from La Hermita.

The large site of Cerro Ecatepec demonstrated different patterns of occupation and ceramics. Ceramic collections from the site indicated an occupation that began in the Tsah phase and continued through the Lum phase. Most of the test pits encountered bedrock within the first stratigraphic level and provided mixtures of ceramics from all phases of occupation. In three pits, a rough stratigraphic separation was encountered, with Tsah and Yash ceramics at all levels, but with Lum ceramics only in the upper levels. These pits indicated the temporal position of the Lum phase relative to the Tsah and Yash phases, supporting the late date assigned to the phase on the basis of evidence from La Hermita. Furthermore, examples of Lum-phase types known from San Gregorio occurred in the Cerro Ecatepec collections.

Excavations at the site of Cerro Cuchumtön provided another ceramic collection that dated mostly from the Lum phase. Cerro Cuchumtön is located to the north of San Cristóbal, about equidistant from the late sites in the San Cristóbal Valley and the early Lum-phase site at San Gregorio. The ceramic inventory from the site showed a mixture of elements, some of which were known mostly from the San Cristóbal Valley, others from San Gregorio. The three types that had the highest frequencies of occurrence in the collections were San Gregorio Coarse, Huistán Hard, and Ixtapa Fine. Huistán Hard and San Gregorio Coarse were present in amounts that varied from one pit to another, but in several pits Huistán Hard was the more common of the two types, a fact that indicates a date for these pits later than that for any of the samples from San Gregorio. In one pit, Ixtapa Fine was the most frequent type, showing frequencies higher than those for any other site within the Central Highlands. Two of the three pits that produced fairly large quantities of sherds had a few samples of La Hermita Coarse in the upper levels, and a complete absence of the type in lower levels, thus offering additional evidence of the temporally late position of the type. All common vessel forms that occur in the Cuchumtön collections are forms already known from other sites to have been common during the Lum phase.

The final Lum-phase sample was a surface collection from the site of Chacalxib in the Ocosingo Valley, just outside the eastern boundary of the Central Highlands. This collection is of interest because it provides
the only evidence of continuity through the Lum phase of the ceramic tradition of the eastern Highlands, which is otherwise known only from early Lum levels at San Gregorio. In a sample of slightly more than 100 sherds, 54 percent of the sherds are of Huistán Hard, 34 percent of San Gregorio Coarse, and the remainder of nondistinctive types, which may or may not have been native to the Central Highlands. There are no examples of types, aside from San Gregorio Coarse, that are known from Highland phases earlier than the Lum phase. The most common vessel form in the Chacalxib collection is the vague-neck jar, followed by perforated jars and round-side bowls. In terms of both type percentages and vessel frequencies, the sample from Chacalxib could be roughly fitted into the seriation charts at a point later than any of the excavated samples. This fact, together with the complete absence of earlier types such as Yerba Buena Fine, indicates that the collection from Chacalxib represents a fully developed eastern Lum ceramic complex, completely consistent with the trends of change established for the beginning of the Lum phase by the samples from San Gregorio. It eliminates any possibility that the eastern tradition found at San Gregorio might have been suddenly terminated and replaced by the tradition common to the western sites.

In view of the foregoing evidence, the ceramics of the Chiapas Highlands can no longer be considered a single ceramic complex during the Lum phase, but must be divided into at least two complexes, one of which prevailed at eastern sites such as San Gregorio and Chacalxib, the other in the San Cristóbal Valley at least. The distinction of two separate ceramic complexes is admittedly an oversimplification, for the collections from Cerro Cuchumtón represent a mixture of ceramics from the two complexes, and display a higher frequency of Ixtapa Fine than does either complex. The true picture might well have been that of a series of different types, each with its own center of distribution, which merged in varying proportions in different sections of the Central Highlands. If such were the case, the two ceramic complexes mentioned here represent nothing more than regional crystallizations of the overall pattern. At the very least, one point was clearly established by the study of Lum phase collections. Both the ceramic complex represented by the early Lum levels from San Gregorio and that represented by collections from La Hermita and other sites in the San Cristóbal Valley continued through the Late Postclassic period, and were, in all probability, still in existence at the time of the Spanish Conquest of the Chiapas Highlands in 1524.

**Determination of Phase Boundaries**

The final problem that could be considered for the seriated part of the sequence was the placement of phase boundaries in light of the patterns of ceramic change. The seriated samples cover a period of about 1000 years, and reveal a pattern of continuous change over that period of time. Although the seriation procedure and stratigraphic data reveal the temporal order of the samples, they do not immediately indicate the phase divisions of the sequence. The necessity of dividing the sequence into phases was, however, obvious. Regardless of whether or not there were abrupt changes to mark phase boundaries, the ceramics from the earliest phases were almost entirely different from those of the latest phases, and the total sequence had to be divided into units of homogeneous content. To delimit phases within the sequence it was necessary to review the data for clusters of changes which might serve as indicators of points of transition between ceramic complexes. In the absence of such change clusters, the phase boundaries would have had to be arbitrarily placed at convenient intervals.

The distinction of phases connected with different ceramic complexes is, however, only a part of the total study of ceramic change. Such a study must begin with the histories of individual ceramic elements, whether they be ceramic types, vessel forms, or modes. In its history, each element has a time of introduction and a time at which production is terminated. Between introduction and disappearance, most elements may be expected to show a unimodal curve of frequency which rises to a peak and then declines. In completely gradual change, the frequency curve is smooth, with a proportionate amount of increase or decrease per unit of time. Still
within the unimodal frequency curve, the rate of change can vary from the pattern of gradual change in the direction of a more abrupt change pattern. Departures from the gradual change pattern are manifested by rapid increases or decreases in frequency within a short time span, perhaps followed by periods during which the frequency remains constant. For the sake of ease of reference, such points of accelerated change will be referred to as "change points." Discontinuous distributions, bimodal frequency curves, and other departures from a unimodal curve of change are possible, but are rarely encountered in ceramic research.

When considered in combination, the histories of the individual ceramic elements indicate the trends of change within the ceramic complex as a whole. The complex is composed of a number of elements, each of which is constantly changing in accordance with its own pattern of change. The presence or absence of well-marked phase boundaries between sequential ceramic complexes depends upon the degree to which the introductions of new elements, the disappearances of old elements, and the change points of different elements tend to cluster.

Culture change through time ranges between two polar types. One is completely gradual change with a constant, invariant rate. The other is an abrupt change, the most extreme example of which is total replacement of one culture by another at a single point in time. When ceramic change approaches the gradual model, the sequence will fail to show any clusters of changes, for there are, by definition, no abrupt changes in individual features, and the points of introduction and disappearance are randomly spaced. In a sequence which represents this sort of change, the phase boundaries may be placed arbitrarily and are only the division of a continuum for the sake of convenience. The abrupt model of change represents the ultimate in clustered change, for this model presents the most distinct phase boundary possible, a total replacement of one ceramic inventory by another within a brief period of time. Change within an actual ceramic sequence may fall anywhere between the two extremes, and, in fact, a single sequence may have some phase boundaries that are purely arbitrary divisions of a period of gradual change and others that are strongly marked by a series of rapid changes which affect a large part of the ceramic inventory.

With the models of culture change in mind, attention may now be turned to data from the present research which bear upon the nature of ceramic change in the Central Highlands of Chiapas. Data from the Sak phase and the later part of the Lum phase must be omitted from consideration, for samples from these time periods could not be used in the seriation charts. The seriation method used for the remainder of the sequence provides an excellent framework for the study of culture change, for it presents a long series of samples arranged in a temporal order, and shows the transitions between different types and forms. In this discussion, reference will be to the corrected type seriation chart, Chart 2, which omits Tzaconejá Red from consideration.

Reference to the frequency curves of ceramic types presented in Chart 2 shows that most of the curves approach the ideal curves of gradual change. It is impossible to denote with any precision the precise points of introduction and disappearance for most of the types, for sporadic examples tend to occur well before and well after the areas of continuous distribution in the charts. The vagueness of initial and final points of distribution for types may be attributed in part to shallow samples and mixing of the deposits, and in part to a small number of errors that must have occurred in the sorting. The almost inevitable sorting errors would have a disproportionate effect in lengthening spans of persistence even though they would have been too small to affect the shapes of the frequency curves materially.

Although points of introduction and cessation of production could not be determined for the ceramic types, there were a number of instances in which type frequencies departed from the normal smooth curve to show fairly rapid increases or decreases within the space of a few samples on the seriation charts. Loci of accelerated change at which a consistent change of greater than 5 percent in frequency occurred within 3 samples on the seriation charts were tabulated as change points.
The data for vessel forms supplied further information about the nature of culture change in ceramics. These data differed in some respects from that provided by the seriation of ceramic types. First, it was possible in some cases to determine points of introduction and disappearance. Reference to Charts 3 and 4 shows that some forms had continuous distributions with sharp cutoff points before or after which there were no—or only a few scattered—examples of the form. There were also abrupt changes in the frequencies in which introduction and disappearance occurred. Reference, in some cases, the determination point; had continuous distributions with sharp cutoff forms, there were also abrupt changes in the appearance. Since the level-by-level seriation of forms gave very erratic results, Charts 3 and 4 could not be used to determine change points, but the combined samples given in Charts 5 and 6 made it possible to place abrupt changes in frequency to within one-half a phase.

The final assignment of phase boundaries was made by considering the location of all points of ceramic change (introduction, disappearance, and change points) for both types and vessel forms. There were a number of clusters of points of change which could be used to divide the sequence into phases of approximately equal length. The center points of these clusters were chosen as phase boundaries, and are marked on the seriation charts. Table 2 presents a summary of the location of points of change in relation to the phase boundaries. A change that occurred within three samples on either side of a phase boundary was considered to be located at the boundary, and all other changes were considered to be within phases. This system of division meant that a minimum of 50 percent of the samples from each phase was considered to be within the full tradition of the phase, while up to 25 percent of the samples were at boundary at either end of the phase.

The points of ceramic change demonstrate a definite pattern of clustering at the points chosen as phase boundaries. Beginning at the earliest end of the seriated part of the sequence, the first cluster of changes to appear occurred at a point marking the change from Early Kan to Middle Kan when this long phase is divided into three subphases. This cluster of changes was not used as the basis for a phase boundary because the data failed to make its meaning entirely clear. The cluster appears at the point on the seriation charts where the data from Cerro Campanatón join the data from Rancho San Nicolás and Yerba Buena. Since Cerro Campanatón is located midway between the Highlands and the Grijalva Valley, it is possible that the ceramics from that site were regionally, rather than temporarily, different from those of Rancho San Nicolás and Yerba Buena. Without supporting evidence from other sites in the Highlands of ceramics similar to those of Cerro Campanatón, a definite conclusion that Cerro Campanatón ceramics were earlier than those from other sites did not seem justifiable. In spite of this reason for caution, I do feel that the ceramics from Cerro Campanatón are an early sample from a part of the Kan phase not encountered at the other sites. If the difference were regional, one would expect not only the frequency differences noted, but also the appearance at Cerro Campanatón of types and forms not native to the Central Highlands.

After the cluster of changes just discussed, the ceramic tradition of the remainder of the Kan phase was quite stable. At the end of the Kan phase and the beginning of the Tsah phase, there was a marked cluster of changes by which the transition between the quite different ceramics of the Kan and Tsah phases took place. Once the more characteristic elements of the Kan phase had been replaced by those of the Tsah phase, the ceramic tradition of the Chiapas Highlands began a long period of slow and gradual change. Almost no change was noted within the Tsah phase, and, although the Tsah-Yash boundary was marked by a cluster of seven changes, most of these were frequency changes in existing features which did not

<table>
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<th>Location in Sequence</th>
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<tr>
<td>Yash-Lain boundary</td>
<td>7</td>
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</table>
result in any radical alteration of the existing tradition. This fairly smooth transition between the Late Classic and Early Postclassic phases in the Chiapas Highlands is a point of considerable interest which will be discussed at length in the final section. At the end of the Yash phase, another cluster of changes marked the introduction of the ceramics of the Lum phase. Since only a few samples from San Gregorio attributable to the early part of the Lum phase could be placed on the seriation charts, these few samples have been referred to as “Transitional” on the charts to indicate that they are still so close to the Yash-Lum boundary that they cannot be considered representative of fully developed Lum ceramics. Although the number of changes at the Yash-Lum boundary was the same as that which marked the Tsah-Yash boundary, the transformation was in fact a more radical one. It was marked by the replacement of Yerba Buena Fine by the considerably different Huistan Hard, a change that was without parallel in the transition between the Tsah and Yash phases.

The data for the development of ceramics during the Lum phase were not sufficient to provide any definite conclusions. Although there were a number of samples available that dated from the Lum phase, most of these samples were from the western sector of the Highlands. By this phase, the divergence between the two sectors of the Highlands had increased to the point at which the western samples could not be adjusted to complete the seriation charts. On the basis of a single surface collection from immediately outside the boundary of the Central Highlands proper to the east, it seems likely that the trends of change indicated by the few early Lum levels at San Gregorio continued without serious disruption until the time of the Conquest. The Lum phase samples from the western Highlands were from contexts too lacking in stratigraphic control to indicate patterns of change in that region.

The ceramic data seem to indicate several periods of accelerated ceramic change which were used to define the boundaries between phases in the ceramic sequence in the Central Highlands of Chiapas. Before these clusters of changes are accepted as fact, however, some consideration should be given to the manner in which the nature of the deposits from which the ceramic samples were recovered might have distorted the results of analysis. Archeological data are rarely ideal, and a failure to estimate the results of incomplete or misleading data can lead to grave errors in interpretation.

The apparent history of individual ceramic features may be shifted toward either the gradual model or the abrupt model of change by various defects in the nature of the deposits from which material for analysis was obtained. Discontinuity of occupation is a major cause of shifts toward the abrupt model. Discontinuity of occupation may result in late points of introduction, early points of disappearance, and the appearance of abrupt changes which had no real basis in fact.

Major discontinuities within a single site or between two sites are easy to detect. The major discontinuity between the Sak and Kan phases in the present sequence was unmistakable, for the collections from the two phases had almost no elements in common. Short time or partial discontinuities create more of a problem for detection. As Ford (Phillips, Ford, and Griffin, 1951) has pointed out, refuse tends to accumulate unevenly in occupied areas. A location that received heavy refuse while there was a house located nearby may have received little or no debris after the house was abandoned, and then may have been subject to further heavy trash accumulations when another house was built in the vicinity. If the gap between the structures was a small one in time, the total ceramic picture provided by midden deposits in the location will correspond to the pattern given by a period of rapid change simply because part of the total time span was poorly represented. The danger of distortion of the ceramic results by partial discontinuities of this sort becomes greater the smaller the number of locations tested to obtain ceramic samples, for in the case of continuous but shifting locations of refuse dumps, the use of a large number of pits in different locations of a site increases the likelihood that the entire time range will be represented in the samples.

What seems to be an example of partial discontinuities in ceramic data can be illustrated by reference to Ekholm’s Huastec sequence (1944). The major excavation of a single large pit in deep deposits in Pánuco
gave results indicating sharp breaks between the ceramic periods. When, however, data from supplementary pits at El Prisco and Tancol are taken into account, the abruptness of the phase boundaries is decreased. The El Prisco ceramics provide data that indicate a more gentle transition between Periods 2 and 3, while the Tancol material provides a more gradual transition between Periods 5 and 6. (See Ekholm, 1944:36-66, 370-71.)

Aside from the discontinuity between the Sak and Kan phases and a possible slight discontinuity between the early and middle sections of the Kan phase, the Chiapas Highland data seem to be free from gaps, for there are none of the clusters of sharp changes between adjacent levels which indicate the presence of major discontinuity.

Shallow deposits, in which material collected as a single stratigraphic level contains ceramics representing a long period of refuse accumulation, also tend to distort the resulting impression of ceramic change. The effect of such distortion is to increase the apparent spans of persistence of elements and to give the appearance of contemporaneity to elements which may never have coexisted. If, for example, a standard stratigraphic level encompasses material covering a time span of 150 years, it could include the initial examples of a late type which appeared during the last 50 years of this interval and the last examples of an early type that was no longer produced after the first 50 years. Such types would then appear to overlap slightly even though they were, in actuality, separated by a gap of 50 years.

The frequency curve will be unpredictably affected by shallow deposits, with the direction of distortion depending upon the point at which the curve is cut by the samples. A gradual change might be made to appear abrupt if one sample included the peak frequency and the areas of high frequency on either side of it, while adjacent samples were obtained from lower frequency areas at the end of the curve. On the other hand, an abrupt change might be made to appear gradual if the samples straddle the boundary at which the change took place. On the whole, the larger the number of samples included, the stronger will be the possibility that the total effect will be to distort frequency curves toward the gradual model of ceramic change.

Distortion due to subsuming an undesirably long time span within each sample may be detected by reference to sealed deposits or to burials or caches that contain a number of vessels of different forms or types. Sealed deposits cannot contain ceramics which had not been introduced at the time of sealing, while burial and cache offerings provide evidence of the coexistence of features.

Burial and cache vessels were too few in quantity and too limited in types and forms represented to provide much information for the sequence of the Chiapas Highlands. Only two sealed deposits were encountered by the excavations. The sample found sealed within the wall in Pit 4 at Yerba Buena consisted almost entirely of Yerba Buena Fine and Santa Elena Red, and was completely lacking in Madronal Ware (Campana Red and Las Rosas White) and San Gregorio Coarse, both of which were found in all unsealed Tsah-phase deposits. This suggests that at the middle of the Tsah phase, the time from which the wall sample dates, there may have been a period after the disappearance of Madronal Ware but before the introduction of San Gregorio Coarse. If this were the case, enough distortion has occurred from the use of shallow unsealed deposits to give Madronal Ware an apparent persistence of at least half a phase too long and to give San Gregorio Coarse an apparent appearance at least half a phase too early, for the seriation chart indicates that both types spanned the Tsah phase.

The other sealed sample, from beneath a floor in Pit 15 at Rancho San Nicolás, gives data that tend to support the seriation chart. This sample, which contained a ceramic distribution typical of the middle of the Kan phase, contained a small amount of Yerba Buena Fine. This evidence suggests that the early appearances of small amounts of Yerba Buena Fine suggested by the seriation chart had basis in fact but is far from conclusive, for the date of construction of the floor that sealed this sample could have been later than the ceramics beneath it suggest.

In summary, it seems possible that the shallow deposits found in the ruins of the Chiapas Highlands might have tended to distort the impression of ceramic change in the direction of a gradual change model, with long spans of persistence of types and forms,
and a lack of abrupt change in frequencies. The histories of many of the ceramic types do present a pattern of gradual change. The data for vessel forms indicate, however, that this pattern is more likely a reflection of historical fact than a result of the nature of the deposits, for a number of forms show restricted distributions and abrupt changes in frequency. Since both type data and form data were obtained from the same samples, any defect of the deposits which would give a false impression of gradual change for the types would have created a similar impression for the forms.

Discontinuities and shallow deposits may also have a distorting effect upon the clustering of points of ceramic change and the consequent placing of phase boundaries. Both of these defects of deposits compress the data and make points of change appear to correspond, thus creating the impression of sharp phase boundaries. None of these situations would be expected to separate a cluster of changes that did occur together.

This consideration raises the question whether the change clusters upon which the phase boundaries of the Chiapas Highlands sequence are based may be an artifact of the nature of the deposits. The possibility that the cluster of changes that separated the Early Kan phase from the Middle Kan phase may have been due to a discontinuity between the occupation at Cerro Campanatón and occupations at other sites has already been mentioned, and was one of the primary factors influencing the decision that these changes should not be considered to mark a phase boundary. The Kan-Tsah and Tsah-Yash phase boundaries are spanned by several pits from both Yerba Buena and Rancho San Nicolás. This makes it most improbable that the clusters of changes that marked these two boundaries were the result of a discontinuity of occupation, for the discontinuities would have had to be site-wide and at an identical time at two sites to produce the results given by the seriation charts. That the cluster was due to a compression of the data resulting from shallow samples is also unlikely, for in other stratigraphic pits which do not show sharp changes, the samples and sample time-spans were similar to those of the pits that spanned the phase boundaries.

