Cihuatan: An Early Postclassic Town of El Salvador
The 1977-1978 Excavations

by
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Department of Anthropology
University of Missouri-Columbia
1980
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THE 1977-1978 EXCAVATIONS

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KAREN OLSEN BRUHNS

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INTRODUCTION

Location and Natural Environment

The ruins of Cihuatán, the largest known Postclassic site in El Salvador, lie approximately 37 km. to the northeast of the modern city of San Salvador in the department of the same name (Figure 40). The main group of structures, two ceremonial centers and their surrounding residential areas, are located a short distance to the east of the present Carretera Troncal del Norte, the road which from protohistoric times to the present has been the main route from central El Salvador to Honduras. The studied portion of the site is located on a low ridge of volcanic origin formed of decaying andesites and compacted volcanic ash in the middle of a small flat valley drained by two rivers, the Acelhuate and the Chalchique, and their tributaries. These two rivers join and flow into the Lempa River near the Puente Colima some 15 km. to the north (Figure 1). Although the immediate site area is characterized by thin rocky leached soils which support only marginally profitable corn fields and pastures, the site is surrounded on all sides by the deep level soils of the lower Acelhuate-Chalchigue Valley. These are well watered and well drained and today are devoted to the commercial cropping of maize, sugar cane, cotton, and coffee. The surrounding hills support coffee and other tree crops as well as pasture and some subsistence farming, mainly of maize, squashes, huiskil (Sechium edule) and some yuca (Manihot escuelenta Krantz). The natural vegetation of the area is of a seasonal type with seasonal deciduous formations predominating on the lower slopes and valley floor and deciduous evergreen (montane series) covering the higher altitudes of the surrounding hills (Wagner 1964). Although the entire valley and most of the lower hills are now cleared and in pasture or under cultivation, as recently as the 1950's much of this part of the Acelhuate-Chalchigue
Valley was covered by forest. This survives today only in small areas of the upper slopes of the western and southern hills and on the slopes of the Cerro Colima to the north.

The climate in this part of El Salvador is of the AMW' type (Koeppen quoted in Vivó Escoto 1964) and is marked by a strong alternation of wet and dry seasons with most rain falling from late April through September and very little to no rainfall occurring in other months.¹ The elevation of Cihuatán is approximately 317 m. above sea level and the climate is correspondingly tropical. During the dry season days tend to be hot and windy with cool evenings. The rainy season sees a general cooling off of daytime temperatures. In all seasons average temperatures tend to be at the upper end of those typical for tierra caliente with maxima being about 35-38 degrees C. The humidity during the winter (rainy) months is high with low-lying mists characterizing the early mornings. These burn off by mid-morning and heat and humidity rise until rain falls in the late afternoon or early evening. Most rain falls in the course of violent thunderstorms lasting an hour or so. These may be followed by several hours of light rain during the night. Rainy days usually only occur when tropical storms reach the coast of Honduras. When this occurs El Salvador experiences temporales, days of continuous rain. Temporales may occur any time during the winter, but are most common in August and September. The longest one recorded in recent years was 16 days and most are much shorter. The Cihuatán ridge has a slightly different weather pattern than even the immediate valley and tends to receive much less rain. The ridge (the Lomas de Cihuatán) is in a small local rain shadow and is often passed by the thunder storms coming from the east. This localized rainfall pattern helps make the ridge poor for agriculture but could well have been a factor in choosing the site for a settlement. Dwellings on the ridge are less frequently rendered uninhabitable by high winds and downpours than those in other parts of the valley.
Soil types for the Cihuatán area as reported on Cuadrante 2357-1 (Suchitoto) of the Levantamiento General de Suelos (Jiménez and Bourn 1963) show the site to be constructed on the Yayantique Alomado en Terrenos Elevados and on the Chalatenango-Tonocatepeque Ligeramente Ondulado en Planicies formations. The main valley floor is made up of the Jiboa-Toluco Franco Arenosas en Planicies Aluviales with smaller areas of Cucaligeramente Inclinado en Planicies, Chalatenango Casi a Nivel en Planicies, and the Chalatenango-Tonacatepeque formations. The Yayantique formations are largely of reddish clay latosols and litosols while the Chalatennango ones are of buried grumosols and litosols. The Jiboa-Toluco and Cuco formations are alluvial regosols and some latosols. These latter today need little to moderate fertilizing with organic materials and are quite fertile. The Chalatenango-Tonacatepeque formations are good sugar cane lands and likewise need little fertilization to retain their yield while the Yayantique soils are poorer and erode easily when cleared.

The arable land available to the ancient Cihuatecos was quite varied and presented the possibility of growing a range of crops including common subsistence crops such as yucca, maize and other vegetables, cotton and tree crops such as cacao and various fruits. Wooded higher elevations and uncleared areas could have been exploited then as today for hunting and for wood for fuel and construction materials.

Other resources in the site vicinity included (and include) ample water sources. The Lomas de Cihuatán are bordered on the east by the Acelhuate River, an all season stream. The Acelhuate today flows through a deep barranca, but most of the gorge cutting is recent (within the last 20-30 years) and is due to the Acelhuate having greatly increased in volume by becoming the main sewer outlet of San Salvador. On the west the site is bordered by the smaller all season Izcanal river and there are at least three all year springs and a number of rainy season springs within the central occupation area as it is currently determined. Some
ancient water management is indicated by the remains of small check dams in the all season spring areas and by what appear to be two small reservoirs located on the northwest side of the ceremonial centers. Since less than one third of the discernable site area has been systematically surveyed there may be other remains of erosion and/or water control within the site area. Modern inhabitants of the area do not construct either check dams or gravity flow irrigation works.

Fish are available in the rivers today and seem to have been exploited in the past as in the present judging from net weights found in archaeological contexts. No information is available on domestic or wild animals exploited and the very poor preservation conditions met with at Cihuatán, which are due to heat, humidity and highly acid soils, do not hold much hope for any recovery of osseous materials. A burial uncovered by Dr. Stanley Boggs (probably a sacrificial cache) in the Eastern Ceremonial Center contained a female and a dog, and canids are shown in figurines and effigy artifacts of various sorts (Boggs personal communication).

Aside from wood for fuel and building material there are ample sources of both hard volcanic rock (mainly basalts and andesites) and soft compacted volcanic ash (talpuja) close to the main site area. These were used in construction of both domestic and civic structures. Clay for adobe, wattle and daub and ceramics is available in lenses within the natural soils of the site and in outcrops along the Izcanal, the Acelhuate and in numerous small quebradas.

Obsidian, which appears to have been a major industrial stone at Cihuatán, may also have been available locally. There are reports of obsidian flows and workshop sites on the slopes of the Volcán de Guazapa about 10 km. to the southeast. The Cihuatán obsidians have not yet been determined, but superficial inspection indicates that a number of different obsidians were probably in use.
Discovery and Previous Investigations

Cihuatán was apparently abandoned well before the historic period. There are no references to the site in any of the early colonial documents now known and the first mention of a settlement in the immediate vicinity is in the census of 1807 which describes a new hacienda at the Puente Colima (Gutiérrez y Ulloa 1962). The nearest towns at the time of the European invasion were El Paisnal to the west, Guazapa to the south, Suchitoto to the southeast, and Tejutla to the north on the other side of the río Lempa. The market town of Aguilares, which today serves the district, was incorporated in 1934 when the re-occupation of the lower Acelhuate-Chalchigüe Valley was well underway (Barón Castro 1942).

The earliest known report of Cihuatán dates to 1878 when a German-American traveller passed by while travelling from Chalatenango to Guazapa. When he reached Guazapa he was told by a local inhabitant that he had that day passed "a place called Siwhuatán (sic) on the river Lempa, remarkable for the many ruins of foundation walls regularly laid out" (Habel 1879:38). Cihuatán received no further attention from outsiders until 1925 when Samuel Lothrop visited the site (Lothrop 1926). In the same year Antonio Sol began investigations in the Western Ceremonial Center, at that time the only part of the site known to exist (Sol 1929). Beginning in 1954 the Departamento Técnico de Excavaciones Arqueológicos of the Ministerio de Cultura (later the Departamento de Arqueología of the Dirección de Investigaciones under the Dirección del Patrimonio Cultural, Ministerio de Educación, Juventud y Deportes) continued the work of Lothrop and Sol under the direction of Dr. Stanley Boggs. These investigations have continued sporadically until the present. The Western Ceremonial Center was purchased and then declared a
national monument in 1977. This portion of the site has been cleared and partly excavated and restored with work continuing until the present, most recently under the direction of Mr. William Fowler of the University of Calgary.

During the 1950's clearing of the forest which had covered the site since antiquity revealed the existence of a second group of large, apparently ceremonial, structures directly to the east of the Western Ceremonial Center. Boggs in his Figurillas con Ruedas de Cihuatán y el Oriente de El Salvador (1972) remarked that clearing for pasture and for agriculture had uncovered evidence of a large area of habitation around the two centers. At that time he mentioned the desirability of a study of the settlement of the site before this was completely destroyed by agriculture and by looters.

In 1975 the study described below was begun under the author's direction. The project was planned as being complementary to the work of the Patrimonio Cultural in the Western Ceremonial Center and has been carried out with their continuing cooperation and aid. The first stage of the project involved a preliminary survey of the area around the Western Ceremonial Center and the beginning of a map of the archaeological remains to the south of this center (Bruhns 1976). This initial work indicated that Cihuatán was much larger than Boggs (1972) had surmised and that remains of habitation and of secondary civic or ceremonial groups were to be found all along the ridge and for an unknown distance onto the valley floor. To date these outlying areas have been only casually spot surveyed owing both to problems in obtaining permission to survey on private landholdings and to the difficulties of investigation in well grown sugar cane, corn or high brush. Aerial photographs and casual inspection suggest that remains are fairly continuous all along the Lomas de Cihuatán to about 4 km. to the south of the main ceremonial centers and may well extend farther in that direction. On the east side of the
Acelhuate construction of a landing strip on the Hda. San Francisco uncovered extensive habitation remains and a cemetery associated with a group of larger structures. Materials from agricultural activities and clandestine excavations throughout the lower Acelhuate-Chalchigüe Valley indicate that this area has substantial material contemporary with that from Cihuatán. Fowler and Solís in their report on salvage operations at Santa María in the Cerrón Grande flood area to the northeast of Cihuatán mention other groups of mounds which would also seem to be contemporary (Fowler and Solís Angulo 1976). They suggest that not only these but Santa María itself were associated with Cihuatán, perhaps as dependents, as they are identical in artifacts and architecture while being much smaller sites. Santa María, at least, was destroyed at the same time as Cihuatán (Table 1).

The Cihuatán Settlement Archaeology Project

The Cihuatán Settlement Archaeology Project (Proyecto Cihuatán II) has to date been mainly concerned with the areas immediately surrounding the two ceremonial centers on the north end of the Lomas de Cihuatán. The first stage of the project (reported in Brühns 1976) was the initial survey combined with feature mapping of the area directly to the south of the ceremonial centers. In this phase of the project 181 structures were located, the majority of them house platforms. The survey was carried out in the rainy season in an area then in high grass and brush. Resurvey of the area in 1977, after it had been heavily grazed, has added more structures to this total. A second short season of mapping and survey was undertaken in January 1977. At this time the Eastern Ceremonial Center was completely mapped for the first time as were the habitation zones on the slopes above the Acelhuate to the north and east of this ceremonial center. Survey and mapping continued through the 1977 and 1978 seasons. To date the areas to the southeast
of the Eastern Ceremonial Center and to the south of the Western Ceremonial Center have been feature mapped as has part of the area to the north of the Western Ceremonial Center and a small area of the west part of the ridge adjacent to the ceremonial centers. In 1978, in cooperation with William Fowler, a new map of the Western Ceremonial Center was completed. This was undertaken because previous maps had been done a small portion at a time, over the years, when most structures were unexcavated and the site itself was covered with trees and brush. Continuing work in this area had revealed that the published maps were very inaccurate and so the Western Ceremonial Center was completely bushed and remapped. This map is reproduced as Figure 2.

To date approximately 73 hectares (including the two ceremonial centers) of the site have been mapped. The maps indicate a dense population living around the main ceremonial centers on the Lomas de Cihuatán, both on the ridge and on the valley floor in all directions. The extent of this latter settlement, however, is not known.

The habitation zone exhibits little overall planning. Houses are arranged in clusters around a series of small patios or plazas or strung in lines along terraces. These two major types of arrangement are often combined and the layout of household complexes would seem to have been dictated by topography as well as by sociological considerations. A number of different house forms are evident, but all would appear to be contemporary. The strong possibility exists in a site the size of Cihuatán that there is neighborhood (barrio) differentiation in activity or ethnicity. Our investigations have been extremely preliminary and spatially restricted, however, and little of this presumed intra-site variation has yet appeared.

In June 1977 excavations in the habitation zone were begun. To date two three month seasons of excavations have been completed by us and a third by the University of Calgary. These two seasons have a number of objectives. A major concern has been to
place Cihuatán in time. Although Cihuatán has generally been described in print as being Late Postclassic, the fact that it was evidently abandoned before the Spanish invasions threw some doubt on this impressionistic placement. Ceramics from excavations in the ceremonial centers further indicated that the initial occupation was somewhat earlier as Tikhil Plumbate, a ceramic type of the Early Postclassic, had been found in some quantities. The rest of the ceramic complex as represented in these excavations was anomalous, showing resemblances to both Early and Late Postclassic ceramic assemblages as known from El Salvador, Guatemala, and Honduras. These materials all came from excavations in the slump surrounding ceremonial platforms and from superficial deposits in the same areas. What was needed was a comparative sample from other contexts. It was also hoped that investigations in the residential area would uncover stratified refuse deposits and would not only enlarge the available sample, both in numbers and in types of ceramics, but would give some indication of temporal changes. A second objective was that through recovery and analysis of ceramics and associated artifacts some idea of the nature of the habitation area itself might be gained. Remains of domestic structures are numerous and the density of these structures, especially in the immediate vicinity of the ceremonial centers, could be taken as being indicative of an urban population. However, there was no evidence bearing on the contemporaneity of these structures, either to one another or to the ceremonial groups. This problem then is directly one of what kind of a settlement was Cihuatán, how populous was it at any given time, and what was that time? These questions have a bearing on any interpretation of socio-political structures or of culture history during the Postclassic.

A related objective was to discover something of domestic life in this area and time. Very little settlement oriented archaeology has been done on the southeastern frontier of Mesoamerica and such basic questions as what kinds of dwellings there were, their arrangement, their function(s), the possible social structures they housed, etc. remained to be answered.
Larger questions included those bearing on the Postclassic history of El Salvador and the southeastern frontier in general; relationships with other sites and areas, trade and cultural interaction between this area and Mesoamerica and lower Central America, and hypotheses concerning the history of the Maya area following the collapse of Classic Maya civilization. From the work that had been done it was evident that Cihuatan was somewhat different in form from the Classic period sites of central El Salvador. Although there have been as yet no large scale surveys carried out in the Acelhuate-Chalchigüe Valley, a major salvage project connected with the construction of the 5th of November Dam on the middle Lempa River had been completed. This survey (and associated excavations) was centered in the Cerron Grande inundation zone northeast of Cihuatan and has given some idea of prehispanic occupation in that area. Here Preclassic villages, Classic ceremonial centers, and one Postclassic site have been investigated (Crane 1976, Earnest 1976, Fowler 1976, Fowler and Solís Angulo 1977). The Classic sites, especially those of El Tanque and the Haciendas Santa Barbara and Colima, show evidence of intense interaction with Mesoamerica in their ceramics. Especially noteworthy are the quantities of Copador and Copador related polychromes, as well as other Mayan and Mayoid wares. Settlement information is scanty from these operations, but it appears that there was a large Classic occupation of the middle Lempa Valley characterized by monumental architecture arranged in ceremonial centers and with a more or less dense, but scattered, population in the surrounding countryside. The sites are located both on the hills and on the valley floor, but in areas clearly not chosen for defense. Finally, there seems to be reason to conclude that the events of the Late Classic in southern Mesoamerica had an impact on the populations of the middle Lempa Valley. The ceremonial centers were abandoned and remains of later, Postclassic, occupations are limited.
The lower Acelhuate-Chalchigüe Valley at this juncture seems to have risen to prominence as the population and perhaps the political center of central El Salvador. Comparative survey data are lacking for this valley, although there seems to have been at least one Classic center, called San Francisco, to the south of Cihuatán. There may be other Classic sites on the slopes of the Volcán de Guazapa and on the hills bordering the western side of the valley as well, but these are probably not large or important. Excavations in the Western Ceremonial Center have indicated that the site of Cihuatán was not inhabited prior to the construction of that center. Platform fill is almost completely sterile and cultural debris is largely restricted to superficial deposits. Only one small section of the Western Ceremonial Center shows rebuilding and from this situation it appeared that only excavation in the residential area would reveal if there had been an earlier occupation.

THE CEREMONIAL CENTERS

The civic or ceremonial core of Cihuatán lies on the north central portion of the ridge which seems to form the main site area. The Western Ceremonial Center has been described in print several times (Lothrop 1926, Longyear 1944, etc.). It occupies the highest point of the ridge and the main structure, a 14 m. high pyramid rather prosaically named P-7 (although local residents occasionally refer to it as La Gloria) is visible from most of the valley. The center consists of a large walled enclosure roughly rectangular in form, flanked by a broad terrace outside the walls to the west and a smaller rectangular one to the north bordering the North Ball Court (Figure 2). The structures of the enclosure and its wall are largely built of fieldstone, roughly shaped and covering rubble and earth fill. Several of the structures seem to have been built on large rock outcrops or include these in their construction. The circling wall, which is both an enclosing and a retaining wall, varies from approximately 1.5 to 3 m. in height. It surrounds a flat plaza which is terraced into two levels by a north-south
retaining wall. One long rectangular platform, P-11, is located on this terrace wall.

The main pyramid, P-7, is located on the southeast side of the enclosure. This is the largest structure of Cihuatán and probably had five stages. It has never been completely cleared although Sol (1929) did some restoration of the lower stairs and excavated on the top. The pyramid appears to have been built of a rubble fill with shaped fieldstone and talpuja slabs as facing. It originally had three stairs on the north, south and west sides. The lower stairs show wide balustrades in a talud-tablero arrangement with the vertical upper element forming somewhat more than half of the total height of the balustrade. This same arrangement of balustrades is found in all structures in which the stairs are preserved. Clearing operations on the top of the pyramid have obliterated any remains of a superstructure.

To the southeast of the pyramid is a small patio surrounded by buildings. This section shows at least three superimposed levels of construction, the only area of the site which has significant amounts of rebuilding.

A number of smaller platforms are scattered about the enclosure. These are all much smaller and show certain variations in arrangement of stairs, etc. The other notable features of the enclosure are the two ball courts. Both have been excavated, the North Ball Court completely. The ball courts are completely enclosed I shaped masonry constructions with narrow vertical aprons and vertical ranges. The North Ball Court has been found to have had a number of entrances: one through the associated structures (which include a temescal) on the south, one on either side of the south end zone, and a stair on the north end zone. In addition the exterior of the ranges is stepped, perhaps for public access as these lie outside the enclosure wall.

The West Ball Court, which also lies partly outside the wall, is somewhat different. It replaced an earlier structure (which is partly incorporated within the east range) which was completely within
the ceremonial walled precincts. This ball court has not been completely excavated nor restored but it appears not to have been finished at the time Cihuatán was abandoned.