The cluster of changes separating the samples from the early part of the Lum phase from those of the Yash phase is not based upon such secure data. Since the transition between the two phases was sampled only on one of the two hills upon which the site of San Gregorio is located, the possibility that a slight discontinuity existed cannot be ruled out. Since, however, the Yash-Lum transition was repeated in two pits where both phases were represented, the evidence is slightly in favor of the reality of the change cluster.
THE CULTURAL ASPECT OF THE CERAMICS

Although all archeological data are cultural in the broadest sense of the term, it is useful to make a distinction between technological data dealing primarily with description and chronology, and the inferences about patterns of living that can be made from these data. The section following is basically technological and descriptive and will not try to infer anything about the role of ceramics in the life of the prehistoric inhabitants of the Chiapas Highlands. The present section, although admittedly conjectural, offers some hypotheses about the function of vessels and about the manufacture and distribution of the ceramics described in the following section.

The first cultural problem deals with the function of the pottery in the lives of the prehistoric inhabitants of the area. The great majority of the pottery encountered fits into a number of broad classes, to some of which quite specific functions can be attributed on the basis of shape limitations and comparative ethnographic data, while for others only tentative functions can be suggested. The major vessel classes are the following: 1, Fine-quality vessels. 2, Large-diameter storage bowls. 3, Broad-mouth jars for water storage. 4, Narrow-mouth jars for the transportation of water. 5, Comales. 6, Colanders. 7, Incensarios. A list of the specific vessel forms assigned to each of these functional classes is presented in Table 3.

For the first and largest class of pottery, the general term “fine-quality vessels” has been adopted. This class includes the better-made and better-finished pottery, which usually occurs in small bowl forms. The assignment of a specific function to the class is difficult, and, in fact, the class may have had more than a single function. Vaillant (1931:269) recognized the same general class of vessels in the Preclassic periods of the Valley of Mexico, and suggested that they may have been used in serving food. Although the possibility of this use exists, and a comparable usage is reported in modern Yucatan (R. Thompson, 1958:105-6), the number of vessels used in serving food in modern Indian villages of Mesoamerica is limited and would not seem to account for all of the fine vessels encountered among the archeological remains.

Fine vessels were also probably used in connection with ceremony and ritual. The majority of vessels encountered in burials and caches in the Chiapas Highlands were of

<table>
<thead>
<tr>
<th>TABLE 3: FUNCTIONAL CLASSES AND VESSEL FORMS</th>
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<tbody>
<tr>
<td>Forms</td>
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<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>1. Fine-quality vessels</td>
</tr>
<tr>
<td>Round-side bowl or dish</td>
</tr>
<tr>
<td>Polychrome outflaring-side dish</td>
</tr>
<tr>
<td>Lateral-ridge bowl</td>
</tr>
<tr>
<td>Deep, outcurving-side bowl</td>
</tr>
<tr>
<td>Small composite-silhouette bowl</td>
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<tr>
<td>Cylinder</td>
</tr>
<tr>
<td>Vertical-neck jar</td>
</tr>
<tr>
<td>Small outcurving-side dish</td>
</tr>
<tr>
<td>Small straight-side dish</td>
</tr>
<tr>
<td>2. Large-diameter storage bowls</td>
</tr>
<tr>
<td>Deep, outflaring-side bowl</td>
</tr>
<tr>
<td>Restricted-orifice fillet bowl</td>
</tr>
<tr>
<td>Open-mouth fillet bowl</td>
</tr>
<tr>
<td>Large-diameter restricted-orifice bowl</td>
</tr>
<tr>
<td>Large-diameter flat-lip bowl</td>
</tr>
<tr>
<td>Round-side bowl, large-diameter variant</td>
</tr>
<tr>
<td>Neckless jar</td>
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<tr>
<td>3. Broad-mouth jars for water storage</td>
</tr>
<tr>
<td>Wide-mouth jar</td>
</tr>
<tr>
<td>Flat-lip jar</td>
</tr>
<tr>
<td>Wide-mouth, coarse jar</td>
</tr>
<tr>
<td>Outcurving-neck, coarse jar</td>
</tr>
<tr>
<td>4. Small-mouth jars for water transportation</td>
</tr>
<tr>
<td>Tall outcurving-neck jar</td>
</tr>
<tr>
<td>Everted-lip jar</td>
</tr>
<tr>
<td>Vague-neck jar</td>
</tr>
<tr>
<td>5. Comal</td>
</tr>
<tr>
<td>Comal</td>
</tr>
<tr>
<td>6. Colander</td>
</tr>
<tr>
<td>Perforated jar</td>
</tr>
<tr>
<td>7. Incensarios</td>
</tr>
<tr>
<td>Frying-pan type</td>
</tr>
<tr>
<td>Round-side bowl type</td>
</tr>
</tbody>
</table>
this class. There are also representations of small bowls being used in offerings on a figure-painted vessel from Uaxactún (Smith, 1955: Fig. 72, b) and in the Bonampak murals (Ruppert, Thompson, and Proskouriakoff, 1955). The abundance of fine vessels in refuse from house mounds in Highland Chiapas seems to indicate that the vessels had both ritual and domestic functions.

The second class of vessels, large storage bowls, was an important element in the ceramic traditions of the Central Highlands, particularly during the Tsāh phase. The large size of the body and large diameter of the orifice indicate that these vessels would be well adapted to use for storage. Bowls of the same general size and shape are still used by the Tzeltal and Tzotzil inhabitants of the region. Similar forms in Yucatan are used as cooking pots and water basins (R. Thompson, 1958: 113, 117-8, Figs. 34, 36).

The separation of water-carrying jars from water-storage jars is based upon modern ethnographic data. Observation of jar forms and their use in Highland Chiapas and Highland Guatemala indicates such a separation, and Edwin Shook (personal communication) and Raymond Thompson (1958: 120-1, 123-4, Figs. 37-41) report that it holds true for Yucatan as well. Carrying jars have a small-diameter neck, which is tall or of medium height to prevent spilling, and a small enough capacity so that they can be carried when full. Water-storage vessels are of a much greater capacity and have a broader orifice to permit dipping the water from the vessel by means of some small container. The archeological data suggest that such a distinction between jar forms held true for all phases of the Central Highlands sequence, with the possible exception of the Sak phase for which the sample was too small to be indicative.

Comales (griddles) are still the standard utensils used in cooking tortillas in Mesoamerica, and, although pottery comales have been largely replaced by metal ones at present, the form remains the same and is quite unmistakable. Comales were rare in prehistoric Highland Chiapas, and it seems likely that some other object, perhaps a large stone, was used for this purpose.

Colanders are another type of vessel frequently found in archeological deposits, the use of which persists until the present. The function of these utensils among modern natives varies considerably. Among the inhabitants of Amatenango in the Chiapas Highlands, the vessels are used to sift temper as it is being added to the clay in the production of the paste for pottery making. In Highland Guatemala, such vessels are used to rinse corn after it has been soaked in lime to soften it for the preparation of tortillas, and are sometimes used in connection with ritual offerings (Ricketson and Ricketson, 1937: 253). Perforated vessels of colander type occurred in the Chiapas Highlands only during the Yash and Lum phases, but the specific use to which they were put cannot be stated.

Incensarios are the only vessel class for which a solely ceremonial function can be indicated. The use of incensarios, of both simple and highly ornamented types, was very common in prehistoric Mesoamerica, and continues to be a part of Indian custom at the present. Although only two incensario types could be identified in the ceramic remains from Highland Chiapas, there is a possibility that some of the simple bowl forms might also have been put to this use.

The failure to include cooking pots among the functional classes of vessels does not indicate any doubt that such vessels existed in the prehistoric Highlands. The omission is due to the fact that it was impossible to determine which specific vessel forms might have belonged to this class. From a consideration of modern ethnographic data, it seems likely that smaller examples of either large-diameter bowls or wide-mouth bowls might have served this function.

An attempt was made, using the functional assignments derived for vessel classes, to determine whether the archeological data indicated any differentiation of ceramic inventory between ceremonial and domestic contexts in the Chiapas Highlands. It was assumed in this comparison that vessel fragments found on house terraces or from the terraces immediately below them was presumed to have had an origin connected with activity in the ceremonial centers. Fill samples and samples from deposits whose location left doubt as to their origin
were not considered. In spite of the fact that pottery from ceremonial contexts was compared with pottery from domestic contexts for all phases of the sequence, there are no clear indications of any difference in either the kind or frequency of vessels represented in the two contexts. Perhaps these results should not be considered surprising for an area in which there was so little evidence for an elaborate ceremonial organization, for even in the far more complex society of the Early Classic Maya Lowlands, Gifford and Smith (n.d.) feel that there is little difference between the ceramic inventory found in ceremonial centers and that found in house-mounds.

A single instance of a specialized ceramic inventory from a ceremonial location occurred at the late Late-Phase site of La Hermita. Here, a very abundant deposit of sherds at the base of the single small pyramid of the site produced an extremely high concentration of simple incensarios, blackened by the soot of offering fires. This case does not shed much new light upon the ceremonial use of pottery, for the offering of incense upon the steps of churches and in other places of ceremonial importance is still a common practice among the indigenes of Guatemala.

In summary, the archeological data offered little confirmation of the functions suggested for major vessel classes on the basis of shape limitations and ethnographic data. Nevertheless, the form classes in the archeological ceramics from the Chiapas Highlands compared well with form classes still being produced by native potters, and it seems not unlikely that there may have been a continuity in function as well. The most common form classes showed great stability in the ceramic history of the region, all classes being represented in each period for which the ceramic inventory can be considered to be completely known. In spite of the fact that the specific forms within a single class varied through time, certain rules of basic shape and dimensions were adhered to with a regularity that suggests that they had a basis in vessel function.

**Modern Native Pottery Production**

The research reported here also made possible some tentative conclusions about the pattern of manufacture and distribution of prehistoric ceramics in the Chiapas Highlands. Before describing the archeological ceramics, it might be well to review comparable data for the modern Indian population, for there is still a flourishing ceramic industry based upon native Mesoamerican techniques of manufacture. There are only two major centers of pottery production in the Highlands at the present time, Amatenango and Chamula. The potters of Amatenango specialize in the production of three-handled cántaros used for carrying water. On several occasions when I counted vessels being fired in the streets of the village, more than 80 percent of the vessels were cántaros. Admittedly an inadequate sampling of production, this estimate is still probably representative. In addition to cántaros, tinajas for water storage, various large and small bowls with restricted orifice, colanders, cooking pots, incensarios, and comales are produced for sale to Indians of the region, and a number of specialty items are turned out for sale to tourists. Amatenango vessels, especially cántaros, are in great demand, and can be found in almost any part of the Highlands, although the distribution is centered in the southern section along the Pan-American Highway.

The majority of the vessels from Amatenango are sold wholesale to Ladino merchants in Teopisca, San Cristóbal Las Casas and Comitán. They are then retailed to Indians who visit these towns for the market and to make purchases. When the pottery is to be sold in one of the aforementioned towns, it is transported to the town by Amatenangeros either by bus or truck. Another mechanism of distribution is by Indians of Chamula and Zinacantan who buy large supplies of the vessels to be distributed on trading trips through the more remote parts of the Highlands. Amatenangeros do not seem to engage in trips to sell their pottery retail, although they will sometimes take a load of pottery for retail sale at fiesta markets in neighboring towns.

Much less is known about the pottery industry of Chamula. Both the ceramic type and the vessel forms of Chamula differ from those of Amatenango and, on the whole, the Chamula pottery appears to be considerably more crude. Chamula pottery is never en-
countered in the southern part of the High­
lands where there is easy access to the towns
where Amatenango pottery is sold. It in­
creases in frequency with remoteness from
the Panamerican Highway, although too little
is known about the outlying sections of the
Highlands to make it possible to be specific
about distribution. Chamula pottery is not
sold by any of the stores in the towns where
Amatenango pottery is handled, and it seems
likely that most of the distribution is hand­
lined by the Indians themselves.

Tenango is a third pottery-making center
of the Chiapas Highlands which must be
mentioned, but about which almost no in­
formation can be given. This village, located
in the northern part of the Highlands, had a
large pottery industry at the time of the visit
of Blom and LaFarge (1926). In a year of
field work in the southern half of the High­
lands, I saw no examples of Tenango pottery
being used by the Indian population, but the
pottery is still being produced, and may well
be of importance in the far northern and
northeastern fringes of the area; however, al­
most no ethnographic information on this
region is available.

Aside from the specialized centers of pot­
ttery manufacture, there are frequently one or
more women in the larger Indian or Indian­
Ladino towns who make a few items, es­
pecially comales and cooking pots, for local
sale. The volume of this production is small,
and the producers make no effort to enter the
field of decorated and better-finished items
such as Amatenango cántaros.

Antiquity of Village Specialization

Although the pattern of Indian pottery
production has undoubtedly been influenced
by the increasingladinization of the area and
by the competition of low-priced glazed pot­
ttery and metal bowls and dishes, there seems
to be a good possibility that the specialized
centers of production are survivals from pre­
hispanic times. Red-on-buff pottery made in
Amatenango today resembles the Late Post­
classic type Huistán Hard in use of matte
red-on-buff decoration, general appearance of
paste and temper, and the fact that the dom­
inant vessel form in both types is a water­
carrying jar with handles. Specific design
motifs and vessel forms differ, however. No

conclusion can be drawn from the similarities
because of the lack of information concern­
ing the immediately pre-conquest history of
Huistán Hard, and the failure to determine
the Colonial ceramic complex of the High­
lands.

On the basis of the ceramic analysis, it
has been tentatively concluded that there
were villages specializing in the production of
pottery in the Chiapas Highlands from the
beginning of the Classic period until the
present. No concrete data to support this
conclusion could be produced without an
impossibly costly and time-consuming tech­
nological study of large quantities of ceram­
ics, but the "feel" for the pottery, established
by working with large numbers of sherds
from several sites, gave a distinct impression
that all of the examples pertaining to each
of a number of varieties were so nearly ident­
ical that the best assumption is that they
were produced at a single location.

The type Yerba Buena Fine might be dis­
cussed as an example. Three varieties of the
type are distinguished, the Yerba Buena, San
Nicolás, and San Cristóbal varieties. The
Yerba Buena and San Nicolás varieties have
the same paste and temper and an equivalent
regional distribution and were probably pro­
duced at a single location, while the San
Cristóbal variety, with different paste and
temper, had a different area of highest fre­
quency and probably had a separate source.
The Yerba Buena variety occurred in medium
to large quantities in the three excavated sites
of Classic or Early Postclassic date in the
eastern sector of the Highlands, and as a
minor variety at the two sites of this date in
the San Cristóbal Valley. In addition, samples
of the variety were noted in surface collec­
tions from more than twenty sites in the Cen­
tral Highlands and about half a dozen sites
in the Grijalva Valley (NWAF collections).
Samples from the different sites are so simi­
lar in paste, temper, and color of slip—the
features that would be most likely to differ in
pottery produced in several different places—
that it is difficult to imagine that there could
have been more than a single center of pro­
duction. Samples of the Yerba Buena variety
that occurred in the collections from Cerro
Ecatépec could be distinguished without
great difficulty from those of the San Cristó­
bal variety, the dominant variety at the site.
Similarly, the San Cristóbal variety was recognized in preliminary sorting of the collections from Yerba Buena and Rancho San Nicolás, where it occurred in small amounts with the other two varieties. It was not tabulated as a separate variety for these sites because, until its western center of distribution was revealed by excavations at Cerro Ecátepec in the following year, no meaning could be attached to the ceramic differences from the Yerba Buena variety.

It seems likely that the following types and varieties were produced in villages specializing in pottery manufacture: Campana Red, Las Rosas White, Soyatitán Polychrome, Yerba Buena Fine (all three varieties), Ixtapa Fine: Ixtapa Variety, Huistán Hard, La Hermita Coarse. It is not necessarily true that each of these types and varieties was made at a different village, for it is possible that a single center may have produced more than one type of pottery. In modern Amatenango, two kinds of pottery are produced that, in an archeological sample, would be classified as separate types. One is a harder, slipped pottery with medium tempering, while the other is a softer, unslipped pottery with heavy calcite tempering. The reason given by informants for the different classes of pottery is that the heavier tempering must be added to all vessels intended for use in the fire, while vessels for other uses are made of the more attractive, slipped pottery.

For most of the Highland Chiapas types and varieties not listed as products of a specialized industry, the lack of inclusion is due to too limited a sample to give assurance of the pattern of manufacture. Santa Elena Red is not included because it is too undistinctive and too widely variant to make a definite conclusion possible. San Gregorio Coarse, on the other hand, is a type that was probably made in a number of locations, perhaps even locally in each village. Although paste, temper, and color are too crude and variable to permit the separation of varieties, the vessel forms in which the pottery occurs differ at each site, a pattern that does not occur for any of the types considered to be the products of a specialized industry. The manufacture of San Gregorio Coarse perhaps paralleled the modern situation in which a number of villages have potters who make a few of the coarser vessels for local use while the finer vessels are brought in from specialized centers.

The division of the Central Highlands between the two diverging ceramic traditions of the Lum phase is roughly similar to the division between the areas of maximum distribution of ceramics from Amatenango and Chamula at present. The Panamerican Highway and the function of San Cristóbal as a trading center have resulted in a greater spread of Amatenango ceramics than was enjoyed by ceramics from the eastern sector during the Late Postclassic period, but when allowance is made for the results of modern communications systems the parallel between the Lum phase and modern distributions becomes closer.

The suggestion that village specialization in ceramic manufacture may have an antiquity of more than one thousand years in the Chiapas Highlands merits further study. Navarrete (personal communication) has arrived at the hypothesis that most of the Postclassic ceramics of the Guatemala Highlands were also the result of specialized production, and has managed to trace the sources of some prehistoric types to pottery centers which still exist today or are known to have existed in the Colonial period. In the Classic period of the Petén, the situation for domestic pottery of monochrome red varieties seems to have been different, for the domestic pottery from Tikal differs considerably in paste and firing characteristics from that of Uaxactún, although there is an identity of vessel forms. The more highly decorated types of the Petén, on the other hand, were probably made in specialized centers, although the preservation of decorated types at Tikal has been too poor to allow a careful comparison with Uaxactún ceramics. A full-scale technological analysis of both ceramics and native clays from some of the better-known regions of Mesoamerica seems likely to be a source of important data about prehistoric economic patterns.
CERAMIC DESCRIPTION

The goal of ceramic classification in this research was to separate recurring combinations of modes, each of which differs enough from other combinations so that there is little doubt that they represent distinct typological units. Before presenting the description of the types and forms defined by the analysis, a few comments must be made about sorting and classification procedures. Since an effort was made to consider correlations between all observable modes, the order of sorting by different modes would not have affected the final results, for the final correlation of all modes would have indicated the most frequently recurring combinations. In practice, however, it was much easier to sort first on the basis of the attribute which most clearly and consistently differs among the various types. The use of such an attribute means that most types were sorted out at once, thus minimizing the number of resortings.

Criteria for Ceramic Types

Since the early work of Vaillant in the Valley of Mexico (1930, 1931), surface color and decoration have traditionally been the attributes most intensively studied and most frequently used to differentiate types in ceramic analysis. When these features show considerable variety, they are ideal as a basis for primary classification. The first attempt to separate provisional varieties of Central Highlands ceramics was based upon surface treatment. It soon became evident that surface treatment did not vary enough in the ceramics of that area to be of much use in the separation of varieties. Almost all of the ceramics were either plain or red-slipped. A few highly distinctive types were exceptions to this rule, but the separation of these rare types left the bulk of the collections unsorted, with only subtle variations of color to serve as an aid in further subdivision.