Outside the walls there are two platforms associated with the North Ball Court, both with west facing staircases and one with a talud-tablero bench inside the superstructure. To the west of the main wall of the ceremonial center is the West Terrace, a broad flat terrace bordered by a line of small platforms of non-residential type. Two of these have been excavated: P-20 and P-22 (Hernández 1976, Bruhns this paper); two others, P-17 and P-19, have been partly cleared. All are low (approximately 0.80-1.50 m.) roughly rectangular platforms and all apparently originally had perishable superstructures. A final building, P-16, is completely different. The excavation of this building is described below.

The Eastern Ceremonial Center is quite different in plan. Located directly to the east of the Western Ceremonial Center, it is separated from it by a natural depression. This was modified into a series of three descending plazas and contains the remains of numerous structures now almost completely obliterated by agricultural activity. The Eastern Ceremonial Center too is located on a modified hilltop, but is not walled. The hill was terraced with the western terraces and the top of the hill containing structures of a non-domestic type. The western terraces apparently had a ramp or a stair more or less centrally located. All structures on the Eastern Ceremonial Center are in a poor state of preservation owing both to agricultural activities and to deliberate destruction in connection with these activities. The larger structures seem to have been located around a series of small plazas and in a line below a terrace to the south. The north and east sides of the hill are terraced and contain both civic and residential structures. There is little sharp delineation between the areas of larger, apparently ceremonial, construction and the smaller residential buildings. Materials from the excavations carried out in one
structure (0-4) by Stanley Boggs and recovered by us from the surface of this area show complete identity with those recovered in the Western Ceremonial Center.

EXCAVATION STRATEGIES AND PROCEDURES

The areas chosen for more intensive investigation and excavation at Chítuátan were mandated by a series of considerations not all of which were concerned with archaeological problems or theories. Although it would have been desirable to ascertain, at least in part, the limits of the site prior to developing an excavation plan local political events, private ownership of most of the known site area by many different persons and contemporary land use made this impossible even had the personnel been available. Specifically we have been limited to working in those areas where the landowner was amenable to investigations and in which little or no disruption of current economic activities would result from our work. Although survey and mapping could be done in some fields (e.g., newly planted maize and squash), all excavations have had to be confined to those areas of the site in fallow or in pasture. In these areas excavations were carried out sequentially, one operation at a time, with the excavation area being fenced prior to the beginning of work and the excavations refilled and replanted with grass at the termination of the operation. This has necessarily limited the size of the excavation units and has meant that entire building complexes could not be cleared and left open until the completion of all work in that area or structural cluster.

Excavations were designed to answer a specific set of questions related to period(s) of use of the structures, their contemporaneity or non-contemporaneity, architectural modes and variations and use of structures. For this reason horizontal clearance was practiced whenever possible, combined with test pitting and trenching in those structures which were not deemed well preserved enough to merit the time and energy that horizontal clearance takes. Upon completion of
the fencing of a unit, the brush was cut and the unit strung out into excavation units. These were not the same in all operations, but were designed to fit the specific conditions met with in each operation. The units were then weeded by hand and surface materials were collected and bagged separately. At this time all surface material was noted and, when appropriate, measured in from a set datum. Excavation then proceeded with surface scatters of rock being measured in and removed and the earth cleared with trowels. The archaeological deposits in the residential area of Cihuatán are very shallow and we rapidly found that there were three basic stratigraphic units in most structures: surface and a thin layer of material evidently related both to the last occupation of the house and to redeposition by natural forces, floor level materials, largely composed of materials left in situ when the structures were abandoned (these were often clearly covered by collapsed walls), and the very small amount of material that had apparently worked its way down due to natural forces as platform fill was essentially sterile. All structures were cleared to floor depth. In addition at least one unit per structure was taken down to bedrock to ascertain the sequence of building construction.

The structures of the residential area of Cihuatán are largely visible as low circular or oval elevations on the modern ground surface. In areas of slope terraces are clearly visible, usually as a line of bedded boulders, but structures on the terraces are often obscured by erosion. As a consequence mapping operations did not reveal the true number of structures. Most house platforms (as distinguished from buildings on terraces) are readily visible either as a low mound or as a definite concentration of fallen rock. Extensive slumping is evident on all these structures and excavation in all cases showed that the rounded shape was the result of disturbance through plowing, seismic activity, or other forces. In the thirty years or so since clearing the land around Cihuatán for agriculture began much of the site has been heavily disturbed.
through plowing. This disturbance varies with the frequency with which a given area has been used for agriculture, but the surface has usually been somewhat disturbed to a depth of 12-18 cm. Because the local plow is an ox drawn single tine wooden plow with a metal tip the disturbance was generally not enough to disturb the bedded rock foundations and in all cases excavation uncovered enough of these to show that the structures had originally been quadrilateral, but smaller cobble walls and subfloors were often in some disarray. The extent of this disturbance became painfully evident in 1978 when we were able to locate and excavate a house cluster that had not been plowed. However, the result of plowing has mainly been to blur artifact distribution to the point where only probable activity areas could be identified in most cases. Linked to this accidental disturbance is another more serious problem, that of looting. Although it is agreed by local collectors that Cihuatan does not produce "pretty" artifacts, the occasional finds of caches of figurines and wheeled "toys" has led to a great deal of clandestine excavation. This is carried out both by local farm workers, mainly in the course of agricultural activities, and by collectors from the area and from San Salvador who make occasional forays. All other problems aside looters proved to be a considerable nuisance to us because local landowners would accuse us of leaving open pits which were dangerous to cattle, even when it was obvious that such pits well antedated our arrival. Most of the larger mounds and many of the smaller ones show evidence of unofficial archaeological activity.

Other causes of disturbance were purely natural. Cihuatan was, until relatively recently, covered by forest. Root disturbance, both from large trees and from bushes and other scrub, was widespread. Burrowing animals had also done a fair amount of damage to structures. However most of the mounds show at least one line of fairly well preserved bedded rock foundation along the edge at the break between the crown and the slump. The foundation walls, and where possible, the corners formed by their intersections were used as basal alignments
for orienting control grids for excavation. In this way the interior of the mound could be laid out in quandrangles off this base line and the resulting grid could be expanded to include as much of the area as was deemed necessary to excavate.

EXCAVATIONS: 1977

The 1977 excavations at Cihuatán were centered in the area to the south of the Western Ceremonial Center. It was judged desirable to begin excavations in an area which could be related to this ceremonial center with as little ambiguity as possible and a working hypothesis that proximity to a ceremonial group should indicate temporal association with that group was formulated. This area was in heavily grazed pasture and had been the focus of our first season of survey, so that we were also more familiar with the structures and the range of structures here than with other areas of the site. This zone contains numerous low mounds, rock terrace walls, and other architectural features. Five structures, SS-118, SS-50, SS-53, SS-49, and SS-54 and one rock feature, SS-53a, were chosen for investigation (Bruhns 1976, Solís map). These features are all located approximately 150-275 m. south of the Western Ceremonial Center along a slight rise in open fairly level pasture. The low relief allows good surface drainage in the higher areas and creates saturated boggy zones in the lower portions where aerial photographs have indicated a possible large plaza area. The surface of this zone is heavily strewn with rocks which range in size from cobbles to medium sized boulders. There is an occasional outcrop of large boulders, apparently volcanic sills. A number of these outcrops were modified to serve as parts of terrace walls. Aside from architectural features a moderate amount of cultural detritus is visible as surface scatter in the areas free of grass (along ox cart trails, foot paths and eroded rock outcrops). These materials include grinding stone fragments, worked stone slabs, and some ceramic and obsidian pieces.
SS-118

The first operation of the 1977 season was to partly strip mound SS-118. This platform was chosen both for its location near the Western Ceremonial Center and because it is located next to a footpath used by local residents. It was considered desirable to begin excavations in the most visible way possible so that the neighborhood would know exactly what we were doing. SS-118 appeared from surface indications to be quite typical of the smaller platforms on the southern side of the Western Ceremonial Center. It is a low platform, about 20 cm. in height, with a central crown dimension of approximately 7 m. by 4.5 m. (Figure 3). The mound exhibited a heavy scatter of loose surface rock and appeared to be in a rather poor state of preservation as the result of continued plowing and erosion. This was considered desirable for the first excavation as we had little idea of construction features, depth of deposits, etc. Excavation being in itself a destructive activity it was felt advisable to begin on a platform which was already rather destroyed in order to gain experience and to develop appropriate excavation techniques without too great a loss of information.

Initial clearing of SS-118 revealed a distinct line of bedded fieldstone on the south edge of the crown. The northern and western sides of the platform were much disturbed and the limits of the construction were rather vague. A control datum for the mound was established at the west end of the southern wall foundation and a grid of 1 m. squares was laid out from this point using the fieldstone wall as an axis. Excavation then proceeded by discrete one m. square units dug in arbitrary 10 cm. levels. A ½ m. long trench was extended into the mound from the south base line, one m. east of datum. At approximately 3.7 m. a second line of fieldstone was noted running east and the line of units along this wall was followed. From this line a 2 m. wide trench was extended for another 7 m. to the north of the platform. In this way a total of 20 1 m. square units...
were excavated. These units were laid out in a Z shape to include as much architectural information as possible and to uncover both interior and exterior portions of the foundations. The state of preservation of the platform precluded any further excavation. The horizontal exposure revealed a poorly preserved record of foundation walls indicating a rectangular superstructure oriented with its long axis approximately north-south. An attached outbuilding, possibly a lean-to porch structure, was found on the south side. Evidence of the full dimensions of the original superstructure was unobtainable due to the condition of the north and west parts of the platform. No evidence of a preserved living surface was encountered. A subflooring of tightly laid cobble was found close to the present surface. Excavation showed that the entire superstructure above this subflooring had been destroyed, leaving only the subflooring and some scattered pieces of fired wattle and daub. No cobble subflooring was found outside the platform walls or in the area defined as the floor of the outbuilding. Sherds were found mixed with the upper levels of earth and along the cobbling but sherd content dropped off markedly below the cobbles. There was no noticeable stratigraphic change in the first 6-20 cm. (the artifact bearing layer). A 1 by 1 m. pit was dug through the sterile layers to expose subsoil conditions. There was a slight soil change visible at approximately 35 cm. below modern surface (the original A horizon). This was evidenced by a loose clayey loam with somewhat less rock. This changed gradually to a typical C horizon soil at approximately 50 cm. This horizon contained streaks and nodules of decomposing andesite. At 60-64 cm. below surface solid bedrock was encountered.

Excavations were then extended to the south and east to the adjacent midden/patio area where a total of 7 lm.$^2$ pits were placed on the southeast side of SS-118. One of these too was taken to bedrock revealing features similar to the sub-mound stratigraphy without the
added cultural horizon of the platform. Artifact content and
distribution was comparable to that of the mound.

The bulk of information recovered from SS-118 was artifactual.
Sherds were fairly evenly distributed throughout the upper levels
of the area excavated. Architectural information consisted of a
poorly preserved record of foundation walls apparently supporting
a wattle and daub and thatch superstructure. The only evidence of
interior features on the platform was a low wall of an outbuilding
or lean-to (or possibly an interior wall).

The Plazuela Group

Because some very basic questions of construction and of the
nature of archaeological deposits had now been answered, excavations
were turned to a cluster of platforms apparently forming a unit.
These are the structures numbered SS-50, SS-49, and SS-54 on the
Solís (1976) map. SS-53 may also form a part of this cluster.
This group, which is located directly east of SS-118, was chosen
specifically because it conformed to what is generally thought to
be a typical Mesoamerican arrangement of house platforms. Time
and resources being limited, it was felt that excavation of what
would appear to be a group of related structures could best answer
questions of contemporaneity and activities associated with non-
civic buildings. This group consists of two low rectangular plat-
forms approximately 30-35 cm. in height on the east and west of a
small plaza. A third rectangular platform (SS-53 on the revised
map of this area) is found on the south end of the plaza. SS-53
is now nearly destroyed by plowing and by removal of rock to
construct a modern wall which separates the pasture from a maize
field to the south. A fourth small platform was noted directly
to the south of SS-53, lying parallel and close to the modern wall.
This was measured in but was not tested due to its almost complete
obliteration by modern activities. SS-49, the final member of the
group, is a much higher rectangular platform approximately 120 cm.
in height. It closes the north end of the plaza. This large
platform is oriented with a north-south axis. A row of deeply
bedded roughly rectangular fieldstones runs north-south through the center of the plaza, dividing it in half. The southern end of this feature consists of a double line of stones. The function of this wall or foundation is unknown.

SS-50, a low rectangular platform, was completely stripped (Figure 4). Before excavation it was visible as a low rounded rectangle covered with grass and loose rock. The east foundation wall was clearly visible above the vegetation as a long line of firmly bedded and somewhat flattened boulders. This platform was divided into quadrangles from a central datum for excavation. Excavation again proceeded with clearing vegetation, bagging surface remains separately, and then trowel scraping in arbitrary 10 cm. levels. It was then discovered that SS-50 had a discontinuous fired clay floor. This floor appeared as patches of red to yellowish orange low-fired ceramic, cracked and broken through slumping and root disturbance, at depths of 12-15 cm. below the surface along the edge of the platform and rising to 7-10 cm. below the surface towards the center of the mound. The average thickness of firing was approximately 2.5 cm. The relative thinness of the firing and the disturbed condition of the floor made it unsuitable for archaeomagnetic samples. Upon discovery of the floor excavation continued with reference to this feature with artifacts being bagged as above floor, floor level, or below the floor. The test pits placed below the floor level were excavated in arbitrary 10 cm. levels, there being no continuous subfloor features.

An area outside the main wall foundations on the northern end of the platform was excavated to the level of the interior. Immediately beyond the wall course a section of burned clay, similar to that of the floor appeared. 2.4 m. north of the foundation wall a second line of bedded rock of somewhat smaller boulders was discovered. This wall runs parallel to the north wall of the structure and may have been the foundation for a second room or porch.

The alignment of the east wall was found to be 14 degrees east of magnetic north. This wall is 7.1 m. long and forms a distinct right angle with the north and south walls. These latter are incomplete
but after excavation could be determined to have been approximately 7 m. long, indicating that the original structure was roughly square. The interior dimensions of the platform are approximately 6.8 m. square. No wall foundations could be detected on the west side, a circumstance which was later found in all the structures excavated in this area of the site. It is thought that these buildings may well have had a flimsy west wall or even, perhaps, were essentially open on the west side. As violent winds and rain are most likely to come from the northeast at Cihuatán and the location of openings for light or access on the west side would be reasonable. Contemporary houses on the Lomas de Cihuatán face west or south for this reason.

The main foundations of SS-50 are of large natural boulders, slightly flattened on the top and sides. They are bedded into the old A horizon with no subfoundation. Stone rubble was found to be concentrated within 1-2 m. on either side of the foundation courses, indicating an original low stone wall on the foundations. A large amount of partly fired wattle and daub was found through the interior of the structure, probably the remains of the upper walls. Pieces of fired fine clay plaster showed that the stone portion of the superstructure was finished with this material.

Two large flat stones set at floor level were found in the interior of the structure. These may have been foundations for wooden roof supports or simply could have functioned as firm working surfaces. One was in the extreme southeast corner, adjacent to the walls, the other 180 cm. south of the north wall and 140 cm. west of the centerline of the structure. Surrounding this latter slab was a subfloor of bedded cobble. The slab and subflooring were removed and a 1 x 2 m. pit was dug to bedrock. Most cultural material was found immediately above the burned clay floor of the structure.

A 3.5 x 2 m. rectangular feature of tightly laid small rock centered between the north and south walls along the western edge of the structure was also exposed and then excavated to bedrock. Rubble was dense surrounding this feature, indicating some sort of
collapsed superstructure. Beneath the rubble intact flooring was found although there was no preserved clay flooring within the rectangular area. The remainder of the western side had no wall foundation and was notably free of rubble, suggesting an open western side (or one of thatch or pole construction) with a stone built room or storehouse in the center. The soil below the rectangular feature was completely sterile.

Three areas within SS-50 contained significantly higher percentages of cultural material at floor level. One of these was around the large central slab. A second was just to the interior of the rock room to the west and a third south of the central slab. A complete mano was found lying on the floor in the midst of the second concentration of sherds. The porchlike structure on the north contained a dense concentration of waste flakes of obsidian and broken obsidian artifacts. All sherd concentrations tended to be in groups of pieces from single vessels as if vessels had been left lying on the floor when the house burned and collapsed. The amount of disturbance made field restoration of any vessels impossible.

SS-49, the highest mound of the group, was testpitted to determine if sufficient information could be recovered to allow comparison with the lower platforms. The large size and generally poor preservation, due to extensive slumping and erosion, precluded complete excavation of the mound as did the ample evidence of clandestine excavation in the form of a large slumped in pit on the north end. No evidence of a superstructure was found except for some pieces of partly fired wattle and daub and several fragments of "roof tile". No foundations could be found. Test trenching along the flanks of the mound failed to show conclusive evidence of stepped construction although this feature may well have been obliterated by the natural and human disturbance of the platform. A 5 x 5 m. square area was excavated on the crown of the mound and a 1.5 x 1 m. test pit was taken down through the center of the platform to the non-cultural soil surface (145 cm. below datum) to give a cross section showing construction details (Figure 5a).
The existing surface of SS-49 consisted of a dense compacted clay layer averaging 23 cm. in depth. This layer contained most of the artifacts associated with the mound. Several metate and mano fragments, three exhausted polyhedral cores, and sherds from several large incensarios as well as from a typical array of domestic wares were found in this level along with quantities of broken prismatic blades. An unusual find was a large clay foot from an approximately 1/3 life sized figure attached to an incensario (Figure 16b). This foot was found at a depth of 15 cm. in the extreme northeast corner of the northwest quadrangle of the pit, associated with a talpuja slab. The rock content of the surface levels was very sparse in comparison to that of the fill of the platform. Below the surface layer the soil graded into a lighter sandy/ashy texture. Set within the upper portion of this second fill layer were uneven rows of boulders 30-50 cm. in diameter aligned generally with the two axes of the mound. These rows appeared to be spaced randomly and were probably retaining blocks to stabilize the fill. The bottom of these boulder rows was at a consistently even depth of 50-55 cm. At 60-65 cm. a thin indistinct band of darker soil was visible above the lower levels which were again light and sandy. Cobble content was appreciably greater in the level containing the stabilizing walls. Below the dark soil band rock content decreased markedly to approximately 95 cm. where a layer of densely packed cobble started. The dense cobble continued to 120-130 cm. where an abrupt change to a straight, almost rock free, sand layer was observed. This layer averaged 14-15 cm. in depth and then changed to the typical bedrock horizon below. Only a very few sherds and pieces of obsidian blade were found in the boulder level and the lower courses of cobble fill and the underlying sand were completely sterile (Figure 5a).

Attention was then turned to SS-53, directly to the west of SS-50. This was a low rectangular, house platform which had been repeatedly plowed and from which the surface rock had been largely removed to construct the modern hacienda wall. No intact walls were visible and an old looter's pit was located in the north end of the platform elevation. Although the platform was badly disturbed it
survived to about 50 cm. in height and approximately 7 meters north-south by 5-6 meters east-west. Removal of the grass and low scrub showed a small amount of non-diagnostic sherd material in the area of the pit.

An L shaped trench 1 meter wide and running 2 meters north-south and 3 meters east-west was placed on the crown of the platform directly to the south of the looter's pit (Figure 10). There being no surviving walls (on the surface) to use as referents for the trench, it was laid out with the transit with reference to the grid datum. The orientation of this mound appeared to be about 4 degrees west of magnetic north. This is rather different from the orientations of the other platforms of the group and may be indicative that this platform was not a part of the group.

The surface of SS-53 was found to have a number of slabs of light volcanic stone strewn over the surface. Although SS-50 had also had stone slabs in a similar position, these latter were of a hard volcanic stone. A mano fragment was also found on the surface as were a number of pumice bombs. The top of this mound had been evidently disturbed both by human activity and by cattle so excavation again proceeded in arbitrary 10 cm. levels.

At 3-5 cm. below the surface-sod layer a fair amount of pumice and burned rock began to appear. The 3 meter trench also uncovered part of a rock foundation wall in its west end, probably part of the original retaining wall of the platform. A large sherd of Tohil Plumbate came from the foundation level of the trench.

At about 5 cm. below surface a great many tiny red sherds, apparently from the same vessel, began to appear. Careful examination of this area then revealed that these were scattered around a firmly bedded annular base located next to a talpuja slab. It would appear that a vessel had been buried but that its top sections were broken off by plowing. Upon clearing of the area the base was found to contain on its floor (the interior of the vessel) a small trapezoidal piece of polished light green jade. It was possible to partly reconstruct
the vessel (under field conditions) and it was revealed to be a small cup with an annular rattle base and a hemispherical bowl with a basal flange (Figures 6ab). The exterior decoration is typical of the Mixteca-Puebla Polychrome group. Excavation of the area around the cup showed that the clay flooring of the platform had been destroyed by plowing and by root action. Some remnants of the hard packed clay floor were discernable however as was the typical closely packed cobble subflooring. Although this too was disturbed, enough remained in place to show that the cup had been buried below the floor of the house. Excavations along the floor level showed ash streaks, pumice bombs, and lumps of burned clay and wattle and daub, indicating that this house too had been destroyed by fire. The levels below the subflooring revealed a 60 cm. deep layer of large tightly fitted stones forming the nucleus of the platform. At 70 cm. a band of dark loamy clay began to appear. This was approximately 5-8 cm. thick and overlaid 20 cm. of sandy gray clay. At 90 cm. below modern ground surface a level of decomposing rock mixed with gray and black clay appeared. By 97 cm. solid bedrock had been reached. The levels below the subflooring were nearly sterile. The packed layers of stone produced to broken obsidian blades and a single eroded sherd. Below the rock level no cultural remains were discovered. The very poor state of preservation of SS-53 precluded any more extensive excavations of the platform.

Feature 53-A was the next focus of investigation. This was not a house platform but rather a rectangle of large tightly fitted boulders (Figure 5a). The rectangle measured 2.5 m. north-south by 1.70 m. east-west and was slightly raised above ground surface. The boulders had been modified by pecking to provide a flat top and flat exterior surfaces. A concentration of smaller rocks about the boulder rectangle distributed in a typical fall or slump pattern indicated that at one time there may have been some sort of superstructure on this feature. Clearing of the sod layer revealed one obsidian blade fragment and a single orange body sherd. Because the rectangle was solid rock, the
boulders being chinked with smaller stones, it was not possible to excavate it according to any stratigraphic plan. Accordingly the larger rocks were displaced after measurement. They were found to be bedded approximately 50 cm. into the earth with no sub-foundation. The only artifact from the boulders was an unworked red chert pebble. A 1 x 2 m. pit was excavated below the rectangle. At 1.30 m. below the present ground surface a layer of crushed decomposing andesite, typical of the natural stratigraphy of the area, was encountered. This was interleaved with layers of wet gray clay and was obviously due to no cultural activity.

The function of this boulder rectangle is unknown. A number of other house clusters in this portion of the site have similar boulder features associated. No particular pattern of their location in relationship to either structures or to natural features could be ascertained from casual inspection. They are obviously not cairns formed by clearing the fields of rock. These latter are large amorphous piles of loose rock whereas all of the known rectangles are of large artificially shaped boulders tightly fitted together.

Because the excavations completed had raised a series of questions concerning the contemporaneity of the structures in this group and the nature and cause of their abandonment it was decided to excavate SS-54, the remaining reasonably intact structure of the group. Before excavation SS-54 was visible as a low oval mound covered with scrub and grass and with a small tree growing in the west center. Two looters' pits marked the surface; one at the north end of the mound and the other next to the tree. Both were old and partly filled in by natural means. The surface of SS-54 was covered with a heavy layer of cobbles, apparently the remains of walls and subfloors as this mound too had been repeatedly plowed. Some flattish stones were found among the cobbles; the remains of either roof supports or falling stones. The surface soil was dark, compact and moist and the sod level contained only a few tiny sherds. A 2 x 2 meter pit was laid out at the northwest corner of the mound. The sod was removed from the pit and an arbitrary level of 10 cm. was begun. From the top of this level, just below the sod, a few
broken obsidian blades and a waste core were retrieved. Sherds were numerous but all small and eroded. There was a fragmentary clay wheel among them.

The east wall of the platform was visible before excavation, extending about 4 meters north-south (Figure 11). Within approximately 5 cm. of excavation an east-west foundation wall began to appear 20 cm. from the north end of the pit. This wall was badly disturbed and only the basal stones remain, in some disarray but still sufficiently aligned to show that there had been a wall. A second section of rock wall appeared 120 cm. from the northwest corner and forming the northeast corner of the platform. This wall appeared to be a stabilizing wall within the platform, although it may have pertained to a new destroyed structure.

The excavation was done with trowels only as the earth contained a great many fragments of burned clay. These were small, approximately 1-3 cm. in diameter. They began to appear in the sod level and became more numerous as the excavation descended. At the 7 cm. level 140 cm. east and 50-70 cm. south of the northwest datum a broken footed metate was found lying face up in the earth.

The excavation reached the 10 cm. level first on the inside of the house corner. At the 10-12 cm. level a concentration of sherds began to appear. There was a fair amount of burned clay above these and several very large obsidian blades in the immediate area of fill. This concentration, like those described below was partly mixed with and partly overlaid by a closely packed layer of cobbles identical to the subflooring that we had discovered in other structures. Although these cobbles were somewhat disturbed, they seem to have been laid above the sherd concentrations, crushing the vessels beneath. The burned clay in the upper soil levels would appear to represent the remains of the clay flooring put on top of this second cobble level.

The first piece to appear from the sherd concentration was a large tubular Coarse Ware foot with part of the bottom and side wall of a flaring bowl attached. Careful trowelling uncovered the other
two feet and a number of large sherds from the same vessel, a large unslipped flaring bowl, light tan in color and with an appliqué "piecrust" band on the exterior just below the rim (Figure 7a). Later washing of the bowl revealed black organic resist stripes on the exterior. From the position of the sherds it appeared that the bowl had been placed upright and was then broken in place. It fell to the south and a large pebble of stream polished green stone, which from its position had been placed in the bowl, rolled out. Next to this vessel a number of sherds of a small orange olla were found (Figure 7b). Because of these discoveries the overburden of the south half of the pit was carefully removed with trowels. At the same 10-12 cm. level more large sherds began to appear in discrete clusters. The pit was then extended 120 cm. south, retaining the 2 m. width. This extension followed the level of cobbles which were then removed. Materials from the cobbled layer were bagged separately. Below the cobbled layer a series of vessels, all whole or nearly so, had been placed on the floor and smashed in place. Nineteen vessels were eventually recovered. That they were laid on a floor is inferred from the remains of burned clay flooring in the northwest corner of the excavation and around some of the vessels. The vessels were uncovered, photographed, and, as far as was possible, bagged separately. All vessels in the deposit were of domestic wares; no polychromes or plumbates were present, although polished Red Ware was. Several of the vessels appear to have contained unusual though unmodified stones. Aside from the tripod bowl with its polished greenstone, another Coarse Ware appliqué rim bowl was found to contain 5 small pieces of white chalk and a third vessel, a medium sized Red Ware jar, contained two fragments of crystalline material, pieces of a broken geode.

Two projectile points were found in clearing operations, neither in direct association with a ceramic vessel (Figure 8) and a volcanic stone pestle was found in the midst of the broken vessels on the floor
2 m. south and 85 cm. west of datum. A well worn complete pillow shaped mano came from the same level next to the tree roots among the remains of two large jars 4 m. south and 2 m. west of datum.

Evidence of more smashed vessels began to appear and the trench was extended to follow the line of these vessels. At 4.5-5 m. south of datum a large red jar was found lying east-west, broken in place. Within the fragments of this jar were the broken pieces of a clay figurine, dark brown in color. The fragments were very low fired and crumbly but a partial reconstruction of the figurine was possible (Figure 9a).

The east-west portion of the trench was next extended 1.5 m. west of datum. At 1.05 m. south and 1.15 m. west a slightly damaged ovoid metate was found crushing a large red bowl. It was apparent from the position of the metate and sherds that the grinding stone had been dropped upon the whole bowl. Another large vessel, a wide mouthed olla (rim and upper body only) was found next to this (Figure 9b).

The east-west course of large rocks in the north end of the original 2 x 2 m. pit appeared upon extension of the trench to be entirely confined to the original area of excavation. Remains of burned flooring were found extending ca. 50 cm. beyond the original west wall of the trench: the largest of these being approximately 2 x 1.5 m. Although badly disturbed it was obviously the remains of a carefully laid floor. Curiously this one large area of continuous floor had the sparsest concentration of broken vessels, perhaps owing to its location near the wall. Other sections of burned floor continued to appear throughout the excavation at the 25-27 cm. level. It appears that the fire which burned the floor was not extensive enough to turn it all into ceramic. The broken vessels largely lay on unburned floor, although surrounded by burned bits. This suggests that they were placed on the floor, down the center line of the house, before the fire and that the firing of the superstructure was not hot enough to turn the floor areas protected by the vessels into ceramic. However, some but not all of the vessels
show fire blackening and the exact mechanism by which parts of the floor only were fired into permanency is not altogether clear. Some lenses of ash were found at floor level in the northwest corner of the trench mixed in with considerable rock scatter which appeared to be the remains of a collapsed wall.

The cultural deposit of SS-54 is unique in our limited experience at Cihuatan. Although the mound was poorly preserved it would appear as if a series of some nineteen whole or nearly whole vessels, three containing unusual rocks, a pestle and a mano were placed on the floor of a house, covering the entire lengthwise axis of the room. A metate was then dropped on top of one group of vessels and the house was burned. Following this a new floor was laid over the destroyed one and its contents. SS-54 was so badly disturbed that little remained of this later house except the cobble sub-floor, a few pieces of collapsed wall, and some burned wattle and daub. It too would seem to have been destroyed by fire, presumably in the fire which claimed the other buildings of the group. The deposit of SS-54 would appear to be some sort of cache or offering. Although it was planned to continue with the excavation of this structure a series of unforeseen events made this impossible. Further excavation of this platform is indicated.

HP-102

The final excavation of the 1977 season was carried out in an area associated with the Eastern Ceremonial Center in order to gain some comparative data on structures and artifacts associated with that rather different group. Accordingly an area immediately to the south of this center (and, in fact, within it) on the edge of the steep terraced hill above the Acelhuate River was investigated. This area had not yet been mapped at the time excavations began and the structure selected for excavation was provisionally designated SE-1 under which name it appears in the field notes. Upon completion of the map of this area it was formally named HP-102 and will be
referred to by that name in the following description and all further discussion.

HP-102 is one of a series of small platforms along the uppermost terrace of the hill. The platforms in this area are arranged in rows along the upper slope and consist of both apparent residential structures and structures of civic or ceremonial use. The line of platforms of which HP-102 is a member consists of a series of three-sided terraces jutting out from the main retaining terrace. None of these terraces has a visible west wall. The original survey had revealing quantities of cultural debris eroding out of the hillside below the platforms. Because this area had not been much plowed it was felt that there might be a chance of recovering remains of a superstructure. Also the amount of cultural detritus on the slopes below suggested that there might be considerable midden buildup in this area a situation which did not exist in the shallow deposits associated with the Western Ceremonial Center.

HP-102 is the second and best preserved of this series of terrace platforms. Before excavation it measured 4.10 m. north south with a 3.70 m. north wall and a 3.70 m. south wall. This was considerably smaller than the structures we had excavated previously but seemed to be average for the terrace constructions associated with the Eastern Ceremonial Center. The walls are formed of large unworked stones, slightly slumped from apparently natural forces. Because of the small size of the platform it was excavated in four units leaving balks between them to preserve any evidence of stratigraphy resulting from construction or use. As no western wall was visible the quadrangles were laid out in an arbitrary size encompassing a total area of 4.60 m. north-south by 3.60 m. east-west. A datum was established at the northwest corner of the excavation (Figure 12).

The first excavations were into the northeast quadrangle. Surface materials (throughout the platform) were scarce and limited to a few sherds and a single broken flat stone slab. Again it was decided to begin excavation in arbitrary levels of 10 cm. modifying this as any evidence of subsurface structures or cultural stratigraphy should appear.
In the northwest corner of this unit, broken into five pieces in place, a broken metate was discovered. Small patches of what appeared to be pounded clay flooring appeared at the 8-10 cm. level. These patches were not continuous nor were they identifiable in the other three units. Along the east wall at the same depth were a series of lenses of volcanic ash. Also at this level was a significant scatter of rocks, apparently from a collapsed wall. These rocks had a thin (2-3 cm.) layer of burnt clay around them, the only definite evidence of burning encountered in HP-102. Cultural remains from this "floor" level consisted only of a few small non-diagnostic sherds, a broken polyhedral core and a few broken blades.

A color change began to appear in the earth at 20-21 cm. This was associated with the base of the rocky layer. The earth changed from a dark grayish black to a brownish hue with some red flecks. This color change was later found in all units although it varied somewhat in depth and was mixed with darker material for the first 3-4 cm. This level would appear to have been associated with the construction of a superstructure since the levels above it were in all cases homogenous in color and contents. The somewhat darker hue of the upper earth can then be seen as perhaps due to filling and/or the greater organic content of the house refuse. At 15 cm. below the rocky stratum and approximately 20 cm. east of the broken metate was found a concentration of sherds from a single large unslipped vessel. This was either an olla or an incensario. An appliqué scalloped rim was the only decoration.

The 20-30 cm. level of the fill showed an increase in artifacts. Towards the bottom of this level the first sherds of polychrome ceramics appeared just above a change to a reddish clay at 40 cm. In the northwest corner of the unit at this level a pecked stone ball was found. From its shape and size this would appear to have been either a sling projectile or a bolas ball. At 62.5 cm., 40 cm. from the center balk a distinct area of loose reddish clay mixed with decomposed rock and volcanic ash appeared. A concentration of charcoal, the first found in the season's excavations, was also
found at this depth in the center of the unit. There was not enough for radiocarbon assay even had its associations been clear. Between 20 and 40 cm. a moderate concentration of sherds, both plain and polychrome wares appeared and the amount of obsidian increased markedly.

The southeast quadrant was similar in composition to the northeast one with few sherds and stone remains appearing in the first 10 cm. and with a small amount of rock, perhaps the remains of cobble subflooring, in the same levels. A cylindrical mano fragment was found at 14 cm. next to the largest of the several pumice bombs and ash lenses in this level.

Once again sherd frequency increased in the 15-20 cm. levels and a large Red Ware jar, nearly complete, was found in the northeast corner of the unit. An unfinished pecked stone celt was associated with it. A distinct color change began at 20-21 cm. below datum although this was not at first as continuous as in the northeastern unit. This color change seems to have begun at the base of the cobble layer and may represent a final level of fill below the floor. The cobble in this quadrant was very tightly packed and had a great deal of volcanic ash in it. There is no reason to doubt that here it represents the remains of subflooring. At this level the number of sherds and stone artifacts increased dramatically. The large number of sherds continued down to a little below 40 cm. where it again began to decrease. Among the more notable artifacts found in this level were a series of figurine heads, two pieces of a double chambered whistle in the form of a Tlaloc (?) head, a clay sonador, perhaps from the whistle, and an incised clay bead. A second pecked stone ball, identical to the first, also came from this level. The material in the 20-40 cm. levels was thickly and evenly distributed and seemed to be different from that of the above floor levels. Polychrome and Plumbate sherds, large obsidian scrapers, and another sonador were encountered in this material. A second concentration of charcoal was encountered, again to small for dating purposes.
The southeast quadrant repeated the sequence of stratigraphic events observed in the other two units. There was a heavy cobble concentration from 10-20 cm. and then a color change to a red flecked brownish soil. Next to the east wall a concentration of Plumbate, polychrome and Red Ware sherds was found at the interface. The 20-40 cm. levels again contained a much heavier concentration of refuse than the upper levels. A figurine face representing a fox (?) with a human headdress was found in the northeast corner at 30 cm. and a piece of polished serpentine, perhaps part of a mirror or pendant, came from the same depth. Plumbate and Red Ware sherds were found around the serpentine. In the southeast corner of HP-102 at a depth of 20-30 cm. a lens of obsidian chipping detritus and broken blades appeared. This lens continued to 40-45 cm. in depth and was very localized. The number of sherds and the number of large sherds was greatest along the east wall, perhaps due to gravity and water movement. However these sherds included significant portions of single vessels so that this concentration of material would appear to be due to filling the platform with primary refuse. The most complete figurine fragment, a seated male minus only the head, was found among these sherds. Hard rocky soil began at about 40 cm. turning to softer clay with fewer rocks at about 55 cm.

The eastern third of the quadrant was taken down separately and repeated the observed events. From 20-40 cm. there was a heavy concentration of mainly monochrome pottery, a red clay foot and some figurine head and body fragments. A finely flaked obsidian awl was uncovered at 44 cm. (Figure 13). A metate half appeared just below the cobble layer at 25 cm.

This unit was taken down to bedrock which began to appear in the form of sterile crumbling andesite at 60-80 cm. At 81 cm. this became solid rock. Artifact content in all quadrants ceased at approximately 60 cm. and the final levels were essentially sterile.

The northeast quadrant repeated this previously observed record of soil and artifact distribution. Soil samples for phytolith
analysis were taken from the surface, from 20 cm. and from 40 cm. A few sherds and obsidian fragments were found on the surface and a cobble layer began at 10 cm. The soil color change here began at 38-40 cm. with the heaviest concentration of cultural debris in the 20-40 cm. levels. In the southwest corner of this unit a friable black soil began to appear at 40 cm. This was very localized and was succeeded at 55-60 cm. by broken decomposing andesite throughout the unit. This turned to solid bedrock very quickly. Very few artifacts were found in the 40-60 cm. units and these were all from the upper few cm.

A test pit was put in immediately outside the north wall of HP-102 in the hopes of discovering a deep refuse deposit. The debris below the structure indicated that there should be some midden deposit. Excavation though showed that the downslope detritus was the result of erosion from above since sterile rock was encountered in this test pit at 10 cm. Another 10 cm. was excavated but was completely sterile and solid bedrock.