Eventually, after an intensive study of a few key lots which indicated temporal differences, paste and temper proved to be the best basis for separating the types. Pastes and tempers from the various types were different enough so that the sherds could be separated by inspection, and the use of these characteristics permitted the inclusion of both rim and body sherds, even when they were small or badly weathered. By the time the analysis of samples gathered during the second field season was undertaken, all of the sorting was being done first on the basis of paste and temper, and subdivisions were made using other attributes. The use of paste and temper as primary sorting characteristics has some precedents in Mesoamerican ceramic classification. Drucker (1943) used these features as primary type diagnostics for the ceramics from Tres Zapotes, and Brainerd (1958) used them in the separation of Yucatecan Slate Wares. Shepard's technological study of ceramics from San José (Thompson, 1939) and Benque Viejo (Thompson, 1940) showed variations in temper through time, as did Rands' analysis of the Palenque collections (Rands, personal communication). In these last three instances, paste and temper were used as secondary criteria in sequences based largely upon vessel forms.

Since paste and temper were the dominant variables in the classification of types for Highland Chiapas pottery, the subdivision and naming of the types does not always follow the common practice which makes surface treatment an invariable feature of type names (Phillips and Gifford, n.d.; Smith, Willey, and Gifford, 1960). It is hoped, however, that the basic principle that types should represent attribute clusters has been maintained throughout the classification.

Form Classification

The classification of vessel form was done as a separate procedure from type classification, and is presented separately in this report. The reason for the separation was twofold. First, forms tended to crosscut types, and even some of the more characteristic forms were produced in more than a single ceramic type. Second, even forms that were restricted to a single ceramic type frequently showed a more restricted temporal distribu-
tation than did the type. If the forms had been considered merely modes of the ceramic types, the unity of multiple-type forms would not have been apparent, and the temporal significance of the forms would have been more difficult to comprehend, or, with lack of care, might have been lost altogether. It must be remembered that whole vessels were the object of prehistoric pottery making. For highly decorated types, the decoration may have been of equal or even of more importance to the user than the forms of the vessels, but in pottery intended for domestic purpose vessel forms and dimensions must have been the primary consideration for utility. Any system of classification that relegates form to a status of dependence upon decorative considerations can easily ignore much information of cultural importance.

Like the ceramic type, the vessel form is based upon a cluster of modes that consistently occurred together. Unfortunately, due to the fragmentary condition of the pottery, vessel size and proportions could not be taken into account in the form classification to the degree that would have been desirable. The probable importance of size and proportion in the categorization of vessels was suggested by brief ethnographic work that I did in the Tzeltal pottery-making village of Amatenango. In an attempt to elicit the classification system by which the potters of Amatenango separated vessels of different forms, pottery inventories were taken in several households, asking the name given to each vessel. When two vessels of somewhat similar shapes were given different names, the difference between the vessels was asked. The initial reply was usually phrased in terms of the ideal use for which the vessels were intended, and the explanation was enlarged (either voluntarily or upon further questioning) to stress some difference of size or proportion. As an example, a cántaro (Tzeltal k'ip) was said to differ from a tinaja (Tzeltal tinasha) because the cántaro was used for carrying water while the tinaja was used for storing water. The visible difference indicated between the two vessels was that the tinaja had a wider orifice than did the cántaro. This evidence suggests that a classification of vessel form aimed at recreating the significance of the vessels to their prehistoric users should stress characteristics of size and proportion. In the present classification, this ideal was not completely achieved because the lack of large sherd sections made measurements difficult for a number of the vessel classes.

In describing the various forms, the terminology used by Smith in the Uaxactún report (1955:4) has been followed. A brief summary of the major form classes used by Smith will be presented here for reference:

- **Bowl**: a vessel with unrestricted orifice whose height may be equal to but not less than one-third its diameter.
- **Dish**: a vessel with unrestricted orifice, whose height is between one-third and one-fifth its diameter.
- **Plate**: a vessel with unrestricted orifice, whose height is less than one-fifth its diameter.

For some vessel classes that did not have any complete sections the most probable height had to be estimated from base fragments and wall curvature.

All measurements for vessel forms are given in centimeters. For each dimension for which a series of vessels could be measured, both the range and median are given, except for a few cases in which the sample size was too small and the measurements too erratic to provide a median that could be accepted as representative of the form class. The median, rather than the average, of measurements has been used to avoid distortion by the inclusion of a few exceptionally large or exceptionally small examples.

**The Types and Forms**

The types and forms are presented according to phase, with each type or form described under the phase during which it reached peak frequencies in the Central Highlands. Where there was significant comparative material either from the archeological literature or from collections inspected in museums, such comparisons are discussed and references given. Ceramic types of the Central Highlands, however, frequently proved of little value for comparative purposes. Plain and red-slipped types accounted for the majority of sherds in collections for all phases, and these two classes of surface treatment were so common in prehistoric Mesoamerican ceramics that they cannot be considered meaningful in themselves. The same thing is true of the simpler vessel forms, for such
forms as round-side bowls were also so widely distributed that they are without chronological or areal significance. On the whole, however, vessel forms provided much more comparative data than did the ceramic types.

The great extent to which the comparative data draw upon examples from the Maya area reflects a true condition, not a lack of research nor any presupposition that the ceramics of the Chiapas Highlands should be related to those of the Maya region. The literature on ceramics from Mexican sites, with the exception of sites in northern Mexico which lie outside of the boundaries of Mesoamerica, was as carefully checked as was the literature on sites from the Maya area, and I had the opportunity to review general collections in the Museo Nacional of Mexico in search of similarities to the ceramics of the Chiapas Highlands. Examples of comparative interest that were seen by me in museums, but which have no literature reference are referred to the appropriate museums. Abbreviations for these collections are explained in the first instance in which they appear in the descriptive section. Forms are listed in order of frequency.

See adjacent "Key to Vessel Colors" for colors of vessels depicted in the Figures. Unless noted otherwise, all illustrations are at one to four scale.

SAK PHASE

CERAMIC TYPES

Mercedes Red: Mercedes Variety

*Paste:* Texture medium to fine. Color commonly tan with orange cast, but frequently brown to reddish. Inclusions: small to medium amounts of finely ground, non-calcareous rock, perhaps quartz sand; noticeable numbers of fairly large hematite particles which were probably an accidental inclusion in the clay.

*Surface Treatment:* Fairly thick, polished red slip, somewhat waxy to the touch. Grooving and incising occur, but are very rare.

*Firing:* Pottery is fairly soft with 20 percent of the sherds showing dark cores.

*Forms:* 1) Widely everted rim bowls. 2) Round-side bowls. 3) Large, straight-side bowls. 4) Medium-neck jars. 5) Short-neck jars.

*Chronological Position:* Occurs only in the Sak phase samples.

Teopisca White: Teopisca Variety

*Paste:* Texture medium to fine. Inclusions: large amounts of medium-size particles of a white, crystalline material. Sample too small to comment upon color range.

*Surface Finish:* White slip, comparable in thickness and polish to the red slip of Mercedes Red.

*Firing:* Sample too small for comment.

*Forms:* The only rim sherd encountered in the excavations was from a widely everted rim bowl.

*Chronological Position:* Occurs only in the Sak phase samples.

With a larger sample, it seems likely that Mercedes Red and Teopisca White would prove to belong to a single ware. The two types are directly related in slip characteristics and vessel forms to Late Preclassic types from the depression of the Grijalva River (Navarrete, 1959; Lowe, 1959; author's inspection of Chiapa de Corzo collections). These same features are also found in types belonging to Paso Caballo Waxy Ware (Smith and Gifford, n.d.), which includes Chicanel Waxy Ware from Uaxactún (Smith, 1955) and numerous as yet unnamed ceramic units from the Late Preclassic of the Petén. Their tendency to waxiness and the Chicanel-like vessel forms in which they were produced...
leave little doubt that Mercedes Red and Teopisca White participated in the widespread Chicanel influence of Late Preclassic date.

Xakiltik Unslipped: Xakiltik Variety

*Paste:* Generally similar to the paste of Mercedes Red. Color varies more widely and tends more to darker shades of brown and gray. Temper more abundant and less finely ground than in Mercedes Red.

*Surface Treatment:* Unslipped. One grooved sherd is the only example of decoration.

*Firing:* Soft, with 30 percent dark cores.

*Forms:* 1) Short-neck jars. 2) Large, restricted-orifice bowls. 3) Shallow, round-side bowls. 4) Shallow, straight-side bowls.

*Chronological Position:* Occurs only in the Sak phase samples.

San Sebastián Fine Red: San Sebastián Variety

*Paste:* Texture medium fine to fine. Color usually buff to tan. Inclusions: small to medium amounts of very finely ground material of undetermined nature.

*Surface Treatment:* Slip of medium thickness, red where oxidized, but more frequently smudged to red-brown or brown. Incising and grooving are far more frequent than in any other type found during the investigation. All four rim sherds encountered are either incised or grooved. Since body sherds are very small, it is impossible to estimate the frequency with which whole vessels were decorated in this manner, but it must have been very high. Incised designs seem to have been simple rectilinear patterns.

*Firing:* All of the 35 sherds of this type show large dark cores. The pottery is soft, and appears to have been fired at a low temperature with a limited supply of oxygen.

*Forms:* All four rim sherds are from small bowls, with round, straight, or outcurving sides.

*Chronological Position:* Predominantly Sak phase, but one sherd of San Sebastián Fine Red was recovered from an early Kan phase deposit at Cerro Campanatón.

*Comparative Data:* San Sebastián Fine Red or a related variety probably occurs in the Grijalva Valley, for similar incised bowl forms are illustrated by Lowe (1959) among sherds from the Late Preclassic sites of Paso de la Vega (Fig. 43A) and Laguna Dolores (Fig. 53B).

**SAK-PHASE VESSEL FORMS**

**Widely Everted Rim Vessel (Fig. 16, b, c)**

*Form:* Base unknown; side straight or out-curving; orientation of side outflaring; rim widely everted; often with a slight shelf at the juncture of rim and side; lip rounded or pointed.

*Dimensions:* The sherds in the sample pertaining to the Sak phase were too small to provide measurements of dimensions either for this form or for the other Sak forms that follow. From the degree of curvature of the rim, however, it was possible to estimate that widely everted rim bowls were always of large diameter (in excess of 25 cm.).

*Decoration:* Unslipped; red or white slipped, both interior and exterior.

*Types:* Mercedes Red, Teopisca White, Xakiltik Unslipped.

*Chronological Position:* This form occurs only in samples from the Sak phase.

*Comparative Data:* Vessels of this form, some of them identical with examples from the Central Highlands, were common during the Late Preclassic period in the Grijalva Depression (Lowe, 1959: Fig. 43, a, all of top row, fourth sherd from left in third row; Fig. 53, a, first and second sherds from left in top row, all of second and third rows; Fig. 53, b, third sherd from left in top row, all of second row; Navarrete, 1959: Fig. 5, h-k, m, p). Similar forms are illustrated by Lowe (1959: Fig. 58, a, first sherd from left in top row, first three sherds from left in second row) from Izapa on the Pacific Coast of Chiapas. Bowls of approximately the same form were a characteristic feature of Late Preclassic ceramic complexes in the Maya Low-
lands. They occur in the Chichanél phase at Uaxactún (Smith, 1955: Figs. 16, c, 1-7; 70, a, 33; 75, a, 3), in San José I (Thompson 1939: Figs. 24, a-c, k, a, p, r; 26, b, c), in the Copan Archaic (Longyear, 1952: Fig. 50, a-c) and in the Formative of Yucatan (Brainerd, 1958: Fig 5, o). There is little doubt that this Sak-phase form was part of a widespread Late Preclassic tradition.

**Round-Side Bowl or Dish (Fig. 16, a)**

*Form:* Base flat; some examples were probably rounded; side rounded; orientation of side unrestricted to slightly restricted orifice; rim direct; lip rounded or pointed.

*Dimensions:* Generally small diameter, probably shallow.

*Decoration:* Unslipped; red-slipped interior and exterior; examples in San Sebastián Fine Red incised or grooved.


*Chronological Position:* Simple, round-side bowls occur in all phases of the Chiapas Highlands sequence.

**Flaring-Side Bowl**

*Form:* Base unknown; side straight; orientation of side outflaring; rim direct; lip rounded.

*Dimensions:* The bowls seem to have been of large diameter.

*Decoration:* Unslipped; red-slipped interior and exterior.

*Types:* Xakiltik Unslipped; Mercedes Red.

*Chronological Position:* Simple neckless jars occur in all phases of the Highland sequence.

**Neckless Jar**

*Form:* Neck-body juncture well defined but rounded; neck outcurving; orientation of neck slightly outflaring; rim direct; lip rounded.

*Dimensions:* The neck is very short to short with variable diameter.

*Decoration:* Unslipped.

*Types:* Xakiltik Unslipped.

*Chronological Position:* Although a few jars with short necks occurred in later parts of the sequence, only during the Sak phase were unslipped, short-neck jars the dominant jar form.

**Comparative Data:** This is a simple form without highly distinctive features, which could be roughly duplicated by samples from many ceramic complexes throughout Mesoamerica. There was, however, a general pattern in the development of jars in the Maya area in which jars with short necks predominated in the Late Preclassic period to be followed by jars with much taller necks during the Classic periods. This was true at Uaxactún (Smith, 1955: Figs. 16, a, b, 70, a, 3-12), at Tikal (Culbert, n.d.), at San José (Thompson, 1939: Fig. 22), and at Copan (Longyear, 1952: Fig. 30, a-h, m, n). This was the earliest of several instances in which general patterns of development of vessel forms for the Chiapas Highlands paralleled those of the Maya Lowlands.

**Medium-High-Neck Jar (Fig. 16, d)**

*Form:* Neck-shoulder juncture well defined; neck outcurving; orientation of neck outflaring; rim direct; lip rounded.

*Dimensions:* Diameter medium; neck height medium.

*Decoration:* Red-slipped interior and exterior of neck.

*Types:* Mercedes Red.

*Chronological Position:* Comparable to jar forms that occur in all later phases, this form is rare during the Sak phase.

**KAN PHASE**

**CERAMIC TYPES**

Campana Red: Campana Variety

*Paste:* Texture medium. Color most frequently brick red, but with some examples
tan or brown. Inclusions: medium amounts of finely ground material including both hard and soft white particles, fairly large lumps of hematite, occasional golden mica.

Surface Treatment: Medium thick red slip, with color varying sometimes toward orange or pink. Slight polish. Incising rare.

Firing: Pottery is fairly soft with about 20 per cent of the sherds showing dark cores.

Forms: 1) Round-side bowls. 2) Deep, outflaring-side bowls. 3) Lateral-ridge bowls with composite silhouette. 4) Outcurving-side bowls. 5) Small-mouth jars.

Chronological Position: The highest frequency of this type (about 40 per cent of the total sherds) occurs in the earliest Kan-phase samples recovered. Thereafter, Campana Red decreases steadily in frequency. It is present in about half of the Tzash-phase samples, and occurs rarely, perhaps due to mixing, in samples from the Yash phase.

Las Rosas White: Las Rosas Variety

Paste: Identical to that of Campana Red.

Surface Treatment: White slip of medium thickness. Color varies from white into cream and pink. Some vessels have decoration in black over white slip (Fig. 17). The black is always in the form of horizontal bands and dots near the rim of the vessel. Slight polish. Incising rare.

Firing: Comparable to that of Campana Red.

Forms: 1) Deep, outflaring-side bowls. 2) Round-side bowls. 3) Small-mouth jars.

Chronological Position: Most frequent in the earliest part of the Kan phase, rare in the later part of that phase, and completely absent during the Tzash phase.

Comparative Data: White-slipped pottery was comparatively rare in the Maya area during the Early Classic period. It does occur in the trough of the Grijalva River at the site of Santa Cruz (Sanders, 1961, and my inspection of the Santa Cruz collections), but the Santa Cruz white-slipped type is very unlike Las Rosas White. In the Central Maya Lowlands, there were neither monochrome white nor black on white types during the Early Classic at Laxactán (Smith, 1955). In general surface treatment, Las Rosas White is more similar to Teopica White from the Sak phase in the Chiapas Highlands and to Late Preclassic types from the Grijalva Valley (Lowe, 1959) and the Lowland Maya area (Smith and Gifford, n.d.) than to any known types dating from the Early Classic. Vessel forms of Las Rosas White, however, differ from the forms of Late Preclassic white types.

Comments: Since Las Rosas White is restricted entirely to the Kan phase, and presents a characteristic combination of surface color and vessel forms, this type is a good chronological marker for occupation dating to that phase.

Madronal Ware

Since Campana Red and Las Rosas White were obviously made from the same paste, the two types have been grouped as a single ware, Madronal Ware. It was impossible to attribute badly weathered sherds to one or another of the two types, but such sherds could easily be identified as Madronal Ware on the basis of paste and temper characteristics. For this reason the ware, rather than the separate types, was used in tabulation and on the seriation charts.

Santa Elena Red: Santa Elena Variety

This type consisted of a heterogeneous collection of sherds that showed greater variety in almost all characteristics than did the sherds sorted into any other of the Central Highland types. It was a residual category to the extent that undistinctive sherds tended to be considered of this type. Since an "unclassified" category was used in sorting, however, the sherds considered to be Santa Elena shared a common, if rather broad, tradition of production and finish. It seems likely that with technical analysis of paste and temper the type could be divided into several well-defined varieties, but attempts to make such a subdivision on the basis of visually observable attributes gave such inconsistent results.
that it was preferable to leave the type as a
single variety for the purposes of this report.

*Paste:* Texture fine to coarse. Color tan,
brown or brick. Inclusions: small to medium
amounts of fine to medium-size particles
among which a translucent material, perhaps
sand, predominates.

*Surface Treatment:* Slip of medium thick­ness with low to medium polish. The slip
color varied slightly through time. During
the Kan phase, dark red, sometimes varying
to lighter shades of red, predominated. In
the succeeding Tsah phase and thereafter,
red orange was the most common slip color.
Some vessels were left unslipped during the
Kan phase; these were usually made of a
well-smoothed buff paste.

*Firing:* The hardness of Santa Elena Red
varies with vessel form. Coarse jars are soft,
while thinner, better-finished forms are of
medium hardness. Of the total sample, 30 to
40 per cent of the sherds have dark cores.
This figure is slightly higher for coarser ves­
sels, and lower for finer vessels.

*Forms:* 1) Round-side bowls. 2) Outcurv­
ing-side dishes. 3) Straight-side dishes. 4)
Open mouth, fillet bowls (Tsah phase). 5)
Wide-mouth jars. 6) Tall, outcurving-neck jars (Kan
phase). 7) Vertical-neck jars. 8) Small-mouth
jars. 9) Comales (rare). 10) Censers (rare).

*Chronological Position:* Santa Elena Red
was the most common type in the Central
Highlands throughout the Kan phase and
through most of the Tsah phase. It reached
peak frequencies of 50 to 70 per cent of total
sherds during the middle and late parts of
the Kan phase. It declined slightly in fre­
quency during the Tsah phase, but still aver­
aged better than 25 per cent of the ceramics
at the end of that phase. Santa Elena Red con­
tinued to decline during the Yash phase, and
was only sporadically present during the
Lum phase.

*Sovatitan Polychrome: Sovatitan Variety*
(Fig. 18)

*Paste:* Texture fine. Color buff; very rare
examples are brown or gray. The only visible
inclusions are scattered large particles of soft
volcanic ash.

*Surface Treatment:* The base color of the
polychrome is orange, although a few ex­
amples may have the buff of the base clay
as a background color. Designs were added
over the base color in dark red and black.
The inside of the vessels is usually entirely
orange except for a band of dark red at the
lip. On the outside, both lip and base are en­
circled by a wide band of dark red. The red
was also used to divide the exterior of the
vessel into panels upon which designs were
painted in dark red. Black was used as nar­
row lines to outline the panels and designs,
and, in a few instances, was used for the
designs themselves. The latter seem to be
seminaturalistic, but not enough large frag­
ments were preserved to determine what was
portrayed.

*Firing:* Although the pottery is soft, only
about 10 per cent of the sherds show dark
cores.

*Forms:* 1) Better than 90 per cent of the
rim sherds are from flat-bottom dishes with
straight or slightly outcurved, outflaring sides.
2) Round-side bowls.
Chronological Position: Encountered only in samples dating to the early and middle parts of the Kan phase.

Comparative Data: Soyatián Polychrome is clearly related to, and perhaps identical with, Santa Cruz Polychrome from the site of Santa Cruz in the Grijalva Valley (Sanders, 1961). A polychrome type that was made in the same vessel forms and utilized the same colors is a part of the Protodassic ceramic inventory at Chiapa de Corzo (Warren, personal communication), but the Chiapa de Corzo type has a different paste and temper. The type is not closely related to any known types from the Central Highlands. The color scheme and arrangement of decoration is vaguely paralleled by decoration on basal-flange bowls from Tzakol 2 and 3 at Uaxactún (Smith, 1955; Figs. 26-28), but similar vessel forms did not become important at Uaxactún until Tepeu 2.

Comments: Soyatián Polychrome is so unlike other Central Highland types and was so clearly restricted in time that, where it occurs, it is perfectly diagnostic of Kan-phase occupation. Distribution of the type in the Highlands was not uniform. The type was common during the Kan phase at Rancho San Nicolas, but rare at Yerba Buena. Because of its uneven distribution and lack of relationship to other Highland types, it seems likely that Soyatián Polychrome was imported into the Highlands from some neighboring region, probably the Central Depression.

Skapin Red: Skapin Variety

Paste: Texture fine to very fine. Color varies between tan, orange-tan, and brown. Inclusions are very finely ground and can be detected only because they reflect light.

Surface Treatment: The thin slip is usually red-orange in color, but is red-brown on smudged specimens. A few examples have curved lines in dark red painted over the red-orange slip.

Firing: The pottery is soft to medium hard. About 65 per cent of the sherds have dark cores.


Chronological Position: Occurs in small amounts at the end of the Kan phase and the beginning of the Tzal phase.
restricted orifice; rim everted upward and backward to give the appearance of a short neck; lip pointed.

**Dimensions:** Diameter 12-30, median 20.

**Decoration:** Red slipped outside, rare examples unslipped.

**Types:** Santa Elena Red, Yerba Buena Fine, Campana Red (rare), San Gregorio Coarse (rare, Tsah and Yash phases).

**Chronological Position:** This form has a long and erratic history in the Chiapas Highlands. The most consistent appearances are from early Kan levels. Thereafter, examples occur sporadically through the rest of the Kan phase and the Tsah and Yash phases.

**Comparative data:** Vessels of approximately this form occur in a number of different sites and time periods such as the Late Preclassic at San Agustin, Chiapas (Navarrete, 1959: Fig. 6, d), Panuco III (Ekholm, 1944: Fig. 6, a), and the Tohil phase at Zacualpa (Wauchope, 1948: Fig. 49, c). There is no pattern to the occurrences, and it must be presumed that they represent independent approaches to a simple form.

**Lateral-Ridge Bowl (Fig. 20; Chart 3, No. 5)**

**Form:** Base probably flat; composite silhouette; ridge, sometimes scalloped, between the upper and lower sections; side: lower section rounded, upper section straight; orientation of side: lower section widely outflaring, upper section restricted orifice; rim direct; lip pointed.

**Dimensions:** Diameter 20-30, median 24.

**Decoration:** Red slipped interior and exterior.

**Types:** Campana Red, Santa Elena Red.

**Chronological Position:** This form shows a cluster of occurrences in samples from the middle and late parts of the Kan phase, during which period it occurs in all samples in frequencies ranging between 5 and 16 per cent of total rims. Before and after this period there are scattered examples from all phases including the Lum phase. Whether the late examples indicate that the form was still in production or was merely the result of mixing could not be determined.

**Comparative Data:** Forms very similar to the lateral-ridge bowl of the Kan phase occur in a number of other regions of Mesoamerica, usually in Late Preclassic contexts. Examples of the form, often identical with those of the Chiapas Highlands, occur frequently in collections from Late Preclassic sites in the Grijalva Valley (Chiapa de Corzo, Periods V, VI, and possibly later, collections of the New World Archaeological Foundation, NWAF; the Frailesca region, Guanacaste phase, Navarrete, 1960: Fig. 31, f). Similar forms occur in the Late Preclassic of the Central Maya Lowlands (Uaxactún, Chicanel phase, Smith, 1955: Fig. 70, a, 41; Tikal, end of the Late Preclassic, Culbert, n.d.). The form is less common in the Guatemala Highlands, but does occur at some Late Preclassic sites (Salcajá, Quetzaltenango, collections of the Museo Nacional de Arqueología y Etnología, Guatemala, MNAE; Kaminaljuyú, MNAE). Forms vaguely similar were found at Panuco, Period III (Ekholm, 1944: Fig. 5, c-h) and Tres Zapotes (Drucker, 1943: Fig. 23, a, b, d, g). The temporal indication of forms is essentially Late Preclassic. This is only one of several instances in which Kan-phase forms seem to have represented persistences from forms which had wide distributions at the end of the Late Preclassic.

**Composite-Silhouette, Outcurving-Side Bowl (Fig. 21; Chart 3, No. 6)**

**Form:** Base unknown; all large sherd sections show composite silhouette; side: lower section probably rounded, upper section outcurving; orientation: upper section widely outflaring; rim direct; lip rounded, flattened, or thickened into bump on exterior.

**Dimensions:** Diameter 20-32, median 26; upper section deeper than for other comp-
posite-silhouette forms of the Chiapas Highlands.

*Decoration:* Red slipped, interior and exterior; a few examples of dichromic decoration, red on white, dark red on red-orange, black on white; when two colors are used, the second color was usually added as a broad band on the exterior of the lip.


*Chronological Position:* Almost entirely restricted to the Kan phase with peak frequencies in the middle of the phase.

*Comparative Data:* The form of this bowl is so simple that it is not easy to make significant comparisons. Those examples of the form that had lips thickened into a bump on the exterior find the most direct similarities with composite-silhouette vessels of Usulután Ware (Longyear, 1952: Fig. 50, f, k; Lothrop, 1933: Figs. 19, f; 22, c; 32, a, f). Although the center of Usulután production was far to the south of the Chiapas Highlands, the ware was not uncommon in the Late Preclassic period of the Grijalva Valley, and could have exerted an influence on local styles.

**Vertical-Side Bowl** (Fig. 22, a)

*Form:* Base unknown; sometimes composite silhouette; upper section straight or rounded; orientation of upper section vertical; rim direct; lip thickened into bump on exterior.

*Dimensions:* Diameter 18-30, median 24 (only five examples).

*Decoration:* Red slipped, interior and exterior; a few examples of dichromic decoration, red on white, black on red-orange; second color usually confined to lip; one example dark red and black on red-orange.

*Types:* Campana Red, Las Rosas White, Yerba Buena Fine: Yerba Buena Variety.

*Chronological Position:* A rare form, the only examples of which occur in samples from the Kan phase.

*Comparative Data:* Like the preceding form, this form has closest similarities with Usulután vessels (Longyear, 1952: Fig. 50, l).

**Deep Flaring-Side Bowl**

(Fig. 22, b; Chart 3, No. 7)

*Form:* Base flat; side straight or very slightly outcurving; on some examples there is a slight change of angle from less outflaring to more outflaring at a point too low to consider it to be eversion of the rim; rim direct, sometimes slightly incurved; lip rounded.

*Dimensions:* Diameter 20-60, median 26; there are no complete sections, but the larger sherds indicate that the vessel was deep.

*Decoration:* Red slipped, interior and exterior; white slipped, interior and exterior; rarely black on white. Some examples are encircled by a finger-pressed fillet at a point well below the lip.


*Chronological Position:* The most characteristic examples and the highest frequencies of this form occurred during the Kan phase. Peak frequencies, from 12 to 27 per cent of total rims, were during the early part of the Kan phase, with consistent frequencies between 5 and 15 per cent of total rims through the rest of the phase. Scattered examples continued to appear through all subsequent phases.

*Comparative Data:* Deep bowls with straight, outflaring walls and medium to large diameters have a long history in Mesoamerica, particularly in the Maya region. They appear in many Late Preclassic and Early Classic ceramic complexes and occasionally in Late Classic ceramic ones (Salcatá site, Quetzaltenango, Late Preclassic, MNAE; Pacuaco, Period III, Ekholm, 1944: Fig. 6, c, f, g; Tikal, Late Preclassic and Early Classic, Cul-
bert n.d.; Uaxactún, Chicanel and Tzakol, Smith, 1955: Figs. 11, b, e; 12, a, f; 16, e, 4-7; 19, b, 1-4, 10, 13.) The slightly incurved lip noted in some Kan-phase specimens is most frequently encountered in Late Preclassic examples (Smith, 1955: Fig. 16, e, 4-7). On the other hand, when the form is encircled by finger impressions it is typical of the Early Classic or even Late Classic (Tres Zapotes, Early Classic, Weiant, 1943: Fig. 11, b; San José IV, Thompson, 1939: Fig. 59, c; Maravillas phase, Late Classic, Frailesca region, Navarrete, 1960: Fig. 39, e).

Polychrome Flaring-Side Dish

(Fig. 18, a-h; Chart 3, No. 12)

*Form:* Base flat; some examples angle to base; side straight or very slightly outcurving; orientation of side medium outflaring; rim direct, rarely very slightly everted; lip rounded, pointed, thickened on exterior.

*Dimensions:* Diameter 16-40, median 28.

*Decoration:* Red and black on orange in typical Soyatitán Polychrome patterns (see p. 55).

*Types:* Soyatitán Polychrome.

*Chronological Position:* Restricted entirely to the Kan phase, during which frequencies range from 0 to 30 per cent of total rims. There seems to have been an element of regional variation in the distribution, for this form was very common at Rancho San Nic-olás, fairly common at Cerro Campanatón, and rare at Yerba Buena.

Wide-Mouth Jar (Fig. 23, a; Chart 4, No. 19)

*Form:* Neck-body juncture vague; neck outcurving or, less frequently, straight; orientation of neck outflaring, rarely vertical; rim direct; lip rounded or pointed.

*Dimensions:* Lip diameter 12-21, median 18; height 4.3-9.5, median 6.0.

*Decoration:* Most commonly unslipped but well smoothed; rarely red lip on smoothed tan paste.

*Types:* Santa Elena Red.

*Chronological Position:* Small-mouth jars occur in the Kan, Tsah, and Yash phases. Although they are rare in all phases, they are encountered with slightly greater regularity in samples dating from the Kan phase.

Small-Mouth Jar (Fig. 23, c; Chart 4, No. 21)

*Form:* Neck-body juncture well defined; neck outcurving; orientation of neck outflaring; rim direct; lip rounded or rounded bevel.

*Dimensions:* Lip diameter 12-20, median 14; neck diameter 8-14, median 10; height 3.0-3.5, median 3.3.

*Decoration:* Red slipped, interior and exterior of neck.

*Types:* Yerba Buena Fine, Santa Elena Red, Campana Red, Tzaconejá Red (rare, Yash phase).

*Chronological Position:* Small-mouth jars occur in the Kan, Tsah, and Yash phases. Although they are rare in all phases, they are encountered with slightly greater regularity in samples dating from the Kan phase.
Concave-Lip Jar (Fig. 23, d)

Form: Neck-body juncture vague; neck straight or slightly outcurving; orientation of neck vertical to slightly outflaring; rim everted at almost a right angle from the neck and grooved on the interior to give a dishlike appearance; lip rounded.

Dimensions: Lip diameter 8-20, median 13.

Decoration: Red slipped, interior and exterior of neck.

Type: Campana Red, Yerba Buena Fine; Yerba Buena Variety.

Chronological Position: This is a form of which only a few examples were found, all at Rancho San Nicolas. Each of the occurrences was in a definite or probable Kan-phase context.

Comparative Data: An almost identical example of this format was recovered from Mound 3, Tomb 3, Nebaj, Guatemala (MNAE). The Nebaj specimen should probably be dated to the Late Classic (Smith and Kidder, 1951).

KAN-PHASE UNIQUE FORMS

Effigy Dish (Fig. 24, a)

Form: Base flat; side round; rim direct; lip rounded. Effigy head (perhaps a turtle) appliqued on exterior near lip.

Figure 24. Kan-phase Unique Forms


Decoration: Unslipped, interior darkly smudged, probably from use as an incensario.

Type: Rather coarse paste and temper; could be of local manufacture.

Composite-Silhouette Bowl with Grooved Lip (Fig. 24, c)

Form: Base probably rounded; side: lower section rounded, upper section inset, then outcurving; rim direct; lip rounded; with deep parallel grooves on interior.

Decoration: Red-orange.

Type: Unknown.

Bulging-Neck Jar with Effigy (Fig. 24, d)

Form: Neck-body juncture well defined but angular; neck bulging; orientation of neck nearly vertical; rim everted; lip pointed.

Dimensions: Neck height 5.4.

Decoration: White slip, incised design which seems to be an eye.

Type: Las Rosas White.
Firing: The pottery is of medium hardness, with only about 10 per cent of the sherds having dark cores.


Chronological Position: The type Yerba Buena Fine, which includes Yerba Buena Fine: Yerba Buena Variety as the major variety at the sites from which seriation samples were taken, was rare during the early part of the Kan phase, but increased steadily throughout the phase to frequencies of 15 to 20 per cent of the total sherds in the latest Kan samples. The steady increase in frequency continued through the Tsah phase, reaching totals of 40 to 50 per cent of the sherds in samples from the end of the phase. The type began to decrease in frequency at the start of the Yash phase, but still accounted for 15 to 20 per cent of the sherd at the end of the phase. The samples from the early part of the Lum phase used in the seriation charts show a marked decline in the amount of Yerba Buena Fine, and the type was probably no longer produced by the end of the Lum phase.

Comparative Data: The technique of applying a white primary slip under a red or orange slip was used at Uaxactún (Smith, 1955) during the subphases Tzakol 3 and Tepeu 1 and 2, at Tikal (Culbert, n.d.) at least during the equivalents of Tepeu 1 and 2, at Benque Viejo (Thompson, 1940) during Periods III and IV, and at Palenque (Rands, personal communication) during the Late Classic. In all of these cases, however, the white primary slip was used for vessels which were decorated in polychrome designs.

Comments: The Yerba Buena Variety of Yerba Buena Fine is most common in the eastern part of the Central Highlands. It also occurs, however, in Tsah-phase collections from the sites in the San Cristóbal Valley, particularly in the form of restricted-orifice fillet bowls, a form that does not seem to have been produced in the other varieties of the type.

Yerba Buena Fine: San Nicolás Variety


Surface Treatment: Unslipped, but well smoothed.


Forms: The only form in which this variety occurs is the flat-lip jar.

Chronological Position: The poor state of preservation of many of the sherds made it impossible to achieve a dependable separation of the two varieties of Yerba Buena Fine, the Yerba Buena Variety and the San Nicolás Variety. An estimate of the time span of the latter variety was made from the occurrence of the flat-lip jars which are the only form for this variety. On this basis, the San Nicolás variety seems to have been largely restricted to the Tsah phase, with only a few scattered examples from samples dating to the Yash phase, and none from those dating to the Kan phase.

Comments: Yerba Buena Fine: San Nicolás Variety does not seem to have entered the San Cristóbal Valley, for no examples occurred in collections from that part of the Highlands. Flat-lip jars did appear in that region, but they were made of Santa Elena Red rather than of Yerba Buena Fine: San Nicolás Variety.

Yerba Buena Fine: San Cristóbal Variety

Paste: Texture medium. Color most commonly cream to buff. Inclusions: medium amounts of small to medium-size particles of a white, crystalline substance, probably calcite.

Surface Treatment: The slip used is probably the same as that used for the Yerba Buena Variety, but, because of the lighter paste, sherds of the San Cristóbal Variety tend to be yellow-orange rather than red-orange. No instances of the use of a white primary slip were noted.
Firing: The pottery is of medium hardness with about 10 per cent dark cores. On the whole, sherds of the San Cristóbal Variety seem to be slightly softer than those of the other varieties of the type.

Forms: Forms of the San Cristóbal Variety are similar to those of the Yerba Buena Variety, with the exception that restricted-orifice fillet bowls and open-mouth fillet bowls do not occur.

Chronological Position: The stratigraphic situation at Cerro Ecatepec and the limited time available for study of the collections from that site did not allow the development of a delicate scheme for the temporal assessment of the various samples. For that reason, the history of Yerba Buena Fine: San Cristóbal Variety cannot be given in great detail. The type was abundant during both the Tsah and Yash phases, with some suggestions that it may have had a slightly later peak than did the Yerba Buena Variety. The San Cristóbal Variety is also quite common in samples from Cerro Ecatepec in which sherds of the Lum phase predominate, but it remains uncertain whether the variety continued to be produced at that time or whether its appearance in these samples should be attributed to mixing.

Comments: Yerba Buena Fine: San Cristóbal Variety is known only from a limited study, and cannot be considered to be completely defined. There is no doubt that this variety had a center of distribution in the western zone of the Highlands, for it is the predominant variety at the sites in the San Cristóbal Valley, and the most common variety in a very small sample of Yerba Buena Fine from the northern site of Cerro Cuchumatón. The variety occurs but is of minor importance at sites in the eastern zone of the Chiapas Highlands.

Moxviquil Black: Moxviquil Variety (Fig. 26)

Paste: The sherd sample recovered was too small to permit a firm definition of paste and temper characteristics. In general, paste and temper seem to fall within the range of variation of Yerba Buena Fine pastes and tempers, but a larger sample might prove this conclusion to be unwarranted.

Surface Treatment: The thin black slip varies in polish from low to high. Incising is very frequent in the small sample recovered; eight of ten sherds are incised in simple geometric patterns, with triangles filled with diagonal lines the most common motif.

Firing: Sample too small for comment.

Forms: 1) Outcurving-side, composite-silhouette bowls. 2) Round-side bowls.

Chronological Position: Moxviquil Black is too rare to define exact temporal limits, but it seems to have been most common during the Tsah phase.

Comparative Data: Moxviquil Black shares the traits of black slip, incising, and small bowl forms with both the Balanza Black and Carmelita Black groups of the Petén Classic (Smith and Gifford, n.d.), but does not share any more specific features with these two groups.

Comments: The site of Moxviquil (information from Frans Blom) deserves special mention in connection with the type that bears its name. A far larger sample of the type came from Moxviquil, particularly from tombs, than came from any site excavated by the author. If, as seems not unlikely, Moxviquil Black was produced largely for mortuary purposes, its rarity at other Highland sites, which produced few tombs, is not surprising.

TSAH-PHASE VESSEL FORMS

Round-Side Bowl (Fig. 27; Chart 3, No. 1)

Form: Base flat, annular, or (rarely) rounded; side rounded; orientation of side: usually unrestricted orifice with only a few examples of slightly restricted orifice; rim direct or slightly everted; lip rounded, pointed, or rounded bevel.

Dimensions: Diameter 12.36, median 20; height 3.2-6.1.

Decoration: Red slipped, interior and exterior; red slipped, interior only; dark red on red-orange (rare); incising (rare).

Types: Yerba Buena Fine (all varieties).
Figur 27. Round-Side Bowls and Dishes

Chronological Position: This form occurs in all Tsah-phase samples with frequencies ranging between 25 and 45 per cent of total rims. There was no pattern of increase or decrease.