HP-102 is the only structure we have excavated that shows definite evidence of filling with midden materials. The above description of the contents of this platform has demonstrated that the fill is ordinary cultural debris. This debris contained a much higher percentage of polychrome, Plumbate, and figurine fragments than had been encountered in the previous (or the following) excavations. This can only be due to this platform being located within what we have since established are the boundaries of the Eastern Ceremonial Center. It would appear that this platform, and perhaps its fellows in the line, were constructed somewhat later than the other structures and hence were able to use refuse from the presumably elite structures of the Eastern Ceremonial Center as fill. In types the contents of the fill are identical to materials found in other domestic structures at Cihuatán; it is only in percentages of fine (decorated) or imported wares that there is a difference. This indicates that the construction of HP-102 (and its fellows ?) was later than the other constructions, but not much later. There is some slight evidence that this structure too met its end by burning.
EXCAVATIONS: 1978

The focus of the 1978 excavations was the northwest side of the Western Ceremonial Center. The area worked in was again mandated by contemporary land use and by the willingness of local landowners to permit investigations. The north and northwest areas are in pasture and brush and excavations proceeded as in 1977 with the exception that broader scale clearance was possible. Five structures in all were excavated: NW-1, a cluster of buildings on a terrace next to a deep gulley which cuts the ridge of Cihuatán roughly north-south, NW-3, a house platform slightly uphill from the NW-1 group and apparently part of the same domestic cluster, P-16, a large low platform on the wide terrace bordering the western side of the Western Ceremonial Center, and P-22, a small ceremonial or civic platform north of P-16 and part of the line of similar structures bordering the West Terrace (Figure 2, Figures 14-16). These structures were chosen for investigation because from surface indications they seemed to be representative of the variety of structures found in this area of the site.

Small scale sampling was also undertaken on a terrace next to an all season spring at the foot of the slope of the hill on which the Eastern Ceremonial Center is located and in a series of badly looted platforms in the immediate vicinity. These operations did not produce anything other than a few eroded, non-diagnostic sherds and will not be further described. A preliminary survey of the river bottom lands to the north of the Eastern Ceremonial center was done as a guide to mapping this area. This sector of the site was found to contain dense remains of both residential and civic structures. However, because of high brush and cornfields no further work was done here in 1978.

P-16

The 1978 season began with the excavation of P-16, a large low platform on the West Terrace (Figure 14). Although from its size
(10.60 x 5.30 m.) it appeared to be a rather typical house platform, its location was unusual for a domestic structure. The West Terrace is a wide levelled area beginning approximately at the southern extension of the ceremonial center wall and extending for some 100 meters to the north of the northern boundary of the Western Ceremonial Center proper. The exact dimensions of this terrace have not yet been established due to high brush and extensive demolition of structures for construction and during agricultural activities. The west edge of the terrace is bordered by an irregular line of structures of a non-domestic type. P-16 is located inside this line of structures on the edge of the flat open terrace.

The West Terrace itself could have been the site of the main marketplace of Cihuatán. One characteristic of Postclassic sites in general is a central market, usually close to, but not within, the major ceremonial zone. Survey of the area around the two ceremonial centers has not revealed any other place where a market could have been located and in terms of visible remains the West Terrace fits the requirements of such an activity area. It is flat, at least partly paved with cobbles and, although there is free access from the west and the south, it is partly enclosed by the group of small civic type structures. Only two of these have been excavated (P-20 and P-22). A final report has not yet been prepared on the excavations of P-20 (which were carried out first by Gloria Elena Hernández and then, some years later, by William Fowler). It is a two stage platform of fieldstone and it had an incensario broken on its west side. A cache of trapezoidal stone celts was found associated with P-20 and it apparently had a small rectangular superstructure (Hernández, personal communication). Because of the potential importance of the West Terrace both Fowler and the author felt that a carefully controlled and recorded excavation of the anomalous structure, P-16, might yield information on the function of the West Terrace.

P-16 lies almost entirely within the National Monument of Cihuatán. As this area is used by the site guardians for grazing
cattle (and occasionally for planting maize) the vegetation cover was low. The platform was completely visible before excavation as a fieldstone edged rectangle with a small notch in the northwest corner (Figure 14). A tree had grown in the southwest part of the platform but had been cut down for firewood some years previously. The area had also been used as a dump by the people living on the site and the surface contained a small amount of modern refuse (glazed potsherds from the common pottery of Guatemalan origin, nails, a spoon, a plastic shoe, etc.) and the remains of a fire where garbage had been burned. There were no visible remains of Huezo Córdoba's previous excavations. Since local excavation practice seldom includes refilling of trenches and pits, this was a strong indication that the previous excavations were not in P-16.

P-16 and the surrounding area were cleared of grass by workmen who were instructed to leave all artifactual material on the ground as they found it. The cleared platform was then located with the transit in the course of preparing the new map of the Western Ceremonial Center and the West Terrace. The platform's orientation was found to be 8 degrees west of north.

Excavation units were set up by stringing a central line north-south on the longitudinal axis of the platform and arranging a series of 2 m. wide units east and west off this line to the exterior face of the visible foundations. These units were designated (from the datum at the southeast corner, the best preserved visible feature) as 1AB, 2AB, etc. The northern part of P-16 (units 5 and 6 AB) lay largely outside the National Monument. A cattle trail skirted these and there was evidence of considerable disturbance due to the passage of animals. A 50 cm. wide trench was also put around the periphery of the foundations as it was evident that the West Terrace was artificially levelled and we wished to ascertain clearly the original height of P-16 and the nature of the base it had been
erected on. These units were designated by the number of the in-house unit they abutted with the addition of an east or west postfix, i.e. 1W, 2E, etc. 1W and 3W were extended for 2 m. in that direction and 22E was extended 4 m. towards the ceremonial center wall. A series of 50 cm.\(^2\) test pits were also put in and are shown on Figure 14. These were put in specifically to check the continuity of the cobble surface on the terrace.

P-16 when cleared was revealed as having a wide (70-90 cm.) double foundation wall on four sides. The fieldstones were all placed with flat sides to the exterior and a number were worked to provide a flat surface. The east and west foundation walls were chinked with smaller cobbles between the double row of large boulders. This type of foundation, while known in other buildings at Cihuatán, is considerably more substantial than is common in more ordinary domestic buildings.

The surface of P-16 was covered with loose rock. Some of this rock had been previously collected and piled in the 3AB units where a fireplace had been constructed to burn refuse. Enough rock remained in place to show that there had once been some sort of interior wall in unit 1A; the sole identifiable remains of whatever superstructure P-16 had once borne. The wall had been disturbed by the tree and it was not possible to reconstruct its original length. The amount of loose rock suggested that the destroyed superstructure had had a low cobble wall. Small pieces of burned clay found throughout the excavations at floor level further suggest that there had been some adobe or wattle and daub construction and that the building, like the others excavated, had been destroyed by fire. The burned clay was generally found below the modern land surface and was not restricted to the area of refuse burning. No burned flooring was found, but clearance of the loose rock and upper soil layers revealed a cobble subfloor in a good state of preservation.

The area of collapsed wall in the southeast portion of units 1AB was excavated and the artifacts bagged separately. When the
vegetation was removed this area was found to contain, in the soils just above the cobble subflooring, a large concentration of obsidian. As this was in the form of both tools and chipping detritus the crew was instructed to retrieve all obsidian large enough to pick up with the fingers or with the point of a trowel or pocketknife. In this way most of the larger pieces of chipping detritus seem to have been recovered. The ground in this portion of the platform was so full of tiny chips of obsidian that it sparkled in the sun. Constrasting the excavated soil of these units to that of units to the north also helped to delineate the area of obsidian working. In 1A, in the first 3 cm. of excavation, five large blades struck from non-prismatic cores and two "hachitas" (rounded end scrapers) were recovered in the southeastern corner of the structure (Figure 16). These were associated with a single figurine head. Most of the chipping detritus and tools came from 1A but the visible concentration of obsidian continued into units 1B and 2AB. It slackened off in units 3AB and obsidian was virtually absent in the other units. A second group of large obsidian blades was found next to the east wall in 2A at a depth of ca. 5 cm. This seemed to approximate the original floor level in this area. Much of the obsidian was of a black and white striped variety not previously encountered in our excavations. The discrete concentration of whole and broken tools and chipping detritus suggests that the southern portion of P-16 is to be identified as an obsidian workshop. Table 2, which gives the totals of obsidian tools by structure, shows the exceptional size of this workshop area. It should be noted that the majority of reasonably whole tools can be identified as those suitable for woodworking. "Hachitas", which may be adze blades, scrapers, awls, spoke shavers, small obsidian blades retouched into gravers or with strangulated sides and so on are much more common in P-16 than in any of the other structures. The number of both prismatic and non-prismatic cores and the amount of chipping debris makes it certain that some, at least, of these tools were manufactured in P-16. The sheer number of artifacts along with the amount of debris from manufacture indicates that this was not a workshop for domestic con-
sumption of tools and the location of P-16 on the possible marketplace of Cihuatán makes it tempting to see this structure has having been a more commercial workshop, either for the production of the tools themselves or perhaps for items of perishable materials which were fabricated with the tools. This suggestion is made even more tenable when one considers that the majority of the blades show retouching, something which would not have been necessary if the tools were being manufactured for use elsewhere. However, as can be seen from the rest of the artifact inventory, it seems that P-16 was also the site of some more domestic activities or activities which involved the use of domestic articles.

Ceramic remains appeared in small quantities mixed with the obsidian in the southern units. These included one piece of Plumbate. Although sherds mixed with the above floor soil were rather sparse a concentration of large pieces including several handles and fragments of supports from large monochromatic vessels (Red Ware and Tan Ware) were found in a group along the west wall indicating that a number of these vessels had been placed there when the building met its end. Just outside the foundations at the same depth a large piece of Coarse Ware, apparently part of the headdress of a good-sized figure, was found. This area (1W) appeared to have been another area of storing vessels or of dumping broken vessels since most of a large olla was found crushed in place here. A fair number of Red Ware sherds from a flaring bowl and a single large piece of a Coarse Ware flaring bowl with appliqué rim decoration came from the same unit and level. All these pieces, except for the headdress fragment, are completely typical of a domestic assemblage.

The 2AB units within the platform showed a change in soil color from a dark brown on the surface to a mottled reddish brown color slightly below. The main concentration of artifactual material was at a depth of 5-7cm. with sherd content decreasing markedly below this. A single concentration of sherds, again all domestic wares, was found at 160 cm. west and 340 cm. north of datum as was a spindle whorl.
Two W, outside the foundation walls, revealed a gap in the cobbled surface of this part of the terrace. This gap included 50 cm. next to the foundations but the cobbling again began at about 90 cm. west of the wall. Here there was a marked decrease in cultural material in the overburden. Two large sherds from the same olla that had appeared in 1W came from this unit as did a cluster of bright orange body sherds, also from an olla.

The 3AB units likewise had rather sparse cultural remains concentrated largely in discrete clusters of sherds from one or two vessels. These were at depths of 5-6 cm. and included two jar necks. Obsidian, as mentioned previously, decreased greatly in these units and consisted mainly of chipping detritus. A second Plumbate body sherd was found in unit 3B.

Units 4AB were marked by a large concentration of cobbles on the southwest edge of 4A. Along the northwest wall a large number of sherds were found, again clustered. The only other finds of note in 4A were a single large obsidian blade and some large Red Ware sherds in a group. 4B had even less obsidian as compared to the southern units. A small sherd cluster in the center of 4B included another Plumbate body sherd.

The 5 and 6 units were characterized by the paucity of cultural remains. The soil changed somewhat, being loamy and mixed with large rocks immediately below the superficial soil cover. Much of the cobble subflooring remained intact except in unit 6A. If Huezo Córdoba had indeed excavated in P-16, he would appear to have confined anything but surface collection to this area. A very few obsidian blades and some small fragments of an orangish vessel came from 5A along with a small concentration of sherds in the northwest corner of 5B. The cobble subflooring in the 6 units was at 8-10 cm. below the modern surface. A mano fragment and a large obsidian blade came from just above an area of intact subflooring in the southeast corner of the 6B unit. The encircling trench was not extended around the 5 and 6 units because of the cattle trail.
which had both disturbed the surface deeply and which was very hard.

Unit 1A was selected for a test pit to bedrock. Most of the cultural materials appeared in the first 20 cm. The cultural debris may have been slightly deeper here because of the tree roots extending into this unit. At 20 cm below modern surface a layer of rocks ranging from golf ball to tennis ball size was found and below this a thin layer of reddish clay soil, typical of Cihuatán subsoils, began. The reddish soil became more compact and redder at about 28 cm. There were no clear lines of demarcation between the brownish mottled and the redder soils and the appearance of the upper levels, in particular, was that of mixed fill. Small lenses of gray clay such as had been found in subsoil excavations in structures to the south of the Western Ceremonial Center, began to appear at about 20 cm. These were small and again appeared to be the result of filling. Solid bedrock was encountered at 88 cm below the modern surface of the platform.

The trench outside the foundations on the south end of the platform uncovered no cobbling although this did appear whenever the trench was extended more than 60-70 cm. away from the foundations on the east and west. A single net weight was found in 1S.

The trenching around the foundations and the extensions of these trenches in 1 and 3 W and 3 and 4 E showed an interesting pattern of construction. The platform itself was originally about 41 cm. in height (the height of the foundations). The terrace upon which it was built had obviously been levelled and filled below this, although there were few signs of the volcanic ash and sand layers found within the ceremonial precincts. The terrace was at least partly paved. Indications of cobbling, which may have originally had a pounded clay surface, were found to the west of P-16 from 60-90 cm. west of the house up to the line of small ceremonial platforms which line the eastern edge of the terrace. On the east in unit 3 E this cobble pavement continued to the edge of the P-16 platform foundations
and cultural material found here may indicate that this area
had some sort of subsidiary structure or specialized activity
area associated with it. The cobble paving continues for an
unknown distance to the north and east. Cobble paving similar to
this is placed today in areas where there is a considerable amount
of traffic. Observations of modern practices indicate that this
paving will often be discontinuous within any given area, being
used mainly to fill in depressions and to provide non-muddy footing
in areas such as kitchen yards and washing places where water will
be spilled. Further excavations on the West Terrace may clarify
the continuity or discontinuity of the cobbling.

There are no visible structures between P-16 and the wall of
the Western Ceremonial Center. One would not expect small kiosks
or other flimsy structures such as were typical of contact period
marketplaces (and still are found in modern ones) to leave visible
signs on the surface. The evidence we now have of a sudden and
perhaps unexpected destruction of Cihuatán might mean that concen-
trations of non-perishable goods would have been left on the West
Terrace if it was indeed a marketplace. Until further excavations
are undertaken in this area we are left with the rather enigmatic
remains of P-16, remains which neither really confirm nor disqualify
the hypothesis that the West Terrace may have been the central
market of Cihuatán.

NW-1

Following the termination of work at P-16 (which was left
uncovered for a planned reconstruction) a survey was done of the
field north of the entrance road to Cihuatán. This field slopes
sharply from the edge of the West Terrace, terminating in a barranca
with a seasonal stream about 250 m. from the West Terrace. Most
of the field was covered with high brush alternating with small
patches of lower grass and herbaceous vegetation, but was visibly
covered with terraces and low platforms. A major problem in
surveying this area was the presence of a large bull and a number of bull calves. This combined with the luxuriant vegetation, which could almost be seen to grow as the rainy season advanced, somewhat limited inspection of the field. Feature mapping, except for the excavation area, was limited to the far northwest corner of the field adjacent to the West Terrace.

A terrace with no visible constructions on it located at the very edge of the barranca was selected for excavation. Before clearing it was obvious that a long terrace paralleled the edge of the barranca and that on the slope above it were a series of medium sized house platforms. One of these, NW-3, was later excavated. It appeared that there had been considerable erosion from the upper slopes of the hill and that this could have covered any structural remains on the terrace. The terrace was visible as two parallel lines of bedded fieldstone running north-south with a connecting east-west wall. The terrace area was provisionally designated NW-1. A datum was established at the southwest end of the visible terrace wall.

Surface material, upon clearing of the high vegetation, was found to be abundant and included a broken large Red Ware jar, a roof tile, sherds of Red and Tan Wares, and some obsidian. Surface materials were bagged separately but were not further segregated as the area had been disturbed by cattle. The terrace when cleared was seen to slope gently southwards with a level east-west surface. Part of the larger fieldstone retaining wall had fallen and upon beginning excavation it was seen to continue south, although in a more disturbed condition. The total length of the western terrace wall was approximately 34.50 m. with an orientation of 28 degrees west of north. The east terrace wall was cleaned but not further investigated. It is approximately 6 m. long with a nearly identical orientation. The two main terrace walls are connected by a fieldstone and cobble wall some 5 m. in length (Figure 15).

The datum being established, a 1 m. wide trench, divided into 2 m. segments was laid out along the terrace wall, it being deemed
important to establish the nature and size of this wall before attempting any investigations behind it. These units were numbered consecutively 1-10. Because of the dimensions of the terrace, some units are slightly more or less than 2 m. in length. The wall when cleared was shown to be of large fieldstones with the exterior (western) sides flattened. Directly above this line of fieldstones and running west was an area of cobble, the remains of the terrace paving. Some sections of the wall preserved only this cobble, the fieldstones lying scattered down the barranca slope. There was some soil color differentiation visible on the cobble and wall with localized sections of burned earth appearing among the more common dark loamy topsoil. Few artifacts were found in the above wall area. The terrace was then strung into 2 m.$^2$ units bearing the same number as the original wall unit and further designated as A, B, C, etc. Because of the very large area involved we did not begin clearing operations at the terrace wall and continue eastwards, but skipped to the B row of units. A 2 m.$^2$ test pit (6B) was placed into an apparent midden area below the northeast terrace wall.

Structural remains began to appear at a depth of 20-25 cm. in the fill behind the terrace. At the west side of units 1-3 a large fieldstone foundation wall was discovered. This turned east in the center of 3B and continued, making another corner in 3C and then running parallel to the west wall enclosing a space approximately 2.5 m. wide and slightly more than 4 m. long. A break in this heavy foundation wall on the north could represent an entrance to this structure, called Structure 1. Cobble subflooring at the depth of these walls was not continuous outside the structure, clustering only in 4B. The interior of Structure 1 was covered with tightly packed cobble. Artifactual remains associated with this building took the form of scattered sherd and obsidian in the overburden and large concentrations of sherds representing the remains of whole or nearly whole vessels on the floor.

Unit 1 B revealed discontinuous cobble subflooring at a depth of 25-30 cm. Above this in the southwest corner of the unit was a
flat metate at a depth of only 7 cm. The remains of a large tan jar with handles were found clustered in the northeast quadrant of the unit at 15 cm. in depth. It should be noted that the floor level in all the structures of NW-1 is quite variable due to settling and buckling of the fill, apparently because of erosion and seismic activity. This is especially visible in the large sections of burned clay floor described below. These undulate visibly.

The 2B unit showed similar remains. This fill in this unit contained abundant sherds, obsidian and a single spindle whorl. Charcoal flecking was visible throughout the earth. None was collected since the associations were not clear and there was the distinct possibility that such flecking represents the remains of carbonized roots and is not cultural in origin. On the north side of the unit, just above the cobble layer, was found a large jar, apparently smashed on the floor and nearly identical to the 1B jar. The 2A unit was next excavated to see if there was any sort of connecting wall between Structure 1 and the terrace. No such wall appeared in this unit of gravelly earth which contained a light scatter of sherds and obsidian bladelets.