Comments: Round-side bowls of the Tsah phase were very similar to those of the Kan phase. Low annular bases were very rare during the Tsah phase, while everted rims and rounded bevel lips were more common in the Tsah phase than during the Kan phase.

Restricted-Orifice Fillet Bowl

(Fig. 28, b; Chart 3, No. 2)

Form: Base unknown; side rounded, sometimes with a well-marked break where the wall turns in to a restricted orifice; orientation of side: slight to medium restriction of orifice; rim: slight to medium eversion; lip thickened on interior slightly below lip or just at lip; pointed above thickening when thickening occurs below lip.

Dimensions: Diameter 18-60; median 35.

Decoration: Exterior of bowl encircled by fillet of clay marked by finger impressions; the fillet is placed at the point where the wall changes curvature to attain restricted orifice. Red or red-orange slipped, interior and exterior.


Chronological Position: Restricted-orifice fillet bowls do not occur in any samples dating from the Kan phase. The form appeared at the beginning of the Tsah phase and is present in all samples until the middle of the Yash phase. It continued to appear sporadically in low frequencies during the second half of the Yash phase and the early part of the Lum phase.

Comparative Data: This form is closely paralleled by bowls from Late Classic and Early Postclassic sites of the Grijalva Valley, but there are clear differences in ceramic types and minor modes of form between typical examples from the Highlands and the Grijalva region (Navarrete, 1960: Fig. 37, a-c; NWAF collections). The restricted-orifice fillet bowl of the Chiapas Highlands can be considered a part of a series of similar, but regionally varying, bowl forms that had a wide distribution in the Maya Lowlands during the Late Classic period. These bowl forms share the general features of restricted orifice, large diameter, red slip, frequent thickened lips, and frequent decoration by means of finger impressions, sometimes, as in the Chiapas Highlands, placed on a fillet of clay. Restricted-orifice bowls with thickened lip and finger-impressed fillet occurred during the Tepeu 1 subphase at Uaxactun (Smith, 1935: Fig. 48, a, 8,9,11,12,15-18) and during a comparable time at Tikal (Culbert, n.d.). A similar form without fillet occurred in Period IV at San José (Thompson, 1939: Fig. 59) and during the Late Classic period at Piedras Negras (Butler, 1935: Plate 8; Rands, personal communication). Forms in the same general pattern were common dur-
ing the Regional period in Yucatan (Brain-
erd, 1958: Figs. 2, c, 7), but in Yucatan the form persisted into Colonial and modern times (Brain-
erd, 1958: Figs. 33, h). A restrict-
ed orifice bowl with thickened lip, but without finger impressions, was found at Tres Zapotes (Drucker, 1943: Figs. 14; 15, g-k; 21, a-d) at a time level which was not made clear in the report. In the Huasteca, a bowl form with fillet, but with more rounded sides and smaller diameter than was common in the Maya area, occurred in Pánico Period IV (Ekholm, 1944: Fig. 8, e).

Open-Mouth Fillet Bowl

(Fig. 28, a; Chart 3, No. 3)

Form: Base flat (one example); side rounded; orientation of side ranges from slightly outflaring to vertical at lip; rim direct or slightly everted; lip thickened, either rounded or grooved.

Dimensions: Diameter 28-50, median 42; height 17 (one example).

Decoration: Encircled by finger-impressed fillet; interior red slipped; exterior totally unslipped or red slipped down to fillet.


Chronological Position: Continuous distribution of the form in low frequencies began very slightly before the beginning of the Tsah phase and continued until the end of that phase. A few scattered examples appeared in samples as late as the middle of the Yash phase.

Comparative Data: Similar, but distinguishable, forms occur at numerous Late Classic and Early Postclassic sites in the Central Depression of Chiapas (NWAF collections). Large open-mouth bowls, usually decorated with finger impressions, have a distribution similar to that of restricted-orifice bowls (see preceding page) in Late Classic sites of the Maya Lowlands. They occur in the early part of the Late Classic period at Uaxactún (MNAE) and Tikal (Culbert, n.d.), but at these sites they are rare and seem to have been functionally replaced by open-mouth bowls with incurved lips. Thompson (1939: Fig. 69) illustrates a vaguely similar form from Period IV at San José. A number of examples of this general form appear in collections dating from the Regional period in Yucatan (Brainerd, 1958: Figs. 2, c, e, 11); and one example (Fig. 2, e) is identical with numerous Chiapas Highlands specimens. Some examples from Piedras Negras approximate the form, but they are not characteristic of the ceramic complex at that site (Bands, personal communication).

Comal (Chart 3, No. 11)

Form: Base slightly rounded; side very slightly rounded; orientation of side widely outflaring; rim direct or slightly upturned, lip rounded; appendages: a few examples have two diametrically opposed handles which consisted either of flattened tabs of clay or horizontal loops.

Dimensions: None of the fragments recovered was large enough to measure, but the form was of large diameter and extremely shallow.

Decoration: Unslipped and unsmoothed.

Types: Santa Elena Red (Unslipped variant).

Chronological Position: The form occurs only during the Tsah phase and early part of the Yash phase, and never exceeds 5 per cent of the total rims. Even during its period of production the form was missing from more than half the samples.

Large-Diameter Restricted-Orifice Bowl

(Fig. 29, a)

Form: Base flat; side rounded; orientation of side restricted orifice; rim direct; lip thickened, either rounded or flattened.

Dimensions: Diameter 26-60, median 45.

Decoration: Interior red slipped; exterior rough, unslipped.


Chronological Position: This form was never common in the Chiapas Highlands and occurs only in scattered examples from sam-
ples of the Tsah phase and early part of the Yash phase.

**Comparative Data:** The form by itself is so simple that it is not of comparative value, but in this Late Classic-Early Postclassic context, it is clearly a part of the complex of large bowls discussed on pages 63-4.

**Large-Diameter Flat-Lip Bowl** (Fig. 29, b)

**Form:** Base unknown, probably flat; side rounded; orientation of side ranges from slightly outflaring to vertical at lip; rim direct; lip flattened.

**Dimensions:** Diameter 28-50, median 35.

**Decoration:** Interior red slipped; exterior rough, unslipped.

**Types:** Yerba Buena Fine: Yerba Buena Variety.

**Chronological Position:** This form was never common in the Chiapas Highlands. It occurs only in a few samples dating from the Tsah phase and the early part of the Yash phase.

**Comparative Data:** A vessel of this form with similar flattened lip is diagnostic of pottery of the Chacalhaaz phase (Late Classic) at Piedras Negras (Rands, personal communication; see also Butler, 1935: Forms 25 and 26). Sporadic occurrences at other sites fail to show any significant pattern.

**Flat-Lip Jar** (Fig. 30, a; Chart 4, No. 15)

**Form:** Neck-body juncture well defined, angular; neck usually straight, sometimes slightly outcurving; orientation of neck: usually outflaring, sometimes vertical; when the neck of the jar is straight, the rim is everted; when the neck is outcurving, the rim may be either direct or everted; lip flattened or grooved.

**Dimensions:** Lip diameter 14-22, median 16; height 3.0 to greater than 6.0, median 4.9.

**Decoration:** Unslipped but well smoothed.

**Types:** Yerba Buena Fine: San Nicolás Variety; Santa Elena Red (unslipped variant).

**Chronological Position:** The major period of production of this form extended from slightly after the beginning of the Tsah phase until the middle of the Yash phase. There are some indications that the form continued to be common until a later date in the western sector of the Highlands.

**Comparative Data:** Jars of this general form occur with some frequency in Classic collections from the site of Santa Cruz in the Grijalva Valley (Sanders, 1961: Figs. 37-38), but at Santa Cruz the variant with outcurving neck and direct rim predominates, rather than the straight-neck, everted-rim variant. Although some examples appear at other Classic and Early Postclassic sites along the Grijalva, the form was not generally common in that area (NWAF collections). This form may also be related to the unslipped jars of the Tepeu phase at Uaxactún (Smith, 1955) and the Late Classic period at Tikal, for it shares with these forms of the Central Lowlands the characteristic flattened-lip mode. Scattered occurrences of a similar form in San José III (Thompson, 1939: Fig. 46 a), Tres Zapotes (Drucker, 1943: Fig. 16, d-f), and Finca Arabia (Late Classic, Guatemala Highlands, MNAE) do not suggest any pattern of development, and the form is not characteristic enough to presume that they indicate any sort of prehistoric connection.

**Everted-Rim Jar** (Fig. 30, b; Chart 4, No. 16)

**Form:** Neck-body juncture well defined, usually angular; neck straight, somewhat bulging; orientation of neck: outflaring or, infrequently, vertical; rim slight to wide eversion; lip rounded or pointed.

**Dimensions:** Lip diameter 10-26, median 18; neck diameter 8-24, median 11; height 3.3-6.5, median 4.9.

**Decoration:** Red-orange slipped, interior and exterior of neck, one example of red-orange on white decoration.

**Types:** Yerba Buena Fine (all varieties).

**Chronological Position:** This form had a
long history in the Highlands of Chiapas. Scattered examples appeared as early as the middle of the Kan phase. The form is generally present in samples dating from the Tsah and Yash phases with maximum frequencies ranging up to 16 per cent of total rims for specific samples. Only one example occurred in deposits clearly associated with Lum-phase occupation in the eastern sector of the Highlands, but the form may have persisted into this phase in the western sector.

**Comparative Data:** Everted-rim jars identical with those of the Central Highlands occurred during the Classic period at the site of Santa Cruz in the Grijalva Valley (Sanders, 1961), and were found sporadically at other Late Classic and Early Postclassic sites in that area (NWAF collections). Jars of this form had a wide distribution in the Maya area during Late Classic times. Everted lips are not generally characteristic of jar forms in the Peten, but a few examples occur at both Tikal (Culbert, n.d.) and Uaxactun (Smith, 1955: Fig. 47, a, 1, 3-6). The Uaxactun examples, dated as Tepeu 1, share the bulging neck exhibited by some specimens from the Chiapas Highlands. Everted-lip jars occurred at Piedras Negras (Rands, personal communication; Butler, 1935: Plate 7) during the Late Classic, and a similar form decorated with incising occurred at Palenque in mixed lots which could not be specifically dated (Rands, personal communication). Exact duplicates of Chiapas Highlands specimens were found at Tulum in the Yucatan Peninsula (Sanders, 1960: Fig. 5, c, 1-14) and at Florencet-period sites in Yucatan (Brainerd, 1958: Fig. 20, e, 13-18). An approximately similar form was common at Nebaj during the Late Classic (MNAE), and unslipped jars with everted rims occurred during the San Francisco phase at Cotzumalhuapa on the Pacific Coast of Guatemala (Thompson, 1948: Fig. 41). The conclusion made from these comparative examples is that this form was common during the Late Classic and Early Postclassic periods in many parts of the Maya area.

**TSAH-PHASE RARE AND UNIQUE FORMS**

**Small Composite-Silhouette Bowl** (Fig. 31, a)

*Form:* Base unknown; composite silhouette; side: upper section outcurving; orientation of side: lower section outflaring, upper section nearly vertical to outflaring; rim slightly everted; lip rounded or pointed.

*Dimensions:* Diameter 16-25 (4 examples).

*Decoration:* Black slipped, incised on exterior.

*Types:* Moxyviquil Black.

*Chronological Position:* This form is known almost exclusively from the site of Moxyviquil, where it occurred in quantity in grave contexts. Not more than a dozen fragments were encountered at other sites. The form appeared during both the Tsah and the Yash phases, but nothing more can be said about its temporal distribution.

**Horizontal-Rim Vessel** (Fig. 31, b)

*Form:* This category was defined on the basis of a rim mode, for no complete sections of the form were recovered. From a few of the larger sherds, it is known that both bowls and jars are included in the category, but the number of sherds which could be specifically attributed to bowls or jars was so small that the separation did not seem feasible, and all sherds sharing the characteristic rim treatment were lumped together. Side straight or slightly outcurving; orientation of side: nearly vertical; rim everted to the point where it approaches a horizontal position; the rim section is broad and in some cases is flattened and shelf-like; lip rounded.

*Decoration:* Red slipped, interior and exterior.

*Types:* Santa Elena Red; Yerba Buena Fine (rare).

*Chronological Position:* The scattered occurrences of this form are confined to the
Tsah phase and the early part of the Yash phase.

**Insloping-Side Vessel** (Fig. 31, c)

*Form:* Base unknown; seems to be composite silhouette; upper section straight insloping; rim direct; lip beveled.

*Dimensions:* Lip diameter 18 cms.

*Decoration and type:* Unknown; sherd is weathered.

**Vessel with Bosses** (Fig. 31, d)

*Form:* Base unknown; side outcurving; orientation of side almost vertical; rim: section near lip shows increased outcurve; lip rounded.

*Dimensions:* Lip diameter 22 cm.

*Decoration:* Unslipped, bosses of clay appliqued on exterior; sherd too small to indicate pattern of placing bosses.

*Type:* Probably a variety of Yerba Buena Fine.

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**YASH PHASE**

**CERAMIC TYPES**

**San Gregorio Coarse:** San Gregorio Variety

*Paste:* Texture very coarse. Color gray, brown or brick red. Brick red paste was found at all levels, but was most frequent during the latter part of the Yash phase and the Lum phase. Paste of this color was also more common in the western sector of the Highlands than in the eastern sector. Inclusions: large quantities of coarse particles of crystalline calcite.

*Surface Treatment:* Always unslipped and unsmoothed.

*Firing:* The pottery is soft, with about 25 per cent of the sherds showing dark cores. A number of sherds have a core that is not black, but of a different color from the paste near the surfaces. This phenomenon is frequent (about 33 per cent) in sherds with red paste, but rare (5 per cent or less) in sherds with pastes of other colors.


*Chronological Position:* San Gregorio Coarse appeared at the start of the Tsah phase and was present in small, steady amounts (10 to 15 per cent of total sherds) throughout that phase. The type increased rapidly in frequency at the start of the Yash phase, and composed almost one-half the ceramic sample during the latter part of that phase. San Gregorio Coarse decreased in frequency during the Lum phase, but was probably still in production at the time of the Conquest.

*Comparative Data:* Coarse, unslipped pottery, usually devoted to large jar forms, is one of the major components of almost every ceramic complex known in Mesoamerica. As a general rule, this pottery has been little studied and poorly described. From personal inspection of the Tikal and Uaxactún collections, I have noticed that a particular class of this pottery heavily tempered with large calcite particles appeared at both sites during the Late Classic and increased in frequency until the end of occupation at those sites (see also Smith, 1955). Since this pottery from the Petén is very similar to San Gregorio Coarse in temper, surface, and vessel forms, there is some possibility that the types were part of a general pattern during Late Classic times and thereafter.

*Comments:* There is more variety from one site to the next in San Gregorio Coarse than in any other type known from the Chiapas Highlands. General characteristics of paste, color, and finish have different ranges of variation at each site, but none of the differences is systematic enough to provide a basis for the distinction of more than a single variety. Vessel forms made from San Gregorio Coarse also vary from one location to another. Although the general forms are similar everywhere, specific modes of lip shape, neck height, and other small features tend to be concentrated at a single site. It might be mentioned that there is a possibility that San Gregorio Coarse was produced locally at many or all of the Central Highland sites, in contrast to the majority of other varieties which I believe to have been produced in specialized centers.

**Tzaconajá Red:** Tzaconajá Variety

*Paste:* Texture fine to coarse. Color almost always brick red to orange. Inclusions: fine
dark and fine white particles, both of mineral origin, and large particles of hematite. The quantity of inclusions ranges from small to large.

**Surface Treatment:** The vessels were given a cream to white underslip and then an additional slip of bright red. Sometimes either the interior or the exterior of the vessel was left of cream color, with the red slip applied only to the other side. The combination of red and white slips was never used to make patterns. The white slip was rarely polished, while the red slip received a low to medium polish. Both slips are thick and very soft.

**Firing:** The pottery is very soft, with 65 to 75 per cent dark cores.

**Forms:** 1) Bowls with round sides and slightly incurved lips. 2) Round-side bowls.

**Chronological Position:** Tzaconejá Red was very common in Yash-phase samples at San Gregorio, but declined markedly in the few Lum-phase samples from that site. The type was very rare at all other sites, so it seems likely that it was a local type at San Gregorio.

**Ixtapa Fine: Ixtapa Variety**

**Paste:** Texture: very fine. Color usually orange, with some examples buff or tan. Inclusions: usually none visible, but some sherds, particularly from Cerro Ecatepec, have a few tiny gray mineral particles.

**Surface Treatment:** The surface treatment of this type seems to be unusually varied, but small samples and poor preservation made it difficult to determine the range of decorative techniques. The most common surface treatment is a thin white slip which ranges from chalky with low polish to hard with high polish. A thin red slip was less frequently applied to the base clay, and there are a few examples of a black slip directly over the base clay. In other cases, traces remain of red or black paint which had been applied, either separately or on the same vessel, over a primary white slip. Incising and grooving are fairly common, mostly of a sort emphasizing thin lines which are either incised through the white slip or sometimes, perhaps, used on unslipped vessels. The patterns, as far as could be determined from the small fragments recovered, were curvilinear or rectilinear designs.

**Firing:** The pottery is very hard and was probably fired at a high temperature. Dark or discolored cores are common, but these can be attributed to the very fine paste which impeded the penetration of oxygen during firing.

**Forms:** 1) Small outcurving-side bowls. 2) Round-side bowls. 3) Straight, outflaring-side dishes. 4) Straight, outflaring-side dishes with widely everted lip. 5) Cylindrical vessels.

**Chronological Position:** Examples of Ixtapa Fine: Ixtapa Variety occurred in small quantity in Tsah-phase deposits at Cerro Ecatepec. The type reached peaked frequencies during the Yash phase, but continued to be important during the Lum phase.

**Comments:** The long time span and the range of decorative techniques observed for Ixtapa Fine suggest that with larger samples and better stratigraphy it would be possible to subdivide the type into several additional varieties. Examples of Ixtapa Fine were not isolated from collections from the eastern sector of the Chiapas Highlands. Although a few examples may have been sorted into the "odd" category for eastern sites, there is little doubt that Ixtapa Fine was concentrated largely in the western sector of the Highlands. The fact that the type is more frequent in surface collections from sites in the Ixtapa Valley to the west of the Highlands than in any site in the Highlands indicates that it may have had its origin in that direction.

**Comparative Data:** The general characteristics of a fine, untempered paste, decoration, and vessel form suggest that there may be a relationship between Ixtapa Fine and the various types of Fine Orange pottery. The relationship is certainly not a direct one, for the more characteristic decorative elements and vessel forms of Fine Orange do not appear in Ixtapa Fine, but the presence of imported Fine Orange vessels in tombs at Moxviquil shows that the ware was known in the Central Highlands, and Ixtapa Fine could well have been a local imitation. The most direct similarities of Ixtapa Fine are with Z-Fine Orange (Smith, 1958), which apparently had a center of production in Tabasco at a time transitional between the Late Classic and Early Postclassic periods. The peak of Z-Fine Orange occurred somewhat before
that of Ixtapa Fine, and Ixtapa Fine continued far later in time, but a lag of this sort is not surprising if one considers the generally isolated nature of the Chiapas Highlands culture.

**Ixtapa Fine: Cuchumtén Variety**

*Paste:* The Cuchumtén variety of Ixtapa Fine differs from the Ixtapa variety in having a paste that is more porous, and in containing small amounts of very fine inclusions of undetermined nature. The paste color is invariably orange.

*Surface Treatment:* Preservation was too poor to give much indication of the surface treatment. A white slip occurs with some frequency, and there are a few cases in which there are traces of red paint over a primary white slip, but the majority of the sherds are completely weathered. No examples of incising or grooving were noted.

*Firing:* The pottery is less hard than the Ixtapa variety, but there are almost no dark cores.