The majority of the 3B unit was occupied by the large foundation walls of the north end of Structure 1. A concentration of sherds representing most of a large jar with handles was found along this wall along with a scatter of sherds representing one or two other vessels. Unit 3C, which comprised the "entrance" and part of the terrace, also contained the clustered sherds of a small olla. The adjacent 4B unit, also cobbled, contained two similar sherd clusters, and a single large piece of a Coarse Ware incensario. Although there was not a great deal of burned wattle and daub in these units, the character of the finds, which tended towards discrete clusters of sherds representing single vessels, hinted at some hasty abandonment of the structure. This was confirmed by the rest of the excavation.
Due to the location of the fence and of the sun shade which the laborers had set up for the crew in what would have been units 1 and 2C we did not excavate those units. We fashioned a probe of heavy steel dowling to find the eastern foundation walls. These clearly appeared at the same level as the western ones and are indicated by dashed lines in Figure 19. Since there did not appear to be any connecting foundation walls to the north of Structure 1, but only cobble paving or sub-flooring, no more of this area was excavated. Attention was turned instead to 6B and to the southern units.

Unit 6B had been placed in what seemed to be fairly deep midden or eroded fill to the west of the eastern terrace wall. 6B showed eroded pottery fragments and some obsidian on the surface. The earth in the first 3-5 cm. was filled with charcoal, apparently from modern vegetation or burning. Dark loamy topsoil continued to depths ranging from 8 cm. on the north of the unit to 12-14 cm. on the south edge. At these depths it was replaced by reddish brown soil containing a fair amount of rock. This was mixed with refuse, first abundant and then sparcer and sparcer until bedrock was reached at approximately 55 cm.

Because of the evidence of burning and hasty abandonment resulting in large numbers of potentially restorable vessels, a windfall at this site where there were few entire vessels to use as a comparative sample to study domestic pottery, we decided to excavate the rest of the terrace. Clearing operations had shown that the terrace continued for some 22 m. south of our excavations. Accordingly a series of 2 m. units were strung out over this entire area and excavation continued to the south. These units were labelled southwards from the datum as 1,2,3, etc., A,B,C etc. with the addition of an S for south. Because we now knew the approximate depth of the cultural deposits below surface, the turf and initial layers of earth were removed by shovel shaving to a depth of 5-8 cm. This material was gone through with a trowel and the rest of the excavation was done with trowels.
Burned clay flooring had begun to appear in iB, overlaid by large chunks of burned wattle and daub. The east wall of Structure 1 continued into units 1 and 2 SB but in place of the large flattened boulders a wide wall of carefully laid cobbles set in clay appeared. There was no continuous cobble paving, although areas of burned clay floor continued to appear throughout these units. The floor level was found at a median depth of about 22 cm. It undulated and was badly cracked. Although it had been fired to a bright orange, the depth of firing (1-3 cm.), the cracked condition of the floor, and the evidence of water seepage throughout these units precluded obtaining any samples for archaeomagnetic assay. In units 1 and 2 SB burned wattle and daub increased in quantity, often sealing in the pottery clusters on the floor. In 1SB three large Red Ware flaring bowls were found smashed in place on the floor, presumably by the collapsing wall. A fourth large bowl, this one containing three cobbles and two more concentrations of sherds from single vessels along with a fragmentary metate were also found in these units. Soil samples for froth flotation were taken from the floor because of the excellent associations here. Preservation conditions appear to have been such that they yielded virtually no material.

Directly to the south of the bowl containing the rocks in unit 2SB there appeared what seemed to be a posthole in a section of burned floor. This was sealed in by a layer of burned wattle and daub. This posthole was the first clear evidence of perishable supports that we have encountered and it contained chunks of burned wood. These were recovered, cleaned, and sent to the radiocarbon laboratory of the Universidad Nacional de El Salvador for procession. A great deal of carbon in the form of small flecks and chunks characterized the fill of units 1 and 2 SB and SC. This was not collected because of the lack of clear associations with cultural material.

Units 2 and 3 SB and SC showed similar pottery clusters at floor level. 2SB had a number of scattered sherd concentrations
and a discontinuous cobble flooring with some patches of burned clay covering it. The west foundation wall of Structure 1 stopped in 3SB although the eastern one continued through this unit, still running more or less parallel to the western wall. The remains of a large Tan Ware olla were found on the floor of 3SB along with a concentration of sherds from another domestic vessel, slightly separated from the olla and lying mainly within 3SC. A second set of soil samples was taken from the floor next to these ceramic clusters.

Because of the direction the east wall was taking the line of units was opened up as a 2 x 6 m. trench with a further 0.50 x 1.50 m. extension east. Cobble subflooring with substantial amounts of wattle and daub overburden appeared along with a fair amount of burned clay floor. The wattle and daub contained some sherds and obsidian mixed in among the chunks. As several distinct layers of wattle and daub could be observed it would appear that several walls had collapsed over this area. Cobble subflooring was visible in those areas where the clay floor had not been fired into ceramic. This subflooring again was not continuous but was probably used to level the floor and to provide drainage. Ample evidence of burning in the form of blackened and scorched earth, especially just above the floor, was seen. The top levels of soil over these units were again dark and loamy with the burned floor varying from 6-7 cm. below the surface on the west to about 23-24 cm. below the surface on the east where the increased overburden could be seen as the result of soil movement from upslope. A large Red Ware flaring bowl, smashed in place on the floor was found on the southern edge of 4SB. In 4 SC a large olla was found in the center of the east wall of the unit adjacent to 4SB. In the 4 units the top soil was separated from the flooring by a layer of compact clayey soil, much harder than the topsoil and showing signs of burning where it touched the floor. A second large Tan Ware olla with an everted rim appeared in the south sector of 4SD along with a section of cobble walling.
This section of walling was not continuous with that of units 2 and 3SC. The extension of the 4 units into line E revealed a small obsidian concentration and a short line of boulders. These did not form a wall of any length.

The 5 line of units was next opened leaving an unexcavated square in the middle of 5SC. In 5SA and 5SB a small formation of fieldstone foundations appeared running out to the main terrace wall. The terrace in this area is cobble surfaced and the cobbling covers the western half of these units including the interior of a small structure. This building, called Structure 2, is much too small to have served for anything except storage. No sherds were found within it although an olla was smashed on the floor near the entrance. Two more Red Ware flaring bowls appeared in 5SB. In 5SC another line of cobble walling was found running east-west in line with the south wall of Structure 2. This line of cobbles was rather short. In 5SD more burned floor appeared and the wide cobble wall ended. A section of tightly fitted fieldstones more or less in line with the cobble wall appeared and the amount of burned wattle and daub remained constant (and great). A small concentration of obsidian blades and flakes was found at floor level in 5SD.

The season was fast drawing to a close and as it seemed desirable to at least sample the rest of the terrace the 6 line of units was left unexcavated except for the A line along the terrace. The terrace wall here was fieldstone again with cobble paving on top. The terrace had fallen in the 7, 8, and 9 units although the large boulders with a flattened surface that had once formed it were to be found scattered downslope. A 50 cm. wide trench was opened here making an L shaped excavation in units 7SC and 7SD and another section of fieldstone foundation wall could be observed running more or less parallel to the terrace in 6 and 7 SD. As the building appeared to be lined up in an easterly direction the C, D, and E lines of units were opened uncovering
the remains of Structure 3. This building is substantially different from any we had previously excavated. A foundation wall of flattened, tightly fitted fieldstone boulders making a U shaped enclosure forms the east, south and west walls. The west wall is of smaller stones, firmly bedded in hard packed clay with a small, apparently intentional, gap in the center. The north wall, which appeared to be complete, is a wide cobble and clay foundation only some 2.5 m. long, arranged to screen the center of Structure 3. All of this building was not excavated although careful probing showed the position of the south and east walls. The floor of this building is of packed cobble and the south foundation had had a clay and cobble wall on top of it which had collapsed to the north. A curious feature of Structure 3 was a rectangle (in 8 and 9 SE) formed of volcanic ash and tuff packed in and levelled over a cobble base. This rectangle had very straight edges and was obviously intentional. Its function is obscure. Pieces of burned wattle and daub showed that at least part of Structure 3 had been of this construction. A Plumbate sherd was found next to the west wall inside the building and a very small projectile point on a prismatic blade appeared on the floor of unit 8SD (Figure 8). This area had a water seep running through it and all the ceramics from here were eroded and crumbly. In unit 9SC a red flaring bowl was found on the floor, crushed by the falling wall. A large obsidian knife was discovered in 9SD along with a group of sherds from two Red Ware flaring bowls (Figure 13). The knife was lying directly over this group of sherds.

The west wall of Structure 3 continued south, formed of larger stones, into unit 12. The 10 line of units had 50 cm. wide trenches put through them to connect them to the 9 and 11 lines. The 11 and 12 units were completely cleared and a second series of southwards running 50 cm. trenches were placed to the south end of the terrace. These showed that the south part of the terrace, which
ends on a slope, had been built up and levelled by means of large rock fill behind a boulder retaining wall. The large rocks were then packed with clay and smaller rocks and the surface cobbles to make a level floor. The west foundation wall of Structure 3 joined that of Structure 4 to enclose a cobbles patio which was apparently clay floored. This floor had not burned enough to turn into ceramic although there was a lot of burned clay and wattle and daub in the fill above floor level.

Structure 4, which was completely cleared, was also very unusual. Approximately 3.90 x 1.17 m. in dimensions, it is a complete rectangle of wide cobbles foundations with a small interior space. The cobbles foundations apparently had a clay and rock superstructure. No cultural remains were found within Structure 4 and it too would appear to have been some sort of storage building.

The area outside the walls to the south and west seemed typical midden and erosion fill. Scattered sherds, obsidian and so on were mixed with the dark loamy soil. Immediately outside the wall in 11SC at a depth of approximately 6 cm. was found an effigy metate (Figure 18a). This metate is of a type common in Nicaragua and Costa Rica and is the first such metate reported from the Chihuatán region.11 The metate was bedded in the compact clayey loam of the midden/fill. On the wall next to the metate was a second grinding stone: a rectangular slab of a lighter colored volcanic rock with two small supports. These were not part of the same artifact, being of different sizes and materials. 4 cm. below the bird metate a cone of very light weight volcanic rock, in form much like a support but of a very fragile material, appeared. Although all of this unit was excavated, no further pieces of either metate were found.

The patio area east of the wall had its floor at approximately 25 cm. below the modern surface. Here two flaring bowls were found smashed on the floor, one containing a natural polished greenstone similar to the one associated with a tripod Coarse Ware bowl
in the SS-54 cache. Remains of a tan olla heavily crusted on the interior with carbon were found in several discrete clusters within the patio. The carbon, apparently the remains of a culinary disaster, was scraped off and sent to the Universidad Nacional laboratory for radiocarbon assay. A great deal of burned wattle and daub was found above the ceramic remains of the 11 SC, SD, and SE units. A third olla with horizontal strap handles was found in 11SC. Three clusters of sherds positioned as if a vessel had dropped from a height or had been thrown were found on the floor. These represented an entire flaring bowl with tripod supports. The bowl is of a local polychrome related to the Nicoya and Mixteca-Puebla groups (Figure 32). The closed tubular supports all contained small clay balls. The clusters were within units 11SC/SD, 12SC and 12 SE at depths of 9-13 cm.; the same level as the smashed olla. Both these pieces would appear to have been on a shelf and to have fallen when the building collapsed.

An obsidian blade cluster, mixed with sherds was found in the southeast corner of 12SF along with an incised slab of clay (not a roof tile). A figurine fragment, one of the few from NW-1, appeared in 12SE. In the 12 units west of the wall were found 3 clay "earplugs" scattered in the fill. Analysis of the obsidian material found in the patio indicates that there was probably a small workshop here. The materials include blades, cores, and a fair amount of chipping detritus (Table 2). Amid the fill and on the floor several other sherd clusters, again largely representing Red Ware flaring bowls and unslippered or tan slipped ollas appeared. A total of six spindle whorls also came from the patio.

NW-1, along with NW-3 which is almost certainly part of the same domestic cluster, represents a somewhat different form of residential group than the ones we had previously encountered. To a certain extent this may be attributed to the fact that this was the first time we had horizontal clearance of inter-house areas on a large scale. However the two main structures of NW-1 are quite different in size and shape from any house previously excavated. It is quite possible that they are
special purpose buildings and that NW-3 and its unexcavated neighbor(s) were the living quarters for this group. We do not as yet have a large enough sample of domestic architecture from Cihuatán to know if this kind of arrangement was common or to make concrete suggestions about what sort of social group may have occupied these buildings. There is no reason to think that NW-3 (a "normal" house platform) and the NW-1 buildings are of different ages. The ceramic and stone artifacts associated with them are identical and, indeed, are identical to those associated with all other Cihuatán domestic structures excavated or surface collected.

The excavation of NW-1 was not entirely completed as we finished the excavation of Structure 4 only the day before the necessary end of the field season. Because of the unique nature of this group of structures and their hasty abandonment and violent end excavation of the complete inter-house areas and the sister structure of NW-3 are planned for the future.

NW-3

The terrace of NW-1 is bordered on the east (upslope) side by at least two other structures. These appeared from surface indications to be the more common three or four sided platforms of fieldstone that we had encountered in previous excavations. There was also evidence of levelling and terracing between these structures and NW-1 and there is reason to think that these structures are linked with the NW-1 group as part of a single domestic complex. For this reason we selected one of the structures, NW-3 for excavation. NW-3 lies approximately 11 m. uphill from the NW-1 terrace and is separated from it by another, smaller, terrace almost equidistant between the main terrace and the NW-3 platform (Figure 15). NW-3 was chosen for investigation because even in the high brush covering this area it was evident that there were at least three well preserved foundation walls forming a U open on the upslope side to the east. No east wall was visible above ground, perhaps because of slumping and erosion of the upper
hill area. Workmen were instructed to clear the area with machetes, leaving in place any surface materials. As NW-3 was cleared it became apparent that there was an extremely heavy surface scatter of ceramic and lithic materials. It also appeared that the platform might have been plowed or otherwise disturbed but questioning the workmen (who are mainly local residents) did not elicit any definite information. This part of the site is very steep and rocky. Although it has apparently not been planted in maize for years (if ever) sketchy clearing and plowing operations take place from time to time and grass seed is sown to improve the pasturage. The surface of NW-3 was consistent with such activities, that is, it had been disturbed but not as much as would have occurred from careful plowing to plant maize or sorghum.

The southwest corner was the best preserved and most visible before excavation and so was chosen as datum. Units were strung out from this datum in a series of 2 m. squares which roughly approximately the boundaries of the visible foundation walls. The absolute size of the platform on clearing of the foundations was found to be 5.90 m. for the well preserved west foundation, 7.10 m. on the north foundation and 7.50 m. on the south foundation. The east wall was not formed of fieldstone boulders but consisted of a clearly defined step of smaller stones parallel to the west wall. An inset short wall running east-west on the north side extended another 1.20 m. and the eastern side of the platform above the step preserved cobble paving for at least 1.90 m. east. One well preserved interior foundation wall, again east-west, connected to the step and divided the eastern half of the platform into two rooms. This interior wall is formed of a double row of somewhat smaller (15-25 cm. diameter) fieldstones set in clay and is 3.30 m. long.

The excavation units were numbered 1-5 west-east and A-C south-north. Because the surface was covered with a heavy scatter of loose rock mixed with clusters of large sherds of domestic type vessels (Red Ware jars and unslipped ollas), apparently from a
series of smashed vessels, the surface was collected and bagged by unit. Throughout the excavations of NW-1 and NW-3 an effort was made to bag sherd clusters separately with the hope of eventually being able to reconstruct some of these vessels. Although all were completely smashed, given proper equipment and personnel, the reconstruction of most should be possible. Reconstruction in the field was limited to those flaring bowls which were in large fragments and to one vessel from NW-3, a Red on Tan jar found smashed on the floor in unit 3B (Figure 27). Most of the surface stone of NW-3 was rough cobble and very little obsidian was noted. In unit 1A metate fragments were found on the surface.

Although initially we had planned to excavate in arbitrary 10 cm. levels until flooring or subflooring was reached, this procedure was abandoned immediately as just below the surface in the A line of units (the southern ones) a solid mass of burned wattle and daub was found. This lay at 1-2 cm. below the present turf. This mass was carefully cleared as it evidently resulted from a wall or walls falling inward. Very little wattle and daub was found on the exterior of the platform. The solid mass of wattle and daub extended to the center of the structure. To the north of this the chunks of burned clay were more scattered, although still found in great quantity. From the condition of the wattle and daub it would appear that the south wall of the structure had received the brunt of the fire which had destroyed the house. Only one section of fired clay floor was found. This was in unit 4B to the north of the interior wall. The wattle and daub clearly showed the method of construction of these walls. Cane impressions were visible on one surface and the other was finger smoothed. A few fragments of fired clay plaster recovered in 3A suggested that there had been some further finishing, perhaps of the basal cobble foundations. A slab of talpula also appeared in unit 3A. The wattle and daub formed a layer 7-10 cm. deep. Throughout the structure beneath the wattle and daub, whether it formed a solid mass or scattered lumps, there appeared concentrations of sherds
representing whole vessels smashed on the floor when the walls fell in. These were most evident on the eastern half of the structure, the surface materials being the heaviest on the western side where there was less wattle and daub and where there had evidently been more disturbance and erosion.

A certain amount of volcanic ash indicated one possible source of the fire. A lens of this ash was found in 5C and there were a few small streaks of ash within the structure. The lack of pumice bombs and the small amount of ash as compared to SS-50 might indicate though that the volcanic activity was subsequent to the burning of NW-3. It would appear though that whatever the cause of the fire, NW-3 like NW-1 was hastily abandoned, leaving much of the household equipment inside. There is no evidence of any reoccupation of any of these structures.

Excavation showed that there had been some slumping and erosion of the platform. Several of the western foundation blocks had fallen downhill and the eastern end of the platform had a heavier overburden of earth, probably from movement of soil from upslope. The cobble subflooring, which was more or less at the surface in the 1 units was found to be 15-20 cm. below surface in the 4 and 5 units. The eastern side of the platform appears to have been slightly excavated into the hill, as evidenced by the low step of the eastern wall. Outside this wall a cobble pavement appeared at 8-10 cm. below the surface, approximately 10 cm. higher than the interior floor. Although a certain amount of buckling and slumping was evident from the cleared floor, the only major disturbance was caused by a small tree in 2B. This had decayed and had first been inhabited by a rodent and then by a large colony of red ants. Burrowing and roots had thrown up a considerable amount of cobble and pottery.

Clearing of the 1 row of units revealed heavy surface concentrations of ceramics and lithics resting on the disturbed cobble subflooring but little artifactual material deeper than a few cm.
Because this part of the platform had not been protected by as heavy an overburden as the eastern half and because it had apparently not suffered as much in the burning of the house little could be told of the construction of the west wall. The foundation wall here is formed of a double row of large boulders, some of them pecked on the exterior face. These could have been the base for a structural wall and the heaviness of the surface rock in this area indicated that there had been some superstructure, now completely destroyed.

Excavation of the 2 row of units revealed better preservation. In these units a considerable amount of obsidian, mainly broken blades, was found wedged in among the cobbles of the subflooring and just above it. A single definite concentration of obsidian was noted in the southwest corner of 2B. The location of the obsidian seems to indicate that it was lying on the now disintegrated clay floor. A sherd cluster was found in 2C again just above the cobble and continued into 2B. Excavation below the cobble showed sterile bedrock, first crushed andesite and then solid rock, beginning immediately below the flooring.

The 3 row of units, being more deeply buried, showed the heaviest mass of wattle and daub in the A units. Again obsidian remains were largely found at the level of the subfloor. A sherd cluster from several whole or nearly whole vessels was found just below the wattle and daub and partly mixed with it. Twelve obsidian blades were found in a group in 3A at a depth of 4 cm. and the fragments of burned clay plaster appeared in the same unit at about 10 cm. This plaster was mixed in with some loose cobble which began at about 7-8 cm. In 3C the subflooring, which was sterile, appeared at depths ranging from 10-14 cm. In this unit were found two complete vessels, a Red Ware flaring bowl and a jar or olla of the same ware, on the floor.

The 4 units were in many ways the most interesting since here the interior wall was best preserved. Judging from the distribution
of wattle and daub both the southern exterior wall and this interior wall had had their upper portions formed of this material. A small section of burned clay floor was found to the north of the interior wall. Smashed on and next to this floor fragment were two more vessels: a Tan Ware olla and a Red on Tan jar. An intact closed tubular support of a tan slipped vessel (a flaring bowl?) was found in 4C but no other supports came to light. This foot was associated with a sherd cluster in the southwest quadrant at a depth of 5-10 cm. A small section of burned clay floor was found to the north of the interior wall. \(\text{A polyhedral obsidian core and a complete rectangular mano were found next to the interior wall in the same unit. The southeast quarter of this area had a fair amount of volcanic ash appearing at the 9-15 cm. depth.}

The eastern part of this row of units contained the narrow step of fieldstones and the upper level of cobble paving. No indications of a wall, except for some scatter wattle and daub, were found and it is possible that the east wall was of flimsy construction. Given local weather patterns, however (and assuming no major change in these over the years) it would seem likely that there was a fairly solid wall on this side. The stepped in extension of the heavy foundation wall on the northeast might be seen as a foundation for a protective wall sheltering an entrance. A wall in this position would provide cover from most storms. Excavation continued into units 5A and C but no further signs of a permanent structure were uncovered. The 5 units had sherds and obsidian mixed with the soil covering the cobble paving. These were not in discrete clusters like those within the house but gave the appearance of midden, perhaps washed down from the hill above. The pavement appeared at approximately 10 cm. and only sterile earth was found below it. A small amount of wattle and daub appeared in these units, indicating some sort of construction in this area of collapse of the now disappeared east wall. The volcanic ash lens was found directly on the cobble in 5C.
Two test pits were placed in NW-3 to try to determine the construction of the platform. The first of these was in unit 1A. The first level of cobble (which was visible on the surface) continued to about 20 cm. in depth. Below this at 18-20 cm. there was a change in soil color from dark brown clayey loam to reddish clay containing a fair amount of crushed rock. This level was nearly sterile with only an occasional blade or sherd, usually mixed with the cobble. At 40 cm. the base of the platform fill was reached.

A second 1 m.\(^2\) test pit was put into 4C in the southeastern quadrant. The first 18 cm. were the above floor levels with artifactual material located directly above the cobble subflooring. From 22-38 cm. reddish clay mixed with cobble and some sherds were encountered. Bedrock appeared at 38-40 cm., first as a layer of crushed decomposing andesite and then as solid bedrock.

The stratigraphy of the platform suggests that NW-3 was built as a levelling platform with a wattle and daub structure on top. There may have been an entrance in the northeast corner, but the condition of the superstructure precluded any definite identification of entrances. Apparently the fire which destroyed the building raged most fiercely on the south side of the house, since this was the area of the most completely fired wattle and daub.

The terrace to the west of NW-3 was also cleared and mapped. This was a low (ca. 15 cm.) fieldstone terrace wall with cobble paving on top of it. Several broken obsidian blades and a very few monochromatic sherds were found in the overburden. No evidence of any structure was found on this terrace but this may be due to the small area excavated. It could have been a base for some structure of lightweight construction as this area would have been sheltered from the weather by the house on the NW-3 platform. Modern campesinos tend to build fairly open kitchen structures in just such a location. Another possible function could be that this terrace formed a front porch for NW-3 much as the cobble terrace of NW-1 seems to have been
used as some sort of work area. The paucity of artifacts and the small area cleared preclude any definite interpretations of the possible uses of the inter-house areas of this domestic cluster.

**P-22**

The final excavation of the season was of P-22, a small badly damaged ceremonial platform to the north of P-16 (Figures 2 and 16). P-22 does not appear on previously published maps of the Western Ceremonial Center and its surroundings as none of these maps include the complete line of mounds bordering the West Terrace. P-22 was chosen for excavation because it was felt desirable to obtain a controlled sample of items associated with a ceremonial or civic structure to compare with artifact assemblages found in domestic contexts.

P-22 before excavation was visible as a low oval mound covered with scrub vegetation. It was smaller in dimensions and higher than a normal domestic platform and its position vis-a-vis the other ceremonial constructions in the area made its identification as a non-domestic structure virtually certain. The platform was cleared of brush and a grid of 2 m. squares with a datum at the southeast corner was placed over the mound. It was obvious from the cleared surface that P-22 had been badly damaged by plowing. In addition there were three looters' pits on the west side and a fourth shallow hole on top. These clandestine activities had led to the larger rocks of the foundations being tumbled about, especially those of the upper course. Although preservation was poor, it appears that P-22 was originally slightly less than 6 m. square and was approximately 1 m. in height (the crown survives to ca. 85 cm.). The platform was constructed of subsoil fill within a stepped retaining wall. It is doubtful if the platform had more than two steps. The stepped configuration remains in place only on the north side. The stairs of the platform appear to have been located on the west and
almost completely obliterated by plowing and by looting. The surface of P-22 was covered with loose rock. Surface collections of artifacts yielded two mano fragments and a piece of a coarse black volcanic rock trough metate. Very few sherds were found on the surface, but there was an unusual amount of obsidian. This included waste flakes and prismatic blade fragments. To determine the original size of the platform excavation was first directed around the peripheries to locate the basal foundations. Further units were opened up in arbitrary 10 cm. levels. It was found immediately that all artifacts came from the upper 5 cm. of this level and that all levels below were completely sterile.

The artifact assemblage from P-22 is unusual when compared to domestic assemblages. It includes, besides a considerable number of obsidian blades, both polyhedral and non-polyhedral core fragments and some large tools such as an "hachita", a scraper, and three unusual bifacially flaked implements (Figure 38). Other unusual lithic finds included a quartz crystal blade, a white quartzite point, and three unmodified red chert pebbles. Ceramic remains were few and badly eroded but include little domestic ware. There were the remains of at least two incensarios, a modeled Coarse Ware vessel, and a single rim sherd of an unusual waxy white over glossy red slip flaring bowl. Ceramics and obsidian were virtually limited to the surface and ceramic artifacts were substantially fewer than would be expected on a domestic platform of comparable size. They were also rather different types.

A test pit was placed in the area of the presumed stair on the west side of P-22. A number of incensario spikes were encountered but sterile red subsoil appeared at 20 cm. in depth. A second test pit put into the crown of the mound to the surface of the terrace showed the construction of P-22. The platform was found to have been completely constructed of gravelly red clay and lumps of decaying andesite. These materials were mixed with small cobbles
and held in by the fieldstone retaining walls. These latter were as usual pecked flat on the exterior. The platform fill contrasts clearly with the dark loamy topsoil typical of the modern A horizon. Details on the construction of other ceremonial platforms in the area are lacking, but it is interesting that there is a large depression, perhaps a borrow pit, just to the east of P-22 and its fellows.

DOMESTIC ARCHITECTURE

Because Cihuatán appears to be a single period of occupation site it provides an excellent opportunity to study variation in domestic arrangements within an ancient town. The ceremonial architecture has been generally known and briefly described in previous publications (Sol 1929, Boggs 1973, Hernández 1976 a and b, Stone 1974 inter alia) and a detailed examination of this aspect of Cihuatán will become available in William Fowler's dissertation. Our own excavations in two non-domestic, apparently ceremonial, structures have added one more type of structure to the known corpus (a rectangle of fitted boulders) but have not led to any more substantive interpretations of function or variation in ceremonial practices associated with public architecture. It should also be stressed that the observations detailed below are quite preliminary. It is evident that there is a great deal of variability in domestic architecture and that there was probably also a fair amount of neighborhood variability reflecting ethnicity and/or occupational specialization. This aspect of Cihuatán is forming the subject of the continuing investigations, under the leadership of Dr. Jane Holden Kelley of the University of Calgary. What is described below then is simply what we have found to date and should by no means be considered a final statement on Early Postclassic domestic arrangements in El Salvador.

The 1977-1978 excavations have revealed that there existed considerable variety in domestic architecture. This seems to be related to the means of construction, the nature of the terrain, and to the function of a given structure as well as to features of ethnic affiliation and political/social structure about which as yet
we know very little. Most commonly houses were constructed on low platforms about 25-50 cm. in height. This is a feature which has been found in domestic architecture in much of ancient and modern Mesoamerica and may be seen today in modern houses of traditional construction in El Salvador. The original purpose of such a platform and the main purpose today, when elite and ceremonial structures are built in the imported European tradition, was and is to raise the floor of the house above the surrounding ground to make it easier to keep it clean and dry. The platforms of ancient houses at Cihuatán were constructed by laying out a hollow rectangle of large fieldstones. Selection for boulders with at least one flat face, which was placed to the exterior of the platform, was common. If a boulder had no natural flat surface this was often provided by pecking or breaking one side of the stone. Since much of the rock found at Cihuatán is rather laminar this did not involve a great labor expenditure. Corner stones in particular were usually shaped. The stones used in platform construction were usually basalt, andesite, or some other fairly hard volcanic rock. Facing stones of split talpúa have not been found on domestic platforms although such facing is typical of public architecture, at least within the main ceremonial precincts. Very often the foundations were formed by laying a double row of boulders. We do not know if double foundation walls were meant to take a superstructure of a more substantial nature although what evidence we do have suggests not. The interior of the boulder rectangle was then filled with rocks and earth taken from surrounding areas. The fact that most platforms are essentially sterile below the living floor lends support to the supposition, founded on examination of fill from ceremonial platforms, that the site was largely uninhabited at the time the majority of buildings were erected. The only structure we have excavated which was entirely filled with midden was HP-102. The nature of this structure and its fellows in a north
south line of platforms within the southern boundaries of the Eastern Ceremonial Center suggests that they may have been special purpose constructions built as a later addition to that ceremonial center.  

The other structures excavated show midden only in the upper levels of fill, if at all, and this midden can be ascribed to refuse originating from the period of use of the house, the time of its destruction and/or erosion of midden onto the platform after its abandonment. Unequivocal evidence of interior stabilizing walling within a platform was found only in SS-49, a structure which was probably not entirely domestic in use. Other platforms tend to have a basal layer of rock loosely piled within the foundations with smaller rocks and earth tamped down over this.

The platform being filled, the surface of the fill was covered with a layer of small, fairly regular, but unworked cobbles packed in clay. These could be in one or several courses. The cobble layer was then covered with a final layer of clay to provide a smooth floor surface. This flooring was generally preserved only in houses which had burned very hot. The burned sections show that the clay floor was usually no more than about 5 cm. thick. Cobble alone may have been used, as it is today, for surfacing areas adjacent to the platform such as terrace "porches", patios, and kitchen areas.

The structures placed on top of these platforms appear to have been of variable construction. As in many contemporary houses, walls of different materials could be used in the same house. Today thatch, wattle and daub, adobe, and fieldstone (along with brick, cement blocks, cardboard and plastic or metal sheeting) are used within a single structure, depending on such factors as the use of the area, prevailing weather patterns, and time and money available.

Several of the excavated houses show that the superstructure covered most or all of the platform with a wall of smaller rocks and clay mortar being constructed directly on top of the fieldstone platform foundations. These walls were, in some instances, covered with a thin layer of fine clay. Judging from the area the collapsed
walls cover, these outer walls were not very high, probably not much more than a meter. Presumably they were either made higher with an upper wall of lighter weight material or the structure had a very steeply pitched roof. Such roofs are seen today in many traditional houses and provide protection from the winter storms (Figure 19a). Visits to local residents after major thunderstorms (during which the wind will often drive the rain horizontally) showed that traditional houses with their steep roofs and low walls were usually quite dry whereas those people who lived in more modern houses (built of similar materials but with high walls and a low pitched roof) were soaked. A very steep overhanging roof also provides enough protection for the adobe or wattle and daub walls that their life span is considerably longer and fewer major repairs are needed to keep the house inhabitable.

The existence of large flat stones within some of the houses suggests that these may have had interior supports for the roof, presumably wooden posts. Because of the extremely poor preservation of organic materials very little clear evidence was found for these. Some of the houses appear to have had several rooms. NW-3 definitely was divided into two rooms and SS-50 shows a large room with a smaller one to one end as well as a probably division between the main room and a front porch, which may have been more open. The lack of clear evidence of interior divisions in other house may well be due to the root and agricultural disturbance they have suffered although it seems quite possible that many houses, particularly smaller ones, were of single room construction.

Wattle and daub, preserved only in those structures which had been thoroughly burned, was another common construction material. In some cases it was probably used above a basal foundation of cobble, but in others, notably NW-3, the wall was apparently erected directly on the platform foundations. Examination of pieces of burned wattle and daub showed that it was formed in the same manner as today. Wooden or cane uprights are placed at regular intervals
along the line of the wall and horizontal slats or canes are attached to them. Sometimes a secondary framework of branches and grass woven through the horizontal members is also provided. A thick layer of clay is then applied over one or both sides of this framework. The exterior surface of the clay is smoothed, either by patting it by hand or by scraping it with a board. Little evidence of plastering or painting the wattle and daub was recovered from the ancient houses, nor is it common today on traditional style rural houses.

There is also evidence of buildings formed in whole or in part of flimsier construction. In these cases no evidence of foundations on top of the platform was found and in those examples where the platform served to level the ground there would often be no fourth platform wall. It is suggested that these walls or houses were of cane or of cane and thatch construction. The houses on the south side of the Western Ceremonial Center in particular showed that the west wall was of such construction, if indeed there was a west wall at all. It would also appear that some of the subsidiary structures of the NW-1 group were of such perishable materials.

It would appear likely that the roofs of the houses were of thatch. No evidence of the material used (grass or palm are common in modern houses) has survived, but the intensity of the fire which destroyed NW-1, NW-3 and SS-50 (the best preserved structures excavated), a fire which turned into ceramic, indicates that a fair amount of these houses was of a material that was extremely flammable. As mentioned above there is reason to think that the roofs were large and steeply pitched. Ceremonial constructions may have had flat clay and pole roofs, but there is little evidence of such construction in the excavated buildings in the residential areas.

Most of the structures excavated in 1977 and 1978 would appear to have been houses, judging from their size and their contents. The excavation of the NW-1 terrace though added some other categories
of domestic constructions to the list. Here the larger buildings, Structures 1 and 3, were not placed on raised platforms. Presumably the levelled and largely paved terrace was considered base enough. The house interiors preserved cobble and clay flooring but this paving was not continuous outside the buildings and the large patio between Structures 3 and 4 was not paved at all, although it appears to have had a packed clay floor. Suggestions as to why the cobbling was not continuous have already been made. The NW-1/NW-3 group clearly illustrates that at ancient Cihuatán as in modern times a domestic cluster was formed not simply of living structures but contained smaller special purpose buildings as well. Structures 2 and 4 of NW-1 appear to have been storehouses of some sort. Structure 2 with its three sided foundation and cobbled floor is definitely too small to have served as sleeping or protected work space. Neither it nor Structure 4 were found to have any contents at all, which may indicate that they served to hold perishable goods. Structure 4 is unusual in our limited experience at Cihuatán. The broad cobble foundations suggest that it may have had a fairly substantial superstructure, a possibility supported by the quantity of fallen stone around the foundations. The lack of any visible flooring within the foundations may mean that a wood or cane floor was placed upon the foundations. This would have been essential if perishable items were kept within as this part of the terrace has a number of seasonal water seeps. It is tempting to see Structure 4 as a corn crib (a raised structure with heavy walls is desirable for protection from water and rodents) or perhaps a building for storing cotton. These interpretations are not based on any direct evidence. The fact that 11 spindle whorls were found in NW-1 could be taken to indicate that the inhabitants were engaged in something more than domestic production of thread or cloth (most houses were found to have only 1-3 whorls), but this number of spindle whorls could also simply be due to the evidently very hasty abandonment and lack of later disturbance of the area.
A second possibility is that NW-1, NW-3 and the unexcavated house platform directly to the south of NW-3 formed a group in which NW-3 and the unexcavated structure were the living quarters and the other buildings were used for storage and other activities. Certainly Structure 1 is smaller and somewhat different in type than the undeniable residential structures excavated elsewhere whereas NW-3 is a typical house, both in size and shape. Structure 3 is quite large, but the position of its north wall, which screens only the center of the house, is peculiar. With such a small sample of excavated structures and, especially, of excavated inter-house areas, we cannot be sure how typical or unusual this cluster is. The remains of vessels smashed in situ by the collapsing walls suggests that Structures 1 and 3 and the patio behind Structure 3 were used for purposes which included cooking, storage and, perhaps, eating. The presence of obsidian artifacts and chipping debris, grinding stones, spindle whorls and figurine fragments also indicates that some other normal activities of daily life took place in this cluster.

Spatial analysis of the artifacts found on the floors of the houses indicates that normal activities associated with domestic structures included processing (and, presumably, serving and consuming) of foodstuffs, processing of fibers, working obsidian and other stones and the like. Ritual activities within the home are attested to by the presence in all houses of incensarios, figurines and, in some cases, musical instruments. The unusual but unmodified stones found in some houses may also be relicts of ritual activity. In situations of deliberate abandonment of the houses these latter were found stored within ceramic vessels.

Another activity which may have been associated with these houses is the manufacture of ceramics. Nearly all of the structures yielded smooth unmodified pebbles of red and/or white chert. It is tempting to see these as having been burnishing stones although there is also evidence which suggests that they were used for flake or blade tools. One might see the rather great variability
in rim form and general quality of Cihuatán ceramics, a variability which is within the rather strict limits of a small number of vessel shapes and color categories, as being due to the home manufacture of the monochromatic wares by persons of differing skills.

No sure evidence of cooking arrangements was uncovered. Many vessels have carbon deposits on their exteriors, indicating that they were used in the fire and one retained the remains of a culinary disaster on the interior. Hearths, however, were completely absent. This is possibly due to the limited investigations of inter-house areas. In most of Mesoamerica (and in most tropical areas) today as in the past the kitchen structure is separated physically from the main living and storage areas and is often of very flimsy construction. This is both to avoid the heat and, more important, to lessen the risk of fire. Such structures would not leave many traces in the preservation conditions met with at Cihuatán.

Another explanation rests on the fact that in much of southern Mesoamerica hearth or stove remains are generally absent. Although this is to a certain extent related to the focus of many or most excavations, kitchen areas have rarely been identified even when they have been actively searched for. Yet it is equally evident that some cooking must have been done even if raw foods formed a substantial part of the diet. One does not eat uncooked cornmeal and the number of grinding implements found in all sites indicates that dried maize formed an important element in local subsistence. It is quite possible that in many of these areas and at Cihuatán that hearths in the common sense were not in use. In much of Central America today the fire is raised. Modern traditional style kitchens have a wooden table or bench which is thickly plastered with clay and the fire is built on this (Figure 19B). The actual structure for containing the fire may be made of stone or of clay or of a combination of these. Stoves of this type would leave few distinctive traces in the archaeological record, especially at
Cihuatán where the structures excavated all appear to have been burned. Pieces of fired clay from the stove would be indistinguishable from pieces of wattle and daub, especially in small fragments.