*Forms:* Similar to those of the Ixtapa variety.

*Chronological Position:* This variety is known only from Lum-phase deposits at Cerro Cuchumtén, but since it was most frequent in lower levels at that site it may have had a peak during the Yash phase.

**Chanal Modeled-carved: Chanal Variety**

(Fig. 6, a)

*Paste:* Within the range of variation of Yerba Buena Fine.

*Surface Treatment:* Some examples have a red-orange slip, while others seem to have been unslipped but well polished. Modeled-carved decoration appears on the exterior of the vessels. Most of the sherds are too small to show design patterns, but the carving is of an intricate style similar to that of Z-Fine Orange. The large fragment shown in Figure 6, a shows a dancing figure surrounded by glyphlike designs. This same fragment has an identical design on the opposite side of the vessel, suggesting that the design was produced from a mold.

*Firing:* The pottery is fairly hard with no dark cores noted in the small sample.

*Forms:* The only example for which the form could be determined is a barrel-shape vessel with annular base.

*Chronological Position:* All of the examples came from surface deposits at Rancho San Nicolás, and could have pertained to either the Tsah phase or to the Yash phase, although the latter is the more likely.

*Comparative Data:* The relationship of this type to Z-Fine Orange (Smith, 1958) and to Carved Ferruginous Ware (Smith, 1955: Fig. 86) is obvious. In paste and temper, Chanal Modeled-carved clearly falls outside of the Fine Orange group. Without technological analysis, it is impossible to determine whether the type was imported or was a local copy of more widely spread modeled-carved types.

### YASH-PHASE VESSEL FORMS

**Round-Side Bowl or Dish**

(Fig. 27; Chart 3, No. 1)

Data offered for this form in the description of Tsah ceramics hold equally true for the Yash phase. Average frequencies for this form continued to be about the same during the Yash phase as they were during the Tsah phase. There is, however, a variant of the form, common at San Gregorio, which differs enough from other examples to make separate description desirable.

**Round-Side Bowl, Large-Diameter Variant**

(Fig. 32)

*Form:* Base unknown; side rounded; orientation of side ranges from slightly outflaring to slightly restricted; rim direct or slightly incurving; lip rounded.

*Dimensions:* The small size of the sherds and the unevenness of the lips made measurement difficult, but the diameter is regularly in excess of 30 cm., considerably larger than is standard for other round-side bowls.

*Decoration:* Most commonly red slipped, interior and exterior; red-slipped interior, un-
slipped exterior; white-slipped interior, red-slipped exterior.

Types: Tzaconejá Red.

Chronological Position: This form was encountered only at the site of San Gregorio. It was common in levels dating from the last half of the Yash phase, with frequencies as high as 25 per cent of total rims in some samples. There was a decrease in the frequency with which the form appeared in the few levels from the Lum phase. There may, however, have been a connection between this form and large-diameter bowls that were common during the Lum phase in the western sector of the Highlands. Both of these large round-side bowl forms seem to fill the role played by other large bowl forms in earlier phases.

Incensario, Frying-Pan Type (Chart 3, No. 8)

Form: Base unknown; side rounded; orientation of side medium outflaring; rim direct; lip rounded; appendages: a hollow tubular handle, round in cross section, was attached to the bowl just below the lip.

Decoration: Plain and red-slipped examples occur in about equal frequency; in some cases a stylized decoration was appliqued to the handle or the inside of the bowl, but it was not possible to determine what this decoration might have represented.

Types: Santa Elena Red; Yerba Buena Fine; Yerba Buena Variety; Huistan Variety.

Chronological Position: Frying-pan incensarios occurred in only a few samples, all dating from the Tzah and Yash phases. It should be noted, however, that the presence of this form could be detected only when the sherd actually showed the juncture or place of juncture of the handle and bowl. Other examples could easily have been sorted into round-side bowls, while handle fragments could have been misclassified as feet.

Comparative Data: Frying-pan incensarios had a wide distribution in prehistoric Mesoamerica, with most examples belonging on the Postclassic time level, or at least no earlier than the transition between Late Classic and Early Postclassic. The form was found in the Frailesca subregion of the Grijalva Valley in the Postclassic Ruiz and Tuxtla phases (Navarrete, 1960: Figs. 42, f; 43, f). It occurred at Uaxactún during Tepeu 3 (Smith, 1955: Fig. 68, b, 2, 3) and at Tikal (Culbert, n.d.) during the Early Postclassic. Frying-pan incensarios were most common in Yucatan during the three phases of the Mexican period, although some examples did appear as early as the Florencia period (Brainerd, 1958: Fig. 23, f). The form appeared at Zacualpa during the Pokom and Tohil phases (Wauchope, 1948: Figs. 45, 68, c); the Tohil vessel shown in the latter illustration is of particular interest because it shows the same sort of applied decoration as occurred in a few instances on Chiapas Highlands incensarios.

Cylinder (Chart 3, No. 13)

Form: Base flat; side straight; orientation of side: vertical; rim direct; lip rounded or pointed.

Dimensions: Diameter 10-18, median 14 (examples from the eastern sector of the Highlands).

Decoration: Red slipped; white slipped (Ixtapa Fine); incised, exterior (Ixtapa Fine); cream slipped, one example from ball-court cache at Yerba Buena; painted stucco, one example from ball-court cache at Bencho San Nicolás; red and black on cream polychrome, one example; figure-painted polychrome, one example from tomb at Cerro Equepec.

Types: Yerba Buena Fine; Ixtapa Fine; types foreign to the Central Highlands.

Comparative Data: Cylindrical vessels were rare in the Chiapas Highlands. The scattered occurrences in the eastern sector date from the Tzah and Yash phases. In the area of distribution of Ixtapa Fine, the western and northwestern parts of the Highlands, the form seems to have persisted into the Lum phase.

Comments: Both the number of decorated trade pieces in this class of vessels and the archeological contexts in which they were found indicate that this form must have played a role in the ceremonial life of the inhabitants of the Chiapas Highlands.
Wide-Mouth Coarse Jar
(Fig. 33, a; Chart 4, No. 18)

Form: Neck-body juncture vague; neck straight or, less frequently, outcurving; orientation of neck: widely outflaring; rim direct; lip rounded, flattened or grooved.

Dimensions: Lip diameter 14 to greater than 30, median 18; height 3.2-4.4 (5 examples).

Decoration: Unslipped and unsmoothed.

Types: San Gregorio Coarse.

Chronological Position: Some examples of this form were found in Tsah-phase deposits, but a continuous distribution of the form in fairly high frequencies did not begin until the middle of the Yash phase. During the last half of the Yash phase, the wide-mouth jar was the most important jar form. Although the form decreased in frequency in samples from the Lum phase, production seems to have continued through most of that phase, and perhaps until the time of the Conquest.

Comments: This form shows a tendency to variation from one site to another within the eastern sector of the Highlands. The flat-lip mode and straight neck were predominant at San Gregorio, while rounded lips and out-curving necks occurred with far greater frequency at Yerba Buena.

Short-Neck, Wide-Mouth Jar

Form: Neck-body juncture well defined and angular; neck straight; orientation of neck: widely outflaring; rim: the body of the vessel turns directly outward into what might be called either a short neck or a rim without neck; lip rounded or flattened.

Dimensions: Lip diameter 16-26, median 20 (6 examples); height 1.5-2.5, median 2.1 (6 examples).

Decoration: Unslipped and unsmoothed; about 75 per cent of the vessels have horizontal grooves that encircle the interior of the widely outflaring neck.

Types: San Gregorio Coarse; La Hermita Coarse.

Chronological Position: This form was important during the Yash phase and continued into the early part of the Lum phase, but seems to have died out before the last stages of the Lum phase.

Comments: This form is another illustration of regional variety within the ceramic type San Gregorio Coarse. The short-neck wide-mouth jar was found only in the western sector of the Highlands where it coexisted with a variant form of the wide-mouth coarse jar.

Vertical-Neck Jar (Fig. 33, b)

Form: Neck-body juncture well defined; neck straight; orientation of neck: vertical; rim direct or slightly everted (rare); lip rounded, pointed, flattened (rare).

Dimensions: Diameter 8-16, median 12; height 7.4 (one example, but other large fragments indicate that this height is probably typical).

Decoration: Red-orange slipped, interior and exterior of neck; dark red on red-orange; a few examples have a crude face appliqued on the neck.


Chronological Position: This form occurred in all phases of the Chiapas Highlands sequence, with the exception of the Late Preclassic Sak phase. Although the form was never common, the appearances were slightly more consistent during the Yash phase than during other phases. The use of an effigy face on the neck seems to have been restricted to the Tsah and Yash phases.
divergence within the Highlands had become so great that it seems best to consider the ceramics as two complexes, one pertaining to the eastern sector of the area, the other to the western sector. Types of the eastern ceramic complex were encountered only at the site of San Gregorio in specifically Lum contexts, and even here the Lum deposits date only from the earliest part of the phase. For this reason, the history of the Late Postclassic complex for the eastern sector of the Highlands is very poorly understood. Ceramics pertaining to the western complex occurred at the ruins of La Hermita and Cerro Escárate in the San Cristóbal Valley where, although the quantity of material recovered was large, the stratigraphic data were too poor to give precise information about the patterns of change. At Cuchumotán, directly north of San Cristóbal, the ceramic inventory shows a mixture of eastern and western types and forms, with the western complex slightly predominant.

**Lum Phase: Eastern Complex**

**Huishán Hard: Huistan Variety** (Fig. 34)

*Paste:* Texture medium to fine. Color usually buff or tan, sometimes gray. The principal inclusion is a large quantity of very finely divided calcite.

*Surface Treatment:* About 60 per cent of the sherds of Huistan Hard are unslipped, but well smoothed. Since the slip used on this type is extremely durable, the percentage of unslipped sherds was probably not much affected by weathering. The most common slip is very thin red with matte finish. About 5 per cent of the sherds show a borderline between large areas of red slip and unslipped areas, so it is not unlikely that the slipped and the unslipped sherds actually represent different parts of partially slipped vessels. Occasionally the red slip was used to make designs on the base clay. The design elements are rectilinear geometric motifs executed with either very fine lines or with lines of medium width. Very rarely, black, as well as red, was used in the designs.

A few sherds with other sorts of painted decoration have been provisionally included in Huistan Hard. These include white on polished red, red and black on gray, and red, black, and yellow on gray. The paste characteristics and design motifs recognized in these sherds are closer to those of Huistan Hard than to those of any other known Highland type, and it seemed unwise to introduce several new types on the basis of a handful of variant sherds. Considerably larger samples from this time range will be needed before it can be determined whether this decorated pottery does fall within the limits of variation of Huistan Hard, or whether new types or varieties should be designated.

**Firing:** Huistan Hard is harder than any other type encountered in the Central Highlands. Dark cores occur in about 30 per cent of the sherds, with a slight tendency for more dark cores to occur in early samples than in late ones.

**Forms:** 1) Vague-neck jars, probably with handles. 2) Colanders. 3) Round-side bowls. 4) Outcurving-side bowls. 5) Censers (rare).

**Chronological Position:** Huistan Hard occurred in a few scattered instances in samples from the Tsah phase. With the beginning of the Yash phase, small but consistent amounts of the type began to appear in almost all samples, but even by the end of the phase Huistan Hard still averaged less than 10 per cent of the total sherds. During the early part of the Lum phase, the type increased abruptly to frequencies of 25 to 30 per cent. The history of the type could not be traced any further by iteration, but a surface collection from the Late Postclassic site of Chacalsib in the Ocosingo Valley suggests that Huistan Hard was the most common Lum-phase type in the eastern sector of the Highlands. Sporadic occurrences of Huistan Hard in late sites of the western sector indicate that the type was probably still being produced at the time of the Conquest.

**Comparative Data:** Red on a buff-colored clay forms the basic decorative element in a number of Late Postclassic ceramic types in the Guatemala Highlands. These include
types probably produced at Chiautla and Mixco Viejo (MNAE collections; Navarrete, personal communication; Lothrop, 1933).

LUM PHASE: WESTERN COMPLEX

La Hermita Coarse: La Hermita Variety

*Paste:* Texture coarse to extremely coarse. Color most frequently brick red, sometimes tan or brown. Inclusions are remarkable both for the quantity and number of different substances represented. Large particles of hematite, a translucent material that is probably sand, particles of some dark mineral, and various other things are represented. Many of the inclusions are probably the result of using an impure clay rather than of intentional tempering.

*Surface Treatment:* Always unslipped and unsmoothed.

*Firing:* The pottery is soft to medium hard with about 50 per cent of the sherds showing dark cores.

*Forms:* 1) Wide-mouth jars. 2) Outflaring-neck jars. 3) Short-grooved-neck jars. 4) Vague-neck jars. 5) Large-diameter round-side bowls. 6) Restricted-orifice, everted-lip bowls. 7) Round-side incensarios. 8) Miniature bottles (rare).

*Chronological Position:* La Hermita Coarse was present in small quantities during the Yash phase, and increased rapidly through the Lum phase. Samples judged to date just before the Conquest contain La Hermita Coarse in frequencies of greater than 80 per cent of the total sherds.

Ecatepec Red: Ecatepec Variety

*Paste:* Texture medium to coarse. Color usually red, sometimes buff or brown. Inclusions: tempered with large quantities of finely divided white material, probably calcite. Other inclusions cover the same range of very heterogeneous substances that occur in La Hermita Coarse and probably indicate a common clay source for the two types.

*Surface Treatment:* Red slip of low to medium polish.

*Firing:* The pottery is soft with about 20 per cent dark cores.


*Chronological Position:* The type seems to have appeared during the latter half of the Yash phase and to have reached a peak during the early part of the Lum phase.

Chamula Red: Chamula Variety

*Paste:* Texture medium. Color tan to reddish tan. Inclusions: small to medium amounts of fine to medium-size translucent particles.

*Surface Treatment:* Red slip of low to medium polish.

*Firing:* The pottery is soft with about 20 per cent dark cores.


*Chronological Position:* Chamula Red was never a common type, and seems to have occurred only during the Lum phase.

LUM-PHASE VESSEL FORMS

Round-Side Bowl or Dish

*(Fig. 35, a; Chart 3, No. 1)*

*Form:* Base flat, rounded (rare); side rounded; orientation of side outflaring; rim direct; lip rounded. Special mention should be made of feet made from the ceramic type Huistán Hard. Although the number of feet recovered was still so small that only a few vessels could have been involved, feet are more frequent in Huistán Hard than in any other Highland type. Most of the feet are long and hollow, but a few shorter solid examples occur. Since none of the feet are attached to a complete vessel section, it is impossible to say to which form or forms they should be attributed. Since, however, round-side bowls are the most common bowl form

![Figure 35. LUM-PHASE Bowls and Dishes](image)

produced in Huistán Hard, it is not unlikely that at least some of the feet came from this form. A few solid nubbin feet are associated with the type Ixtapa Fine. No effigy feet occur in the Chiapas Highlands.

Dimensions: Diameter 12-22, median 18.

Decoration: Red slipped; coarse unslipped (San Gregorio Coarse); red on buff clay (Huistán Hard); red and black on buff clay (Huistán Hard); white slipped (Ixtapa Fine); incised on exterior (Ixtapa Fine).

Types: Produced in all ceramic types of the Lum phase, but rare in the coarse types.

Chronological Position: The three Lum-phase samples for which calculations could be made show frequencies that are within the lower part of the range of variation for earlier phases, and may represent either an incipient decrease in popularity of the form or random variation. In the western sector the frequency of the form is augmented by the presence of a number of examples of a large-diameter variant that does not occur in the east.

Small Outcurving-Side Dish

(Fig. 35, b; Chart 3, No. 9)

Form: Base flat; side outcurving; orientation of side medium to widely outflaring; rim direct or sharply everted to horizontal (Ixtapa Fine); lip rounded or pointed.

Dimensions: Diameter 16-24, median 20; height 4.6-5.4 (4 examples).

Decoration: Red slipped; white slipped; several types of dichrome.

Types: Produced in all slipped types encountered in the Chiapas Highlands, with the exception of Soyatitlán Polychrome.

Chronological Position: This form is an almost universal one in the Central Highlands of Chiapas. It occurs in low frequencies in the majority of samples from all phases. Two slight peaks were noted, one in the early part of the Kan phase, the second in the Lum phase.

Small Straight-Side Dish

(Fig. 35, c; Chart 3, No. 10)

Form: Base flat; side straight; orientation of side outflaring; rim direct, slightly everted, or sharply everted to horizontal (Ixtapa Fine); lip rounded, pointed, rounded bevel.

Dimensions: Diameter 10-30, median 20; height 4.6-5.4 (4 examples).

Decoration: Red slipped; white slipped; several types of dichrome.

Types: Produced in all slipped types encountered in the Chiapas Highlands, with the exception of Soyatitlán Polychrome.

Chronological Position: This form largely confined to the eastern sector.

Vague-Neck Jar

(Fig. 36; Chart 4, No. 14)

Form: Neck-body juncture: the body merges so gradually into the neck of the vessel that it is impossible in many cases to specify exactly the point of juncture; neck outcurving; orientation of neck: ranges from slightly outflaring to examples in which the entire neck is insloping up to the rim; rim: short, but frequently sharp, eversion; lip rounded or pointed; appendages: this form seems to have been equipped with loop handles when made in Huistán Hard; no sherd large enough to indicate the number of handles was recovered. One specimen in
the collection of Frans Blom has an effigy bird's head just above one of the handles; one or two similar effigies of Huistán Hard recovered in the excavations were probably placed in a similar position.

**Dimensions:** Lip diameter 8-24, median 14; height 5.7 (one example).

**Decoration:** Red slipped; unslipped; red on buff paste exterior, red-slipped interior.

**Types:** Huistán Hard; San Gregorio Coarse; Yerba Buena Fine (rare).

**Comparative Data:** Examples of this form made in Huistán Hard appeared in the western sector of the Highlands, but are so rare that they must be considered trade pieces. Another Huistán Hard example was found in the Comitán Valley (Blom collections). An approximately similar form made in an unslipped, calcite-tempered ware was found in the Colonial town of Copanaguastla. In other regions of Mesoamerica, similar forms have a slight tendency to cluster in Postclassic ceramic complexes, but there are a number of occurrences from Classic contexts as well. In Postclassic times, jars with a vague neck-body juncture and everted rim appeared in Panuco V (Ekholm, 1944: Fig. 23, g, h) and

in the Pokom and Tohil phases at Zacualpa (Wauchope, 1948: Fig. 49, j-m, cc, pp, ss). The form also occurred in San José IV (Thompson, 1939: Fig. 93) at the transition between Late Classic and Early Postclassic, and in a Late Classic sample from Chipoc (MNAE; Smith, 1952). A bird's head effigy very similar to Chiapas Highlands examples was recovered by Sanders (1960: Fig. 8, b, 33) from the site of Ichpaatun in the Yucatán Peninsula, while somewhat similar bird's heads were found at Zaculeu (Woodbury and Trik, 1953: Fig. 275, j) in an undated surface collection, and near Cotzumalhuapa (Thompson, 1948: Fig. 58, g), also in a surface collection. The example from Cotzumalhuapa was placed at the rim of a bowl; the other two examples were broken off, but may well have been attached to vessels.

**Perforated Jar or Colander**

(Fig. 34; Chart 4, No. 17)

**Form:** Body perforated with evenly spaced small holes; neck-body juncture vague; neck outcurving; orientation of neck outflaring; rim direct or everted; lip rounded.

**Dimensions:** Lip diameter 8-10 (3 examples).

**Decoration:** Unslipped; red slipped; red on buff paste (Huistán Hard).

**Types:** Huistán Hard; San Gregorio Coarse; Santa Elena Red.

**Comparative Data:** There are two samples from the Yash phase that show very high frequencies of perforated jars. These high frequencies may well have been due to the separate tabulation of a number of sherds from the same vessel, and probably are not indicative of any great number of vessels in production at that date. Continuous appearances of the form began in the Lum phase, and it is likely that peak frequencies occurred during that phase. It should be noted that body sherds showing perforation were tabulated as perforated jars, but that most rim sherds would probably have been tabulated as vague-neck jars, for few sherds are large enough to demonstrate the perforated body.