It does seem that grinding of maize was done within the main structure or close to it since the implements for grinding were found within or close to all houses excavated. Cooking ollas and large jars presumably used for water and foodstuffs were also kept within or close to the house since all domestic structures contained the remains of these.

Other artifacts kept within the houses included those used for fishing and for hunting or aggression. Net weights, although not numerous, are associated with most domestic structures. This might mean that most families did a little fishing in the nearby streams although the possibility of a more commercial involvement in this activity also exists. Today older children and young men will often take part of a day to go fishing and then sell the results of their labors along the road or door to door. Women today are the main vendors in the markets but a woman will often include some fish along with the products of her garden (these are the casual vendors; full time market vendors have regular commercial sources for their products).

Until palynological analyses are done we cannot know how extensive were areas of uncleared or fallow land, suitable for hunting or trapping, in the vicinity of the site. Projectile points (and possibly bolas balls) are not common, but do occur and in such a variety of sizes and styles to indicate a multiplicity of purposes.

The excavation of P-16, which was not a completely domestic structure, suggests that such buildings were similar to houses. P-16 is larger than a normal house and the abundant remains of obsidian debris, cores and tools indicate that part of the structure was used for the manufacture of these tools. Other structures have yielded evidence of obsidian working, but on a much smaller scale. This
suggests that much of the population had access to obsidian but that manufacture of larger or more specialized tools was done in special workshops. The existence of a lens of obsidian debris in the fill of HP-102 supports this surmise.

To date the excavations have not yielded a great deal of information on economic specialization at Cihuatán. Elsewhere (Bruhns 1978, 1979) the author has suggested that the peculiar settlement pattern of Cihuatán was related to commercial agriculture and trade and that the majority of the inhabitants were engaged in these activities. Farming of subsistence crops would have also had to have been important and there is little reason to think that the subsistence economy of Cihuatán differed greatly from that of other settlements in southern Mesoamerica. There is ample evidence for the processing of corn and some indication that one use of corn was to make tortillas. Sherds of comales though are rare and it may well be that tortillas were not as important a food as they were in later (and modern) times. The remains of large jars of several types and of large open clay vessels suggests that chicha (corn beer) was also manufactured. There is no direct evidence for other foodstuffs such as beans, squashes, etc.

A preliminary phytolith analysis by Arlene Miller, now of the University of Chicago, suggests that manioc was grown. Until such time as phytolithic and palynological analyses are completed and/or flotation of midden soils reveals preserved specimens, we can but assume that other crops were grown and consumed.

Arrangement of the domestic structures into groups could indicate that, as has been suggested for other sites of southern Mesoamerica, the basic domestic group was an extended family or some other larger group of related people. Again the sample so far is much too small to make any statements about either social organization or ethnic affiliation with any degree of certainty, nor does it permit much but speculation about occupational specialization.
CERAMICS

Introduction

The ceramic assemblage of Cihuatán is known from fragments found in the course of excavations, from the rare restorable vessel from the same source, and from occasional whole pieces in local or museum collections. These facts have limited the analysis to a rather general one to date, especially when dealing with those classes in which vessel sizes seem to be small and from which only tiny sherds are known. The following should be seen as a very preliminary analysis, based largely on domestic excavations with a control sample from William Fowler's excavations in the Western Ceremonial Center. Preliminary analysis and all cataloguing of artifacts was done in the field as soon after excavation as was practical in order to elicit information about context that might not have been clear from excavation notes. Doubtful lots or pieces were then checked again in 1979, matching catalogue sheets and notes against collections where this seemed advisable. The contextual analysis of ceramics is not yet complete, although general contexts are noted below. A sample size of 10 domestic structures (out of some thousands) must necessarily make any conclusions except the most general, premature. It should be considered that wherever excavations or survey has been done in the residential zone that the majority of material discovered is identical to that described here. It should be expected that further rare types or shapes will appear in the course of the continuing work at Cihuatán, but it is doubtful that any major revisions in the common types will have to be undertaken.

Although it is common in Mesoamerican archaeology to analyze ceramics by one or another variant of the type-variety system, the problems of using this type of classification on a largely monochromatic tradition known almost entirely from sherds are legion.
Attention to general form and to surface treatment is necessary, but using these as sole criteria, ignoring interrelationships between the arbitrary types will obscure finer temporal and stylistic relationships. This is especially evident in the Cihuatán ceramics where color and surface finish seem to be related to other factors (use? cost?) than shape or size. For this reason the following description follows the lead of Wauchope (1975) more than imitating the more rigorous or compartmentalizing studies of Mesoamerican ceramics. Mr. William R. Fowler is preparing a more standard type-variety analysis of the ceramics from his excavations as part of his doctoral dissertation for the Department of Archaeology, University of Calgary. In general Fowler's major types and the author's, arrived at independently, agree. The major points of difference are in the amount of division in the monochrome wares and the amount of significance placed on color differences or degree of slipping within major categories.

The clay sources used for most Cihuatán pottery were probably local. The ceramic assemblage shows considerable homogeneity in paste, making the delineation of local and non-local ceramics simple. Temper is mainly ground volcanic tuff and riverine (?) sand which contains quartzite, bits of black stone (not further identified) and biotite. The amount and fineness of the temper varies with the size of the vessel and with its surface finish. A considerable variation in firing temperatures is evident. The coarse wares, some of the un-slipped or self-slipped domestic wares and most ceramic artifacts were low fired and are friable. The slipped wares are higher fired and very high temperatures seem to have been possible to local potters to judge from the occasional local Plumbates. Circulation of oxygen was not carefully controlled and most vessels exhibit areas of spot reduction (smudging and fire clouding). The paste is usually fully oxidized with a gray core appearing only in the occasional very thick walled vessel. Some of the more utilitarian vessels (cooking ollas) are reduced although these tend to have oxidized patches,
again arguing for incomplete control of the oxygen flow. Smoked blackware is found in minute quantities although it too seems to be of local origin.

The surface finish varies from simply wiping the finished vessel through to the application of several layers of thick slip and a high polish. The majority of Cihuatan local pottery however is characterized by a rather casual attitude towards surface finish.

Cihuatan ceramics may be divided into coarse wares, monochromatic slipped wares, decorated wares and exotica, a heterogenous group which encompasses both local and imported ceramics of rare occurrence.

**Coarse Ware**

The coarse wares include both those forms which are usually described as being ceremonial in function and a range of vessels which are evidently of purely domestic use. These vessels share a tan to orange paste with a heavy temper, relatively thick walls, and a surface which is primarily finished by wiping. More elaborate examples may have some further smoothing on the interior, but few vessels were burnished and none was apparently polished. Interiors, however, except on open vessels, are very crudely finished. Because of the low fire and friability of the paste many of the vessels give a completely erroneous impression of what they were like when new. Colored washes, slips and post fire painting have generally eroded off, leaving only the crudely finished base. It would appear that many were further decorated, especially the ceremonial forms, but it is only in exceptional circumstances that any of the colored decoration, especially the post fire painting, has survived.

Ceremonial forms include incensarios, effigies, and a range of applique decorated pieces of unknown function: few whole examples of any category are known. With the possible exception of the life to near-life sized images all of these forms are found in domestic as well as ceremonial contexts, although in smaller quantities. It would appear that only ceremonial forms in the smaller size ranges were considered appropriate for domestic use.
Incensarios include biconical, tubular, effigy, and ladle forms. Biconical and tubular incensarios are often decorated with appliqué spikes or knobs and range in size from over a meter in height to somewhat less than 18 cm. Some are further decorated with appliqué Tlaloc faces, a form of decoration which is found on unspiked examples as well as the rare Tlaloc jars. Spiked decoration is often combined with appliqué decoration in geometric or vegetable motifs (Figure 20). Some of the incensarios were originally painted with white, tan or red slip. Others preserve evidence of red, white, yellow or blue post fire paint. Because of preservation conditions there is no way to know how many originally were so decorated.

Ladle incensarios are most common in coarse ware and combine a long hollow tubular handle with a flaring sided or shallow hemispherical dish (rare). The dish is often perforated. The handle rarely bears modeled decoration and then only of the most rudimentary sort. This form also occurs in slipped and burnished versions, notably in red or red on tan wares.

Large hollow effigies, which include full round figures of Tlaloc, Mictlantecuhtli, Xipe Totec, monkeys, felines, and human figures without immediately identifiable supernatural characteristics are most common in deposits associated with the ceremonial centers. A few fragments, again in the smaller size ranges, have been encountered in domestic contexts. Again the remains are so fragmentary that these remains could also be from effigy incensarios. Excavations into SS-49 uncovered a single foot from this form showing the typical pattern of a full round figure (about 1/3 life size) attached to a tubular or biconical vessel (Figure 18b). Smaller effigies, including figurines, flutes, whistles, wheeled figurines, and adornos, do occur with reasonable frequency in domestic contexts, although several fragments of a hollow clay "throne" from NW-1 indicate that more elaborate images were at least occasionally associated with domestic structures.
The major domestic forms found in coarse ware are large jars with a flat bottomed globular body and a high flaring neck, medium to small sized ollas, many of which seem to have been used for cooking, and flaring tripod bowls with an appliqué "piecrust" fillet around the upper exterior rim (Figure 20). These forms show paste and surface treatment identical to that seen on the larger more elaborate pieces. Appliqué "piecrust" rims are found on both the tripod bowls (which have a flat bottom and large, very crudely made closed tubular supports) and on some of the simpler incensarios or incensario related pieces. Likewise a brushed exterior, such as is common on these bowls, is found on some ceremonial forms. The bowls and ollas however have so far appeared only in residential structures, although the deposit of SS-53 suggests that their use was not always strictly culinary.

Red Ware

Monochromatic slipped wares form by far the largest percentage of ceramics associated with residential structures. At Cihuatan as at other Postclassic Mesoamerican sites the commonest color for these plain wares is red. The red slip seems to be all from the same source and differences in color can be ascribed to the thickness of the slip itself and to firing conditions. Surface finish in the red wares varies from a single application of very thin slip (wash), usually not further finished, to several layers of very thick red slip, often applied over a cream or tan basal slip. The thicker slips did not adhere well to the vessel body and it would appear that much of our category "too eroded to type" would have been these thicker slipped wares. This guess was originally based on those few eroded sherds which had flecks of thick slip remaining and was further bolstered by the discovery in NW-1 of a whole vessel smashed in situ. Part of this bowl was within a water seep and this portion of the bowl was completely eroded whereas the rest bore its original multilayered slip (red on cream). Colors of slip, checked with a Munsell Soil Color Chart (1954) all fall into
the red to dark red categories, with 2.5 YR (4/6, 5/6, 4/8), 7.5 YR (3/4, 8/4), 10 YR (4/2) and 10 R being the most common. The reading of color however depends entirely on where it is taken on the vessel and where whole vessels were available for checking most of these colors were visible, variations being an artifact of firing temperature, placement during firing, and flow of oxygen. The thickness of the slip application and the amount of burnishing or polishing visible on a vessel was to a certain extent correlated with shape. Larger, presumably more utilitarian, shapes such as ollas tend to have simple washes, whereas bowls and jar forms more often exhibit the heavier slips and more attention to finishing. It should be emphasized however that there is a nearly complete overlap in form and size between those vessels which are very casually finished and those which bear evidence of time and care in forming the final product. This suggests that factors for which we cannot control archaeologically were in operation and that any division into types by amount of slip and slip finish (as well as by color of red slip) would be an artifact of the investigator and not especially reflective of any native categories.

The forms found in Red Ware are more varied than those seen in other categories, perhaps due to this being the major form of decoration. The most common form is a flat bottomed flaring bowl (cajete, huacal) with a slightly thickened rim (Figure 22). These range from an approximate rim diameter of about 45 cm. to a minimum of approximately 20 cm. Most fall into the upper ranges of these figures. A small percentage of these flaring bowls had tripod supports. These include both open and closed tubular supports (although open tubular supports are very rare), oven shaped supports, pointed slightly piriform supports and solid conical one (Figure 23). These latter are also rare. Most hollow supports are in the 10-15 cm. high size range and often contained small solid clay balls (sonadores). The solid conical supports are much smaller, less than 5 cm. in height.

Rounded bowls, either shallow basins or deeper hemispherical bowls and teconates, are much rarer than flaring bowls and no whole
or nearly whole examples are known. These, like the flaring bowls, were slipped and polished on both the interior and exterior surfaces and may well have had flat bottoms. A very rare form is a plate, a slipped and polished flat vessel with a slightly upturned and pointed rim (Figure 22). These too are slipped and polished on both surfaces.

More common red ware forms are jars with a globular body, high flaring neck and 2-3 strap handles (Figure 24), large tubular vessels with a vertical rim with a band of brushed decoration around the exterior, and a large, slightly piriform, open vessel with a ledge rim (Figure 24). The two latter forms are finished on the interior but jars shown only the minimum of smoothing on the interior below the neck. Most of the jars are approximately 40-70 cm. in height. The other two forms are slightly smaller, to judge from the few whole or nearly whole vessels. All of these forms are common in domestic deposits although preliminary analysis of shape distribution by structure seems to indicate that a given structure would contain fewer jars than flaring bowls or ollas and only one or two of the other forms.

**Tan to Brown Monochrome Wares**

This division is somewhat more arbitrary than the red wares and includes many vessels which may well have born some painted decoration as well as simple self slipped vessels. Again the slip may vary from a single thin wash, not further finished, to multiple layers of heavy paint. These latter were usually burnished to a smooth gloss. Many of the coarse ware forms, especially the ladle incensarios, seem to have had a light tan or cream slip. Aside from these the next most common form is again a flaring bowl, although a fair number of ollas and jars also seem to have had a light slip.

In the darker (brown) color range is a vessel described by Waughope (1975) as a comal. Because it is somewhat different from the more common Mesoamerican comales, which also occur at Cihuatan, we have chosen to call it a Zacualpa Comal. This vessel
is a shallow large bowl with horizontal rim handles (Figure 25). The sides of the vessel may be either rounded or more upright and the bottom appears to have been very slightly rounded. Unlike other comales, these are slipped and burnished on both the interior and exterior surfaces.

True comales, flat plate like vessels with a slightly thickened rim, are found in very small quantities in Cihuatán domestic refuse, indicating that the making of tortillas was not particularly common. Inspection of modern midden attached to traditional or poorer households which still use clay comales indicates that perhaps the most common ceramic remains are of these thin, large, eminently breakable vessels. Yet few Cihuatán houses excavated contain more than a few sherds which can be definitely identified as coming from comales. Ancient comales, like modern ones, are burnished on the upper surface and left rough, or roughened, on the lower one (Figure 25).

Self Slipped Wares

This category includes those vessels which were slipped but in which the slip is of the same color as the vessel fabric. In most cases this is tan to orange. Most self slipped vessels seem to be ollas or jars or pertain to the ceremonial coarse ware shapes. Cihuatán ollas come in a wide variety of sizes and rim forms. Most appear to have had a rounded body, a flat bottom, and a vertical to everted rim. Many of the larger ollas also had two horizontally placed strap handles on the upper vessel body (Figure 26). A fair number of these ollas show signs of having been used in the fire. A single example was found with heavily charred material on the interior, apparently the remains of a domestic accident. This material was carefully scraped off and sent to the Radiocarbon Laboratory of the Universidad Nacional de El Salvador for analysis and further samples of it have been saved for possible paleobotanical analysis. A few jars, identical in form to those of the Red Ware group, are also found with a self slip. In general the smaller vessels
show more careful finishing and construction. Many of these are fired to a light bright orange. The other group of well finished self slipped vessels comprises rare very large ollas. The majority of these however would better be classed as coarse ware and have only a simple wiped surface.

White Ware

This category, like many of the tan to cream vessels described above, probably overlaps with the decorated groups. Certainly those vessels which are represented by very small thin sherds, almost certainly pertain to one of the bi-chrome or polychrome categories. In these (especially the Nicoya related pieces) the red and black slips were applied over a white base slip and tend to flake off, leaving only the basal color. A few vessels which appear to have been entirely white have been found. These include jars, identical in form to the Red Ware ones, but somewhat smaller in size, and flaring bowl sherds. In general a white slip seems to have been used in combination with other slips or with plastic decoration and as such it appears mainly on more elaborate vessels or on Coarse Ware vessels of the ceremonial group.

Black Ware

A very few sherds of a polished black ware have been found at Cihuatán. These were obviously deliberately smoked to achieve the shiny black color. Shapes include a rounded bowl with an annular base and basal flange and flat bottomed flaring bowls. One example of a flaring bowl with tubular tripod supports was found.

Red and Tan Ware (Marihua Red-on-Buff Variety)

A Salvadoran variety of the red and tan or red and white wares so common in Postclassic contexts in Mesoamerica was first described by Haberland in 1964. He named this ware Marihua Red-on-Buff and attempted to show that it was associated with the Pipil ethnic group. Marihua Red-on-Buff in the exact colors and with the shapes and many
of the designs described by Haberland does not occur at Cihuatán. In its place are a series of vessels which are clearly related, both to this described ware and to other red on buff or red on white wares from Mesoamerican Postclassic sites, but also clearly different. At Cihuatán these red and tan wares appear with simple geometric designs painted on a base color ranging from white to tan. Identifiable designs include horizontal and vertical stripes, solid circles, crude spirals, and, perhaps, some more elaborate motifs (Figure 27). In addition horizontal red stripes on a tan or buff base are often found decorating the exterior of polychrome vessels. Vessel forms which are decorated with red on tan alone include small jars, flaring bowls, ollas, ladle incensarios, and perhaps rounded bowls of various types. All of these are well finished but are rather simple in decoration. In general this category can be said to be related to other Mesoamerican wares with similar decoration, but complete identity of either shape or decoration is not seen with any ceramic complex so far described.

**Incised Wares**

Three major groups of incised decorated wares can be identified. These are a plain brown incised, a red and white incised and a bi- or tri-chrome incised. All are differentiated by color, motifs, and preferred shapes.

**Brown Incised**

The category comprises, as known, a single shape, a shallow rounded bowl which is very open. Some few examples have a slightly more vertical sidewall and color, size range, and surface finish are comparable to those seen on the Zacualpa comales. In place of vertical rim handles however, these vessels have a band of simple incised geometric decoration around the upper exterior. Motifs are simple and are arranged in a horizontal band. Within this band, set off by incised lines may be a casual zigzag line or two or slightly more elaborate motifs of slanting and vertical lines (Figure 28).
The incision seems to have been done when the vessel was somewhat hardened. The motifs are comparable to a wide variety of simple incised wares found in the same general time period in Guatemala, Honduras, and lower Central America. The simplicity of the motifs and the relative rarity of these vessels precludes any more specific comparisons being drawn.

**Monochrome Incised**

These vessels are again rare and most known seem to be jars to judge from the lack of interior finishing. It is possible that some rounded bowls and flaring bowls were likewise decorated. These vessels are slipped red or white and bear very simple designs, mainly in the form of large vertically oriented zigzags, on the upper jar body. The incision was done when the vessel was leather hard and the incisions are flat and shallow (Figure 28).