**Comparative Data:** Perforated small-mouth jars are a specifically Postclassic feature most common in the Guatemala Highlands. They have been reported from several late sites near Lake Atitlán (Chuitinamit,
Chinkurul, and Pasajaye; Lothrop, 1933: 70-71, Fig. 42), from the Tobil phase at Zacualpa (Wauchope, 1948:151), and from Postclassic Tajumulco (Dutton and Hobbs, 1943: Fig. 82, a). At Uaxactun, there was a much earlier occurrence of perforated jars in Period 1 (Preclassic; Ricketson and Ricketson, 1937:253).

Comments: A few perforated jars were made in local ceramic types in the western sector of the Chiapas Highlands during the Postclassic, but they were not nearly so common as in the eastern sector.

FORMS LARGELY CONFINED TO THE WESTERN SECTOR

Round-Side Bowl, Large-Diameter Variant

Form: Base unknown; side rounded; orientation of side outflaring; rim direct; lip rounded.

Dimensions: Diameter 30-52, median 40.

Decoration: Red-slipped interior, unslipped exterior.

Types: Chamula Red; Ecatepec Red.

Chronological Position: This form was important in the western sector of the Central Highlands during the Yash and Lum phases. There was not enough stratigraphic data to indicate the time of peak frequencies, but the form was no longer common during the closing stages of the Lum phase.

Neckless Jar

Form: Base unknown; side rounded; orientation of side restricted orifice; rim direct or slightly everted just at lip; lip rounded or rounded and thickened.

Dimensions: Diameter 36-44 (4 examples).

Decoration: Unslipped; red slipped.

Types: La Hermita Coarse; Chamula Red; Ecatepec Red.

Chronological Position: Production of this form was at a peak at some time during the Yash phase or the Lum phase, but was no longer common in the closing stages of the Lum phase.

Outcurving-Neck Coarse Jar (Fig. 37)

Form: Neck-body juncture vague or rounded; neck almost straight to widely outcurving; orientation of neck medium to widely outflaring; rim direct; lip rounded.

Dimensions: Lip diameter 6-26, median 14, height 3.0-6.5, median 4.5. There is considerable variation in the neck dimensions of these vessels with little tendency for dimensions to cluster.

Decoration: Unslipped and unsmoothed.

Types: La Hermita Coarse.

Chronological Position: The peak frequency of this form occurred late in the Lum phase, at the time just before the Conquest. Because of poor stratigraphic data, the time of introduction of the form could not be determined, but it may have been as early as the Yash phase.

Incensario, Round-Side-Dish Type (Fig. 38, a)

Form: Base flat, single perforation in center of base; side rounded and thickened near base; orientation of side: open mouth to slightly restricted orifice; rim direct; lip rounded; appendages: three loops of clay were placed on the interior of the dish, reaching from the sides to the base.

Dimensions: Diameter 14.2; height 4.0 (one example).

Decoration: Unslipped and unsmoothed; three examples were stained by red ochre, but the stains probably resulted from use of
the vessel in offerings rather than from an attempt at decoration.

Types: La Hermita Coarse.

Chronological Position: This form was found in only one location, directly in front of the single pyramid at the site of La Hermita. This means that the form certainly was in existence at the end of the Lum Phase, but the total amount of time it covered cannot be stated, for no comparable location was excavated at any other site in the western sector.

Comments: The functional assignment of this form to the general class of incensarios is supported both by the location in which a large deposit of the vessels occurred, and by the fact that almost all examples were encrusted with charcoal. In the same deposit with the dish forms were found a quantity of large fragments of cylindrical form. Neither rims nor bases were recovered, so the total form remains in doubt, but it seems not unlikely that these vessels were large hollow cylinders that served as bases for the dish incensarios.

Bottle

Form: Neck-body juncture unknown; neck straight or slightly outcurving; orientation of neck vertical to slightly insloping; rim direct or slightly everted; lip rounded.

Dimensions: Lip diameter 18-22 (4 examples).

Decoration: Unslipped.

Type: La Hermita Coarse.

Chronological Position: Known only from samples from the end of the Lum phase.

Miniature Jar (Fig. 38, b)

Form: Neck-body juncture rounded; neck straight or outcurving; orientation of neck outflaring; rim direct; lip rounded.

Dimensions: Lip diameter 4 (one example).

Decoration: Unslipped.

Type: La Hermita Coarse.

Chronological Position: Found only in the deposit at the foot of the pyramid at the site of La Hermita.
DISCUSSION AND SUMMARY

The foregoing sections have presented the data upon which the ceramic sequence of the Central Highlands of Chiapas was based. The ceramic complexes have been described, and the temporal ordering of the complexes and the nature of the transitions between them discussed. A phase by phase consideration of the ceramic history of the Central Highlands can now be attempted, drawing together the data that shed light upon general cultural and historical patterns within the area, and indicating the ceramic relationships that linked the Chiapas Highlands with the rest of Mesoamerica.

Sak Phase

Ceramics of the Sak phase, the earliest phase in the Highland sequence, are the least known of the ceramic complexes. Sak ceramics were encountered by excavation only at the site of Mercedes de la Maria, and the sample from that site was too small to permit any subdivision of the phase, or even to give assurance that the total ceramic inventory is recognized. As Adams (1961: 342-4) has pointed out, the scarcity of Preclassic remains in the area seems to be a definite fact rather than the result of incomplete sampling, and one must conclude that the occupation of the area was very limited before the beginning of the Classic period.

In spite of the limited ceramic sample—or perhaps because of it—the Sak phase proved easy to date. For this phase, use could be made of the excellent ceramic sequence obtained from excavations at Chiapa de Corzo by the New World Archaeological Foundation (Warren, personal communication). Sak-phase ceramics conform well to those from the Late Preclassic period at Chiapa de Corzo and other sites in the depression of the Grijalva River (Lowe, 1959). The Late Preclassic ceramic traditions of both the Central Highlands and the Grijalva Valley are part of a widespread group of traditions that covered the Lowland Maya area and neighboring regions during a time equivalent to the Chicane? phase at Uaxact?n (Smith and Gifford, n.d.). The exact nature and extent of the connections between the people participating in these traditions cannot be explained at present, but Lowe (1959:11) suggests that the Grijalva Depression was occupied by a Mayan people during the Late Preclassic. The few Highland sites of the Sak phase were probably derived directly from the occupation along the Grijalva River, for they are located in positions of easy access to the river valley. No very precise date can be given to the Sak phase on the basis of the very scanty evidence available, but a guess date of 300 B.C. to A.D. 100 might be suggested.

Kan Phase

Because of a discontinuity in the data, ceramics cannot be used as a basis for conclusions about the nature of the transition between the Late Preclassic Sak phase and the Early Classic Kan phase. On the basis of other data, some important trends in the culture history of the Chiapas Highlands seem to have been initiated during this transitional period (see Adams, 1961:344-5). Beginning, perhaps, at this time, and continuing through the early part of the Kan phase, there was an expansion in the population of the Central Highlands that led from the two very small sites that could be dated to the Sak phase to the much larger and more numerous sites of the Tsah phase. In my opinion, this expansion was too great to be explained as a normal increase in the very small Preclassic population of the area. Rather it seems that there must have been an influx of people entering the Highlands from some outside region.

The Kan phase also marked a drastic change in settlement pattern between the valley-floor sites of the Sak phase and the hilltop sites that were so typical of the Tsah and later phases. There may have been a transitional period in terms of settlement pattern, for Cerro Campanat?n, the earliest Kan-phase site at which excavations were made, occupied a low eminence that is considerably different from the high, steep hillsides upon which later sites were built. Both of the other Classic sites tested, Rancho San Nicol? and Yerba Buena, occupied steep hills and ridges,
and both showed initial occupations dating from the latter part of the Kan phase.

These changes were accompanied by a marked change in ceramic tradition, for there was almost no connection between ceramics of the Sak phase and those of the Kan phase. Since the temporal gap between the Sak and Kan samples cannot have been much more than two centuries, the ceramic transition must have been fairly abrupt.

There is some indication that the Kan-phase ceramic tradition did not cover the whole of the Central Highlands. The three sites at which Kan ceramics were encountered, Cerro Campanatón, Rancho San Nicolás, and Yerba Buena, are all in the southern part of the Highlands, and all belong to a single ceramic province. In the western sector of the Highlands a ceramic sample which has been provisionally dated as Early Classic was recovered during excavations at Cerro Ecátepec. This sample was totally unrelated to the Kan tradition, and reflects, instead, connections with a tradition that was common in the northern part of the Grijalva Valley during the Late Preclassic and Early Classic. The western sector of the Chiapas Highlands was too poorly covered for this early time range to indicate whether there had been a clear boundary between the Kan and the northern Grijalva traditions.

Outside of the Central Highlands, Kan ceramics were encountered in quantity at the site of Santa Cruz in the Grijalva Valley, but at this site were mixed with numerous types which were foreign to the Highlands (collections in possession of William Sanders). Kan ceramics were very rare in other sites in the Grijalva Valley (NWAF collections) but it should be pointed out that Santa Cruz, Acala and Chiapa de Corzo are the only sites in this particular part of the valley adjacent to the Central Highlands that are known to have had an Early Classic occupation (Lowe, 1959: 15, 16). Burial and cache vessels reported by Lowe and Agrinier (1960), Mason (1960), Lowe (1962), and Agrinier (1964) for the Jiquipilas and Laguna phases at Chiapa de Corzo do not include any vessels of Highland origin.

A fair number of examples of Kan ceramics also appeared in a surface collection from the site of Hun Chavín in the Comitán Valley. Since these included almost all of the important types in the Kan inventory, there must have been at least strong trade connections, and perhaps even ceramic identity, between the southeastern part of the Central Highlands and the Comitán Valley in Early Classic times. Kan ceramics were totally absent in a large surface collection obtained from the Classic site of Tonina in the Ocosingo Valley, although there is a Kan vessel in the collections of the Mexican National Museum that has a stated provenience of Tonina.

Recognizable trade pieces from outside the Central Highlands were extremely rare in Kan-phase deposits. A single specimen of a characteristic white-slipped ware, found in large quantities at the site of Santa Cruz in the Grijalva Valley, occurred at Rancho San Nicolás in a sample datable to the end of the Kan phase. A polychrome, basal-flange bowl fragment was recovered from a pit at Rancho San Nicolás in which a mixture of Kan phase and Tsah-phase ceramics occurred. Since the bowl form is typical of the Early Classic period of the Maya Lowlands (Uaxactún, Tzakol phase, Smith, 1955), it would have been seriously out of place in the Tsah phase and must be considered contemporary with the Kan ceramics in the pit.

In the absence of evidence of outside trade connections, the Kan phase was dated on the basis of general similarities in ceramics with the cultures of the Grijalva Valley and the Lowland Maya region. A number of these similarities involved the forms of the Kan-phase ceramic complex and Late Preclassic ceramics from other areas. The lateral-ridge bowl, deep, outcurving-side bowl, and deep, straight-side bowl find parallels in the Late Preclassic ceramic complexes of the Grijalva Valley and the Lowland Maya region, and Soyatitán Polychrome is very similar to a Protoclassic polychrome type from Chiapa de Corzo.

In spite of this list of Late Preclassic similarities to Kan ceramics, the total Kan collections cannot be considered Preclassic or even Protoclassic. The connections with Late Preclassic ceramic complexes involve only a small percentage of the total collections, and the rest of them are not compatible with a Preclassic date. Many of the most common forms of the Kan phase are clearly not Preclassic. Hemispherical bowls with ring base, which are common in the Kan collec-
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tions, were a Classic, rather than Preclassic, form in the Maya region. At Uaxactún, they did not appear until Tzakol 2 (Smith, 1955:23), while at Kaminaljuyú they first appeared in the Esperanza phase (Kidder, Jennings, and Shook, 1946:177). Most of the jar forms of the Kan phase have high necks which are comparable to the Classic forms in the Maya Lowlands, and completely different from the short, outcurving jar necks of the Preclassic of that region (Uaxactún, Smith, 1955:23; San José, Thompson, 1939:158).

The total impression of the Kan-phase ceramic complex is that of an Early Classic tradition of ultimately Maya origin, but of considerable isolation. With the failure of Maya Early Classic polychrome decoration and the vessel forms associated with it to penetrate the Highlands, many Preclassic forms persisted among the finer vessels. The forms of Kan utility vessels followed the general Maya pattern of development from the Late Preclassic to the Early Classic, although without specific similarities to any known Maya Early Classic ceramic complex. In the light of these conclusions, it seems likely that the Kan phase began at about A.D. 300, a date at which some of the rather specific Preclassic similarities would not be remarkable. It should be noted, however, that if Cerro Campanatón was, as suspected, earlier than the other two Kan sites at which excavations were made, penetration of the Highlands proper by the Kan tradition may not have occurred earlier than A.D. 400 to 500. On the basis of data for the Tsah phase, the end date of the Kan phase has been set at A.D. 700, a century after the end of the Early Classic in the Petén. The fact that the Kan-phase deposits were generally deeper and of more varied ceramic inventory than the deposits from other phases tends to support the long time-span suggested for the phase.

If the assumption is made that people moving into an area that had previously been very sparsely populated would not be likely to abandon their ceramic tradition and adopt a completely new one, one may use the ceramic data to speculate about the origin of the Classic-period population in the Chiapas Highlands. If there was a movement of people into the Highlands from some outside region during the Kan phase, the most likely source would seem to have been either the Grijalva Valley or the Maya Lowlands, the two regions with which Kan ceramics are most closely related. These possible sources receive some support from the distribution of Kan ceramics, which seem to have first become established in the southeastern part of the Central Highlands.

Data from the Grijalva Valley may have some bearing upon this question (Lowe, 1959; Warren, personal communication on the ceramic sequence of Chiapa de Corzo; Brockington, personal communication on the site of Santa Rosa). There was an intensive occupation of the entire Central Depression of Chiapas during the Late Preclassic and Protoclassic periods. Lowe (1959:11-14) suggests an origin in the Maya Lowlands for the basic ceramic tradition of this era, but toward the end of the Preclassic the Central Depression underwent a period of increasing regional divergence in ceramics, and was subject to influences from the highlands of Guatemala and the Gulf Coast of Mexico. At about the start of the Classic period, there was a serious disruption of the established pattern of occupation. At the same time, sites in the northern part of the Grijalva Valley displayed ceramics that show connections with the Gulf Coast of Mexico, and almost all traces of earlier Maya connections disappeared from this area. It seems quite possible that the influence that was responsible for the disruption of occupation in the Grijalva Valley might have resulted in a displacement of population into the Central Highlands.

The source and nature of the relationship between the ceramics of the Chiapas Highlands and those of the Lowland Maya area cannot be explained because of the lack of data from intervening areas. The relationship may have been remote, and mediated entirely through the inhabitants of the Grijalva Valley, but the possibility of other connections cannot be dismissed. Although Classic Maya traits such as dated monuments and the corbeled arch reached the Ocosingo Valley at the eastern border of the Highlands during the Early Classic (Blom and Lafarge, 1926; Morley, 1946), there does not seem to have been any direct ceramic influence in the Highlands from this source, for the surface collection of ceramics from the site of Toniná showed no connection with Kan ceramics. The
ceramic tradition of the Central Highlands seems to have been similarly unrelated to that of the Late Classic occupation of the Comitán Valley, where Lowland Maya traits also appeared, but Kan ceramics did occur in the Comitán Valley during the Early Classic, and some connections with the Maya region through this area before the arrival of Classic Maya features is possible.

Attention should also be given to the degree to which the ceramic data correspond to glottochronological data derived from the modern indigenous languages of the Chiapas Highlands. Although Adams (1961:344) has already considered this question, some expansion of his remarks in terms of the latest ceramic data may be of interest.

The lexicostatistical data (McQuown, 1959) indicate that the Tzeltal and Tzotzil languages, the languages spoken in the Central Highlands today, have been separated for a period of time between 1000 and 1500 years. Chuj, the nearest relative of the Tzeltal-Tzotzil group, is separated from the two by about 16 to 17 centuries. The first basic question is whether the influx into the Chiapas Highlands that occurred during the Kan phase might represent the arrival of the parent stock out of which Tzeltal and Tzotzil differentiated. The ceramic data indicate that such was most likely the case. If one assumes that differentiation of the Tzeltal-Tzotzil stock did not begin until the parent group had been well dispersed over the Highlands, the beginning of divergence would have taken place at about the start of the Tsah phase, 1200 to 1300 years before present, in excellent agreement with the glottochronological data. There is also an apparent parallel between the patterns of linguistic and ceramic divergence within the Highlands. Both sets of data suggest a relative uniformity of culture patterns in the region during the Classic period, followed by increasing divergence that eventually resulted in the establishment of two separate zones.

It is more difficult to relate ceramic and glottochronological data in the problem of the ultimate origin of the Classic population of the Chiapas Highlands. It would be convenient to attribute the Maya influence in the Late Preclassic ceramics of the Grijalva Valley—and perhaps the Comitán Valley—to the presence in that region of the parent stock of Tzeltal and Tzotzil, or Tzeltal, Tzotzil and Chuj, but the preliminary linguistic data indicate that the periods of separation involved are far too short to make such a history likely. Unless the final tabulation of the lexicostatistical data results in considerably longer periods of separation, a more likely explanation would seem to be that the advent of the undifferentiated Tzeltal-Tzotzil group in the regions bordering the Highlands was a part of the series of new influences and unrest that marked the end of the Late Preclassic in the Grijalva Valley.

Although it seems probable that the spread of Classic ceramics in the Central Highlands of Chiapas can be correlated with the advent of the parent Tzeltal-Tzotzil group in the region, all the hypotheses about the origin of the group must be considered extremely conjectural. Not only are the glottochronological data preliminary, but the archeological considerations are derived from a few bits and fragments of evidence that have been gathered from regions that still remain essentially unknown. The speculations are offered only in the hope that they may highlight problems for further study, and indicate the possibilities for historical reconstruction that are inherent in a correlation of archeological and linguistic data.

**Tsah Phase**

In terms of the number of sites occupied, the Late Classic Tsah phase was one of the major periods in the history of the Chiapas Highlands (Adams, 1961:345-7). A large collection of ceramics from this phase was recovered by excavation at the sites of Rancho San Nicolás and Yerba Buena, and was supplemented by a brief review of ceramics obtained in excavations at Moxviquil and Cerro Ecatepec in the San Cristóbal Valley.

After a brief period of rapid ceramic change at the beginning of the Tsah phase, the ceramic tradition of the Central Highlands settled down to a stable entity that covered the whole of the Highland region. Tsah phase ceramics are best understood for the southeastern part of the area, and the seriation data used in defining the sequence were obtained from sites in that sector. Ceramics from sites in the San Cristóbal Valley make it clear that the western part of the Highlands participated in a regionally variant tradition
in which there were different varieties of some of the types found in the southeastern sector, as well as several additional types that were not found in the southeast. Nonetheless, the bulk of the collections from the two sub-regions were close enough in both type and vessel form to give the Highlands a ceramic unity greater than at any subsequent time.

Tsah ceramics were not widely distributed outside of the Chiapas Highlands. The Classic site at Toniná in the Ocosingo Valley remained completely unrelated to the Highlands in ceramic inventory. Collections from Late Classic sites in the Comitán Valley show a number of general ceramic similarities between that area and the Highlands, but the ceramic traditions of the two areas give the impression of traditions which were either diverging from a common base or were subject to similar influences.

It is possible that the Comitán Valley was subject to strong influences from the Lowland Maya area at the start of and during the Late Classic period, for dated monuments and architectural techniques related to those of the Lowland Maya area appeared in the region at that time. Although this influence did not penetrate the Highlands to any great extent, it might have been responsible for the cluster of ceramic changes that marked the introduction of Tsah ceramics.

Trade pieces of Tsah ceramics occurred only rarely in sites in the depression of the Grijalva River (NWAF collections). The occurrences were most frequent in a restricted part of what Lowe (1959:30-43) calls the Acala subregion. It is at this point that the river passes closest to the highland massif, and ceramics of Grijalva types are known to have reached into the lower slopes of the Highlands around the town of Zapotal (Adams, 1961: Fig. 1). Despite the occasional trade connections, the basic ceramic tradition of the Central Depression during Late Classic times was quite different from that of the Central Highlands, although there were some similarities in vessel forms between the two traditions.

The vessel forms in which the Tsah ceramic inventory shows the closest relationships with the ceramics of the Grijalva and Comitán valleys are utility forms, such as large storage bowls and jars. These forms are part of a very broad tradition of forms for utility vessels that covered the Lowland Maya area from Barton Ramie (Gifford, personal communication) and San José (Thompson 1939) on the east to Altar de Sacrificios (Richard Adams, personal communication) and the Usumacinta sites (Rands, personal communication) on the west during the Late Classic period. All of the Late Classic ceramic complexes of Central Chiapas seem to belong to the margins of the Lowland Maya sphere of influence.

Tsah-phase collections from the Central Highlands contained more trade pottery of determinable source than did collections of any other phase. Trade pieces were still extremely rare, and confined largely to mortuary and cache contexts, but they did indicate economic relationships with other parts of Mesoamerica. Several polychrome vessels found in Tsah contexts indicate connections between the Chiapas Highlands and the Maya Lowlands, and a fragment of a modeled-carved vessel from Rancho San Nicolás (Fig. 6, a) is very similar to Carved Ferruginous ware from the Petén. Z-Pine Orange vessels found in tombs at Moxviquil were obtained by trade with the Tabasco coastal plain (Smith, 1958), and the effigy urn found in the ball-court cache at Yerba Buena is similar to examples known from Qu'en Santo in western Guatemala (E. Seler, 1901).

General similarities in vessel form place the Tsah phase as roughly contemporary with the Late Classic ceramic complexes of the Lowland Maya area. The trade pieces that were encountered in the Central Highlands offered a potential means by which to provide a more exact estimate of the relative temporal position of the phase. Although many of the trade vessels occurred in dubious stratigraphic situations or, if they occurred in tombs or caches, were unaccompanied by temporally significant local forms, the total information available for dating the Tsah phase was more than was available for any other phase in the sequence.

Whole or fragmentary vessels datable by reference to known sequences in the Maya Lowlands, and of undeniably Tsah-phase contexts in the Chiapas Highlands, belong to types that occurred during Tepeu 2 and 3 at Uaxactún, but none of the examples seem to be as early as Tepeu 1 (Smith, 1955). In addition, the tombs at Moxviquil, which are
estimated to date from the end of the Tsah phase, contained numerous examples of Z-Fine Orange, which dates from the transitional period between the Late Classic and Early Postclassic (Smith, 1958; Smith and Gifford, n.d.). The Tsah phase thus probably began at about the time of Tepeu 2, i.e., A.D. 700, and continued until the time of distribution of Z-Fine Orange, about A. D. 1000.

**Yash Phase**

During the Yash phase, the general patterns of occupation and artifact manufacture that had become established during the Tsah phase were continued. Almost all Tsah-phase sites continued to be occupied at least during the early part of the Yash phase, but the majority of them declined and were abandoned before the beginning of the succeeding Lum phase. In the excavation samples, the Yash phase was represented in material from the sites of San Gregorio, Yerba Buena, and Rancho San Nicolás, as well as in supplementary material from Moxtixquil and Cerro Ecatépec.

The discussion of Yash ceramics is made difficult by the fact that the ceramic complex of this phase had few distinctive characteristics of its own. The seriation charts indicate that the ceramic inventory consisted of little more than the persistence and diminution of elements that had been present during the preceding Tsah phase. The decreasing Tsah types and forms were replaced by increased production of San Gregorio Coarse, the dominant ceramic type of the Yash phase, and by the gradual addition of small quantities of ceramic types which were to become important in the following Lum phase. In many ways, the Yash phase may be thought of as a very slow transition between the ceramic complexes of the Late Classic and Late Postclassic. The transitional character of the Yash phase seems to have held true for the patterns of occupation and territorial organization as well (Adams, 1961:352).

The continuity between the Tsah and Yash phases in the Central Highlands of Chiapas is an important contrast to the situation that occurred throughout much of Mesoamerica at this time. It can be linked with a similar continuity between phases reported by Lowe (1959) and Navarrete (1959) for the Grijalva Depression. Central Chiapas seems to have stood apart from the serious disruption between the Late Classic and Early Postclassic that occurred in many other areas. Willey has summarized this transition in the Maya Lowlands as follows:

One of the most startling settlement phenomena of Middle American prehistory occurs with the change from Classic to Postclassic. This is the apparent abandonment of the southern Maya lowlands. This abandonment is noted in all the southern ceremonial centers, where construction and stelae dates cease after about 900 A.D. And, from the data available, the events of the ceremonial centers appear to be paralleled in the domestic sites. Ceramics and other materials datable as Postclassic are rare in the Petén and the Belize Valley. (1956:113)

Willey's statement must be modified somewhat in the light of more recent data, but still holds true in its most essential aspect, that there was a marked disintegration of previous culture patterns in the Central Maya area at the end of the Late Classic period. Although the presence of such undeniably Early Postclassic types as Tohil Plumbate and X-Fine Orange at Tikal (W. Coe, 1962) and Uaxactún (Smith, 1955) indicates that continued occupation occurred at these sites, the occupation was of such a marginal character that it has not even been possible to define local ceramic complexes for the Early Postclassic. At Palenque (Rand, personal communication) the situation seems to have been similar, with only a few scattered sherds to indicate Postclassic activity at the site.

At a series of sites, including Altar de Sacrificios and Dos Pilas, along the Pasión River at the southern edge of the Petén, a different situation seems to have existed. These sites show a well developed Early Postclassic ceramic tradition including large quantities of Fine Orange and Fine Grey. Although there are some indications that there was Mexican influence at these sites (Navarrete, personal communication), the nature of the transition between Late Classic and Early Postclassic has yet to be reported.

Although knowledge of the Guatemala Highlands for this time range is limited, the abrupt change in settlement pattern at, or slightly after, the end of the Late Classic (Shook and Proskouriakoff, 1956) suggests a disruption comparable to that of the Petén.
In Yucatan, on the other hand, the ceramic transition at least was more similar to that of the Chiapas Highlands. Smith and Gifford (n.d.) emphasize the position of the Early Postclassic ceramic complex in that area as a slow transition between the Late Classic complex and the Middle Postclassic complex.

The fact that the disappearance of the ceramic tradition and territorial organization of the Classic period in the Chiapas Highlands was a gradual process covering several centuries, rather than the abrupt transition evident in so many areas, was probably connected with the extreme isolation of the Highlands during the Yash phase. The external connections that had marked the Tsah phase were interrupted before the beginning of the Early Postclassic and no new connections were established. The Mexican influences visible in the Maya area on the Pacific coast of Guatemala (Thompson, 1948) and Yucatan (Morley, 1946) never appeared in the Chiapas Highlands. Even more surprising was the extreme scarcity of the fine trade pottery that covered large areas of southern Mesoamerica, especially during the Early Postclassic. Tohil Plumbate, which reached almost every part of Mesoamerica (Shepard, 1948), is represented in the Chiapas Highlands by only one dubious Plumbate sherd from a surface collection at Rancho San Nicolás, a single vessel reported to have been found at San Gregorio (Schumann, 1936), a few sherds recovered by Lorenzo (personal communication) in the excavation of rock shelters in the Teopisca Valley, and a vessel in the Blom collections reported to have come from near Teopisca. Considering the bulk of Early Postclassic ceramics recovered, the quantity of Plumbate that entered the region must have been very small indeed. X-Fine Orange, which had almost as wide a distribution as Plumbate (Smith, 1958) is totally unrepresented in the Central Highlands collections.

Even connections with the neighboring Grijalva Valley were rare during the Yash phase. Better comparative data for the Grijalva are available for this time period, because of large collections obtained from my excavations at the site of Copanaguastla, in the Central Depression near the base of the highland massif. The earliest occupation at Copanaguastla has been tentatively dated as Early Postclassic. During this time there were a few trade pieces from the Highlands at Copanaguastla, even rarer items from the Grijalva in some of the Highlands sites, and some similarities in the vessel forms of the two regions. Although these connections leave little doubt that some commercial contacts existed between the Central Highlands and neighboring parts of the Grijalva Depression, the trade pieces and similarities involve only a tiny fraction of the total ceramic inventories. The amount of contact indicated by ceramics is very low, especially in view of the fact that Copanaguastla was occupied in Colonial times, and probably before the Conquest as well, by a people who spoke one of the languages of the Chiapas Highlands.

Some idea of the regional variation within the Central Highlands during the Yash phase was provided by ceramics of this date from the sites of Moquío and Cerro Ecatépe in the San Cristóbal Valley. As during the Tsah phase, the ceramic complex of the western sector was regionally variant, with different varieties of known types and a few new types not encountered in the eastern sector. Although in the western sector, as in the eastern, firm conclusions about the Yash phase are made difficult by the vague separation of the phase from the preceding and following phases, the degree of regional variation seems to have been increasing. The Yash phase was the apex in the western sector of the type Ixtapa Fine, a type that did not occur in the east. Also several new varieties and types which were to mark the strong regional differentiation of the Lum phase began to appear in Yash-phase samples from the San Cristóbal Valley.

Even within the eastern sector there was a greater degree of subregional variation during the Yash phase than had been noted for earlier phases. Deposits at San Gregorio contained large amounts of Tzaconejá Red, a type which did not occur at Rancho San Nicolás and Yerba Buena, and the forms of San Gregorio Coarse differed in frequency from site to site. If one can picture the Kan phase as a period during which the present inhabitants were spreading over the Central Highlands, and the Tsah phase as the period during which the total occupation of the area was achieved by a people who still had a fairly homogeneous culture, the Yash phase would seem to mark the acceleration of intra-
Highlands differentiation of a people who had been established in the area for several centuries.

The isolation of the Highlands, and the lack of separation between the Tsah and Yash phases make the assignment of any but arbitrary dates to the Yash phase an impossibility. The presence of a Tohil Plumebate vessel at San Gregorio supports a general Early Postclassic date. The beginning date of A.D. 1000 was based upon the conclusion that the Moxviquil tombs containing Z-Fine Orange vessels belonged to the end of the Tsah phase. A closing date of A.D. 1250 was chosen simply because it leaves sufficient time for the ceramic development noted for the Lum phase.

**Lum Phase**

Although ceramics pertaining to the Late Postclassic Lum phase were obtained from the sites of San Gregorio, Cerro Ecatepec, Cuchumtán, and La Hermita, the conclusions regarding the development of ceramics in this phase must be regarded with less confidence than those offered for earlier phases. The basic problem is that Lum ceramics are known primarily from the western sector of the Highlands and, because of strong regional divergence at this time level, are difficult to relate to earlier ceramics from the eastern sector.

Data to which seriation techniques could be applied were obtained for the Lum phase only from a few levels at the site of San Gregorio, and these levels were terminated at a time only slightly after the beginning of the phase. The chief characteristic of the ceramic complex from these levels was the abrupt rise in the frequency of the type Huistán Hard, which was associated with the extinction of most of the Tsah phase elements that had persisted through the Lum phase. The total increment of change was greater than that which had occurred at the Tsah-Yash phase boundary, but less extensive than that at the Kan-Tsah boundary. There was evidence from surface collections and from connections with the Western Highlands that demonstrated that the ceramic tradition suggested by the early Lum levels at San Gregorio continued considerably after the abandonment of that site, probably until the time of the Conquest.

Regional variation within the Central Highlands had increased to such a degree by the time of the Lum phase that the original late Lum-phase sample from the site of La Hermita in the San Cristóbal Valley could not be dated by comparison with Lum ceramics from San Gregorio, and had to be assigned a Late Postclassic date merely by the elimination of possibilities. Collections made later at the site of Cerro Ecatepec showed somewhat more clearly the temporal position of the Lum ceramic complex from the San Cristóbal area, and demonstrated a few trade connections with the eastern part of the Central Highlands. The connections were so few, however, that it seems necessary to formulate the data in terms of two ceramic complexes, rather than a single Highland unit. The ceramics from Cerro Cuchumtán in the northern part of the Chiapas Highlands represent a third ceramic inventory which was, by and large, a blend of elements from the two better-known areas. In general, Lum phase ceramics from the Central Highlands could not be dealt with as a single unit, as in earlier phases, for knowledge of the ceramics of a single section within the Highlands would no longer provide even a rough key for the dating of samples from remote parts of the area.

The Lum phase was also marked by the expansion of Highland types into neighboring areas outside of the Highlands proper. The sample from Chacalxib in the Ocosingo Valley indicates that that area shared completely in the ceramic tradition of the eastern sector of the Highlands during the Late Postclassic, even though there had been no connections with the Highlands during the Classic phases. Ceramics of the western complex were represented in the Ixtapa Valley, particularly at the large site of La Tortuga (McVicker, personal communication). Since little is known about earlier ceramic complexes in the Ixtapa area, it is impossible to say whether the connections with the Highlands represent a late intrusion, or whether they may have a long history in the area.

The patterns of ceramic distribution in the Lum phase can be interpreted in the light of the change in patterns of territorial organization proposed by Adams (1961:352-9) for this period. Adams suggests that there was a trend toward larger, more complex, and more powerful political units during the Lum
phase. If, as is not unlikely, there was growing antagonism between these units, it might have resulted in a fragmentation of culture patterns that had previously been similar throughout the Central Highlands. The increasing divergence in ceramic inventory within the area could have been symptomatic of the tendency to fragmentation. The outward expansion of Lum ceramic types could be an indication that the growing political strength of the units of the Chiapas Highlands made it possible and desirable to attempt expansion into neighboring areas, particularly into locations, such as the Ocosingo Valley and the Ixtapa Valley, where there was a compact valley unit of the type favored as a center of settlement in the Highlands themselves.

Connections between the ceramics of the Central Highlands and those of the Grijalva Valley remained remote during the Late Postclassic period. Data concerning the valley are conflicting but the area was probably divided into a number of ethnic regions which seem also to have been regions of ceramic differentiation. The area around and to the south of Chiapa de Corzo was occupied by the Chiapanecs. Chiapanec ceramics have been intensively studied by Navarrete (personal communication) and they show no evidence of relationship with Lum ceramics. The Chiapanecs seem never to have penetrated much further south along the Grijalva than Acala, and the region of the Central Depression lying closest to the Central Highlands was probably occupied by the Tzeltal and Tzotzil (Calnek, n.d.). Ceramics from Copanaguastla, within this part of the Grijalva Valley, showed no closer similarities to those of the Highlands than they had during the Yash phase. Lowe (1959) attributes very few of the sites in the area south of Acala and southwest of the Comitán region to the Late Postclassic period. None of these sites show ceramic connections with the Central Highlands.

In terms of more general similarities, the ceramic complexes of the Lum phase still seem to have been in considerable isolation from outside influences, although this may be partly a result of very incomplete knowledge of Late Postclassic ceramic complexes for the Maya area. A few general similarities do seem to connect the Lum ceramic tradition with ceramics of the highlands of Guatemala. Such features as the general decoration and vessel shapes of Huistán Hard are vaguely like those of Late Postclassic pottery produced at Highland Guatemala centers such as Chintamula and Mixco Viejo (MNAE collections). It should be noted that these tenuous similarities apply only to ceramics from the eastern sector of the Highlands, and that no connections of any sort can be noted for the inelegant ceramics of the western sector.

The possible connection between modern Amatenango pottery and the Late Postclassic type, Huistán Hard, suggests that the native ceramic tradition of the Chiapas Highlands may have survived the impact of the Conquest. In a similar situation at the site of Copanaguastla, preconquest ceramic types continued to be produced without radical change through at least the first century of the Colonial era. Also, the introduction during the Colonial period at Copanaguastla of pottery that appears to be related to the Highland types Huistán Hard and San Gregorio Coarse suggests that new trade patterns may have brought the area of Copanaguastla into contact with a still existing native pottery industry of the Central Highlands. In spite of extensive excavations in Amatenango and Teopisca, however, no Colonial ceramics from the Central Highlands were recovered. In the lack of knowledge concerning the Colonial ceramic inventory of the area, the date of the Conquest, 1524, has been adopted as the end of the Lum phase.
REFERENCES

ADAMS, ROBERT M.

AGHINIER, PIERRE
1960 The Carved Human Femurs from Tomb 1, Chiapa de Corzo, Chiapas, Mexico. Papers of the New World Archaeological Foundation, No. 6. Orinda

BERLIN, HEINRICH

BLUM, FRANS, AND OLIVER LA FARGE
1926 Tribes and Temples. 2 vols. Department of Middle American Research. Tulane University. New Orleans.

BRAINERD, GEORGE C.

BUTLER, MARY

CALNER, EDWARD E.

CASO, ALFONSO, AND IGNACIO BERNAL

COE, WILLIAM R.

COOK DE LEONARD, CARMEN

CULBERT, T. PATRICK

DIXON, KEITH A.
1959 Ceramics from Two Preclassic Periods at Chiapa de Corzo, Chiapas, Mexico. Papers of the New World Archaeological Foundation, No. 5. Orinda.

DUCKER, PHILLIP

DUTTON, B. P., AND H. R. HOBBs

EKHOLM, GORDON F.

KIDDER, ALFRED V., JESSE D. JENNINGS, AND EDWIN M. SHOOK

KINGSBUROUGH, E. K., LORD
1831-48 Antiquities of Mexico. London.

LONGTEAR, JOHN M., III

LOTHROP, SAMUEL K.

LOWE, GARETH W.
1959 Archeological Exploration of the Upper Grijalva River, Chiapas, Mexico. Papers of the New World Archaeological Foundation, No. 2. Orinda.

LOWE, GARETH W., AND PIERRE AGRINIER

MASON, J. ALDEN
McQuown, Norman A. (Editor)


Mosley, Sylvanus G.
1946 The Ancient Maya. Stanford.

Muller, Ethel C.

Navarrete, Carlos

1960 Archaeological Explorations in the Region of the Pialesca, Chiapas, Mexico. Papers of the New World Archaeological Foundation, No. 7. Orinda.

Phillips, Philip, James A. Ford, and James B. Griffin

Phillips, Philip, and James C. Gifford

Robins, Robert L.


Rockenben, Oliver W., and Elizabeth A. Rockenben

Ruppert, Karl. E. Eric S. Thompson, and Tatiana Proskouriakoff

Sanders, William T.


Schumann, E. A., Jr.

Seiler, Cecilia
1900 Auf alten Wegen in Mexico und Guatemala. Berlin.

Seiler, Oscar

Shepard, Anna O.

Shook, Edwin M.


Smith, A. Leonard, and Alfred V. Kidder

Smith, Robert E.

1955 Ceramic Sequences at Uxactun, Guatemala. Publication 29. Middle American Research Institute, Tulane University, New Orleans.


Smith, Robert E., and James C. Gifford

Stephen, John L.
1841. Incidents of Travel in Central America, Chiapas and Yucatan. New York.

Thompson, J. Eric S.

REFERENCES


WAUCHOPE, ROBERT 1948 Excavations at Zacualpa, Guatemala. Publication 14. Middle American Research Institute, Tulane University. New Orleans.


1. Publication No. 1, 1956 ................................................................. Out of Print
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