**Bi- and Tri-Chrome Incised**

These vessels differ from the above vessels in having black paint and, occasionally, a white post fire paste, applied to the area of incision. The base color always seems to be red or reddish brown (slightly reduced red). Motifs are rather sharp and again are geometric, although considerably more elaborate than those seen on the other classes of incised vessels. These seem to be arranged in panels on a horizontal band of decoration placed about the upper vessel body. Specific motifs include multiple lines, multiple triangles, and rare punctuation (Figure 28). Shapes represented include flaring bowls and rounded bowls or cups. All are small and the vessel walls are correspondingly thin. No whole examples are known.

**Fondo Sellado**

A characteristic ceramic type of southern Mesoamerica in the Late Classic and Early Postclassic is a type called Fondo Sellado.
These vessels, all apparently bowls, are characterized by having a bottom stamped with a low raised design. Many of these designs, especially in Vera Cruz and Puebla, are very elaborate and include geometric, floral, and mythical motifs. A very similar group of ceramics is found at Cihuatán (Figure 29). Here, in place of the common shallow rounded open bowl of southern Mesoamerica, the preferred (and indeed the only identified) shape is the flat bottomed flaring bowl. To date none has been found which had tripod supports. These flaring bowls are slipped red or white and are characterized by a low relief stamped design covering the entire vessel floor. None has yet been found with side walls in place, so it is not known if the side walls were decorated in any way. The Cihuatán Fondo Sellado ceramics share a number of motifs with those of southern Mexico. These are mainly floral and geometric, to date no remains of any of the more representation motifs depicting such figures as the feathered serpent has been found. This could be due to the fact that most sherds of this category are relatively small. Again this may be another instance of the local preference for geometric ornament as evidenced in the other decorated wares, few of which show representational patterns. In contrast to the southern Mexican pieces the Cihuatán Fondo Sellado vessels appear to have had the entire floor as a design area in place of the more common circular central medallion seen on the Mexican pieces. It should be noted that Fondo Sellado in Mexico and Guatemala is found associated with remains of true molecajetes whereas as Cihuatán to date no molecajetes, that is to say deeply scored bottom grater bowls, have yet been found. The appearance of Fondo Sellado related pieces at Cihuatán is further evidence of the close relationships with this local ceramic assemblage had with those of the north, yet as in the other ceramics no slavish imitation of foreign ideas is seen but rather the idea is reworked to fit local preferences in shape and design.
Polychrome Wares

Polychrome wares comprise a very small proportion of the total ceramic assemblage. Clear relationships are shown with Late Classic/Early Postclassic complexes from southern Mesoamerica and from lower Central America. The local polychromes however seem to be a blend of these two areas of influence with a distinct preference for local shapes (especially the ubiquitous flaring bowl) and for geometric decoration. Only rarely is a representational motif seen except on an imported vessel.

Bandera Polychrome

This type, named by Stanley Boggs of the Museo Nacional "David J. Guzman" occurs with some frequency at Cihuatán. The name comes from the major design element, striped rectangular motifs in black, white, gray and occasionally yellow orange on a red background. The ware seems to be related to the widespread Mixteca-Puebla Polychrome complex and vessels in private collections (all unfortunately without good context) include some representational patterns including dismembered limbs, serpent heads, and the like. The pieces found by us at Cihuatán were all simpler and only the characteristic bandera motif could be identified (Figure 30). Most of the vessels found appear to have been small rounded bowls or cups, small flaring bowls and small jars. Several sherds of a very large thick rounded vessel were also encountered, again with the diagnostic bandera pattern.

Local Polychrome

This group, which can certainly be subdivided with a larger sample, includes a range of red, white, grey, black and yellow orange painted polychromes, most of which have the colors applied on a white base. Clear affinities are visible between these polychromes and the Mixteca-Puebla Policromo Firme of southern Mexico and the Nicoya Polychromes (Mora variety especially) of Nicaragua and Costa Rica. The local manufacture of most examples, however, does not seem to be in
doubt, and the affinities are of a number of motifs shared and not of shape or design arrangement preferences. Shapes seen are flaring bowls, often with hollow supports with sonadores, rounded cups and bowls, some perhaps with annular bases, shallow basins, small jars and possibly some modeled vessels. All of these tend to be quite small in size and very few whole or restorable vessels are known, making definite statements about shape impossible. Again the commonest shape would appear to be the flat bottomed flaring bowl.

These vessels are decorated on both interior and exterior surfaces with small geometric motifs including arrangements of lines and spots, triangles, spirals and guilloches, multicolored stripes, etc. (Figures 31, 32). Most of these patterns are applied over a white base slip. Often the exterior of the vessel (bowl) was self-slipped in tan or buff and a simple design of red or red and white horizontal stripes applied. More elaborate vessels show the entire exterior as well as the interior covered with these geometric patterns. There would appear to be a gradation of these polychromes into the Bandera Polychrome type. A very few show the common Bandera red base color. A large tripod flaring bowl discovered in William Fowler's excavations shows a combination of the Local Polychrome geometric designs combined with a more representational central medallion on the interior floor of the vessel (Figure 33).

Cihuatán Trichrome

This group of very rare vessels again shows affinities with both southern Mesoamerican and lower Central American types. It is quite possible that this is not a valid sub-group as the sample is extremely small. To date only two shapes are represented: a flaring bowl and a slightly piriform vase. All vessels are badly eroded but appear to have born rather bold curvilinear patterns in black on matte white with red highlights (Figure 33). No designs can be reconstructed due to the tiny fragments and poor preservation of the known vessels. It is quite likely that these vessels are related to both the Bandera
and Local Polychrome groups, but the available sample precludes any definite assignment to either category.

The Plumbates

A number of Plumbate and Plumbate inspired types of ceramics are found at Cihuatán. Of these by far the most common is Tohil Plumbate. All residential structures excavated have contained some remains of Tohil Plumbate and this readily identifiable ceramic is associated in quantity with the ceremonial constructions as well. All of the forms described by Shepard (1949) are present although gadrooned and squash jars seem to be the most common (judging on the basis of the larger sherds found).

In addition to Tohil Plumbate, which is a diagnostic ware of Early Postclassic Mesoamerica and is widely distributed in that region and in areas which had trading connections with it, there are a number of much less common Plumbate related pseudo-plumbates and plumbate slipped vessels.

Pseudo-plumbates are reported as occurring rarely in Early Post-Classic contexts in other regions of Mesoamerica, especially in Guatemala and Vera Cruz (Wauchope 1975, Medellín Zenil 1960). Commonly they are a fine paste, highly fired, oxidized ceramic, often made in the characteristic Plumbate shapes, but lacking the layers of metallic Plumbate slip. Sherds of vessels identical to those described by Wauchope (1975) and Shepard (1949) have been found at Cihuatán, mainly in deposits associated with the Western Ceremonial Center. In addition to these vessels, which would appear to be in form and decoration imitations of Tohil Plumbate, a second pseudo-plumbate has appeared in minute quantities at Cihuatán. This pseudo-plumbate has been found in both ceremonial and domestic deposits. To date the only form known would appear to be a very small jar. These vessels are formed of a fine white paste, highly fired, and exhibiting the characteristic coarse striations of Tohil Plumbate on the interior of the vessel walls. The exterior is highly polished and is divided into vertical zones, in the
manner of the squash jar, by shallow incision. Alternate zones are washed with a light red color. It is evident that these vessels were inspired by Tohil Plumbate, but it is equally evident that they are of a different paste and were not fired to vitrification.

A second group of Plumbate related ceramics is formed by two wares which bear a close relationship to types first reported from central Veracruz (Medellín Zenil 1960, Bruhns 1979b, 1980). Both these wares have been found in very small quantities in ceremonial and domestic contexts; one would appear to have been of local manufacture. The non-local ware seems to be that which Medellin Zenil (1960) has named Rojo Sobre Blanco con Baño Metálico. These vessels are of a fine (untempered) paste and are slip painted red and white on the exterior. The interior, however, is the typical metallic gray slip of the true Plumbates. The Cihuatan examples all appear to be the remains of small rounded cups or bowls. The painted designs on the exteriors are not reconstructable.

The other Plumbate related form is a local variant of what Medellín Zenil (1960) has called Baño Metalico, a ware which in central Veracruz has been found in Late Classic and Early Postclassic contexts. These vessels are distinguished from the closely related fine paste wares sloeby by the exterior treatment. This is a thin slip or wash of a Plumbate-like metallic gray or orange slip. The two "Baño Metalico" vessels we found at Cihuatan are formed of the distinctive local paste and are of a typical local form (the flaring bowl), but likewise bear a metallic slip over the surface (Bruhns 1980).

Rare Decorative Techniques
In addition to the surface finishes and decorative techniques described above, a few other types of decoration are seen, albeit rarely, on Cihuatan ceramics. One of these is the Usulatan technique, a type of wax resist commonly thought to be typical of Preclassic ceramic assemblages. This technique is represented at Cihuatan by the remains of two vessels, both from structure HP-102. These show large circular areas of cream on a red ground. The circles were formed
by a wax resist of some sort. Organic resist ("negative painting") has also been found on a single vessel from Cihuatán. This is a large Coarse Ware tripod flaring bowl from the offering or cache of SS-54. The vessel is completely typical of its class except that in place of the wiped or brushed surface on the exterior side wall below the appliqué fillet there are vertical stripes in black organic resist paint. Cane impression is rarely found. It would seem to occur either as a band around the upper portion of a vessel or (the other example) as a pattern on a handle (Figure 34). This Red Ware strap handle also bears a modeled reptilian ornament. One other example of a modeled adorno is known from our excavations: a side wall sherd from a rounded bowl (?) with a much eroded human head on it. This head is badly weathered but appears to be of the same style as the molded figurine heads.

**Exotica**

In addition to the imported Plumbates described above there are a fair number of other exotic pieces apparently of foreign origin. These do not exhibit the typical Cihuatán paste nor are they of local forms or with local types of decoration. Among these wares the most common are imported Mixteca-Puebla and Nicoya Polychromes.

Mixteca-Puebla Polychrome is known from Cihuatán in both of the major described varieties: **Policromo Firme** and **Policromo Laca** (Noguera 1954). Tiny sherds, apparently from small fine vessels, are quite common in refuse and a single restorable vessel was found cached in SS-53. This vessel is a small cup with an annular rattle base and a hemispherical bowl with a basal flange. It is decorated with a design of feathers, Ahau faces and cotton balls in white, black, gray and yellow-orange on a red ground (Figure 6ab). The paste is unusual and there seems to be no reason to consider it as having been of local manufacture although this shape is occasionally found in local wares. Owing to the relative lack of published studies of Mixteca-Puebla Polychrome varieties no more than a general identification can
be placed on this piece. The motifs it bears seem to be typical of those reported on Mixteca-Puebla related pieces from southern Mesoamerica. In addition to this piece some sherds of typical Policromio Firme have been found, again indicating ties with Puebla and/or Vera Cruz.

Nicoya type polychromes are also found in both domestic and ceremonial contexts in small quantities. These have the typical "soapy" textured slip of the Nicoya group. All sherds are poorly preserved but several styles of Nicoya Polychrome would appear to be represented.

Another rare polychrome is one which is probably related to the Nicoya group. Sherds of this ceramic are very rare and have a waxy surface with bold black patterns highlighted with transparent red dots on a white surface (Figure 34). This very waxy slip is also seen in a single sherd from a flaring bowl in white, the white is (usually) painted over a red base slip. A very fine incised zigzag parallels the rim.

Present in somewhat greater quantities are sherds of fine paste wares. These have not been further identified as to type, but include both small cups or bowls and larger modeled vessels. Colors represented are light orange and light tan.

A single sherd of what would appear to be Ocosmo Bertal was encountered in the excavations of HP-102. This is identical to sherds reported by Baudez and Becquelin from the Rio Blanco (Early Postclassic) phase of Los Naranjos, Honduras (Baudez and Becquelin 1972). Two sherds of a light orange heavily micaceous fabric ware encountered in the excavations of NW-1. No shape identification can be given to them.

In addition to these imported ceramic vessel types it would appear that Mazapan style figurines are also found at Tikal. Mazapan figurines are widely spread throughout Early Postclassic Mesoamerica. A single example of what may be a Mazapan figure (it was in very fragmentary condition) was found in the excavations
of SS-54. In addition to this figurine the Museo Nacional "David J. Guzmán" has in its collections a typical Mazapan figurine reported to come from the Cihuatán area. Finally, local inhabitants report that in 1975 or 1976 in the course of clandestine excavations in a platform to the southwest of the Western Ceremonial Center, a cache of some twelve of these figurines, all missing their heads, was found.

**Fired Clay Artifacts**

Ceramic objects other than vessels and large effigies are common in the archaeological deposits of Cihuatán. Among these are "roof tiles", drainpipes, figurines, wheeled figurines, musical instruments, spindle whorls, beads, "ear spools" and net weights.

Roof tiles, large solid flat clay objects which were apparently cruciform in shape have been reported from excavations and from surface contexts for many years. These have now been found in excavations, both in the ceremonial center and in the residential area. These objects are unslipped and of the typical Coarse Ware paste. They usually have one surface decorated with simple incision outlining the periphery or with a combination of such incision and surface brushing. They have been commonly identified as roof decorations on the basis of a loose analogy with the better known architecture of central Mexico. Here similar objects were occasionally placed along the edges of flat roofs for decoration. Excavations in the ceremonial centers have uncovered many of these tiles and it is quite possible that they served this function. Domestic structures, however, also commonly contain several roof tiles and their function in this context is unclear. It would appear that Cihuatán houses had steeply pitched thatch roofs and it seems unlikely that tiles would have been tied along the edges of such a roof (which ended quite near to the ground). It can only be suggested that the tiles had some supernatural or ceremonial significance in addition to whatever decorative function they may have served. It is equally likely that
extra tiles or discards were used for some domestic purpose (Figure 34).

Drain pipes made of fired clay have been found associated with ceremonial structures (notably the West and North Ball Courts) but have not been previously reported from domestic constructions. Ten pieces of drainpipe were found in the excavation of NW-1 in the patio area between Structures 1 and 3. This pipe, unlike the pipes from the ceremonial center, is slipped, dark red and brushed on the exterior. It has a diameter of ca. 10 cm. Aside from the decorated exterior it is identical to other pieces identified from form and context as drains. Since it was found at floor level between structures it is impossible to identify function from context.

Cihuatan figurines, aside from the possible Mazapan figurines, are partly mold made and partly hand made. The heads were made in a two part mold (one mold proof has been found). This was of the front only and clearly showed how the clay was pushed into the mold with a finger. Finished heads are often three dimensional with details on the back, although some may have been rounded a bit in back by hand, using only a single piece mold. Heads are both solid and hollow, with solid ones predominating, and show a face with square headdress or large turban and, usually, large circular ear spools (Figure 35). Subjects represented include humans, a long muzzled animal (fox? dog?) with a human headdress, Tlaloc, and other, unidentified, supernaturals. These heads were then attached to a hollow handmade body. Two types of bodies are currently known from nearly whole examples. There may be others, or variations on these, but figurines are usually encountered in a very fragmentary state with only the solid heads at all well preserved. One type of body is a male torso, seated upon a bench and wearing a loincloth and arm and knee decorations. These decorations are appliqué bands with a bow or disk ornament. Feet are usually solid and often have sandals. The toes and toenails
may be shown in detail. The other body type apparently represents a female. These have crude solid arms without ornaments, a hollow cylindrical body with appliqué pellet nipples and large solid feet. The feet are shaped so that the figurine can stand unsupported and have no details of foot gear or anatomy. All figurines known are of the Coarse Ware paste, low fired and badly weathered. Some retain evidence of self slipping and it is possible that others were slipped in color or originally bore post-fire painting. The crudity of the female figurine torsos suggests that this style of figurine may have been dressed in garments of perishable material in the manner that has been postulated for the Tepetlahuacán "portrait" figurines.

Wheeled figurines are frequently encountered at Cihuatán, both in caches of whole or nearly whole examples and as fragments in both ceremonial and domestic refuse. Boggs (1972, 1973) has delineated a Cihuatan type of wheeled figurine which he contrasts to the smaller Oriente type (1973:7). Cihuatán wheeled figurines are more highly standardized with mold made heads, bodies molded around a maize or tree stalk, and hand detailing. Subjects represented include dogs, deer, monkeys, and humans, all shown with the long hollow cylindrical body. As Boggs remarks "... a wheeled figurine resembles nothing so much as another wheeled figurine." (1973:10).

Despite Boggs' reservations about the dating of these Cihuatán figurines, both Fowler's and our own work at Cihuatán suggests that these items are fully contemporary with the rest of the ceramic complex. Fragments of both bodies and wheels are commonly found in domestic debris (in small quantities) and have appeared in the deep refuse deposits to the north of the North Ball Court (Fowler, personal communication). Although it is sometimes difficult to tell a piece of a body of a wheeled figurine from a flute fragment, and there is a certain overlap in heads of wheeled and non-wheeled figurines, the wheels are readily identifiable. Unlike spindle whorls, wheels are flat on both surfaces, with a flat rim and a
whole punched in the center. All fragments found by us were well smoothed and a few bore remains of self (light tan) slip. No wheeled flutes are known from Cihuatán.

Musical instruments are represented in the domestic refuse by fragments of tubular flute, one with a small clay ball (sonador) still in situ, and by two segments of a handmade multichambered whistle. This latter, from the fill of HP-102, has a monstrous (Tlaloc?) face with the mouthpiece of the whistle being the mouth of the face. Simple single chambered whistles have appeared in the excavations in the Western Ceremonial Center. Instruments similar to these are illustrated in Boggs 1974 (see especially Figures 16-19 and 42).

Items which may be personal ornaments are represented by small clay beads and by what may be earplugs. The beads are spherical with a central perforation and may be either plain or incised. They are rare and could possibly be special spindle whorls for the spinning of fine cotton thread rather than beads per se. In size and form they overlap with the small spherical or ovoid spindle whorls known from lower Central America and northern South America. Three biconical solid clay objects with flattened end surfaces were found in the excavations of NW-1. These are reduced gray incolor and smoothed but not slipped. They are slightly different in form from the objects commonly identified as net weights (Figure 36).

Spindle whorls and net weights comprise the other ceramic artifacts now known from Cihuatán. Spindle whorls are circular with a flat bottom and a somewhat convex top (Figure 36). Only one whorl preserved any slip (red) and another had some slight remains of an incised design. Many have a small lip around the central perforation on top. Net weights are so identified on the basis of comparison with other archaeological objects so identified and with modern (lead) net weights. They are tapered ovoid objects of solid clay with a central groove (Figure 36). Several sizes of these weights have been
encountered, suggesting the use of both large and small throw nets. It is evident from the preliminary analysis of Cihuatán ceramics that the assemblage bears both some general similarities and some very basic differences from other (published) Postclassic assemblages. Appliqué decorated coarse wares, especially spiked incensarios, are widely found in Mesoamerica in the Late Classic-Postclassic time range. Monochromatic wares, especially plain red wares, seem to be typical of many Early Postclassic Mesoamerican assemblages, although the forms represented tend to be area or site specific. The decorated wares of Cihuatán show only general similarities with those reported from other Early Postclassic sites, although a great deal of influence from both the Mixteca-Puebla and Nicoya Polychrome styles is evident in designs and color schemes. The presence of Tohil Flumbate in some quantity indicates further external ties and is, like the polychromes, a general chronological marker of the Early Postclassic. General to somewhat more specific comparisons can be made to ceramics of the Pokom, Pokom-Tohil and Tohil phases of Zacualpa, Guatemala, the Río Blanco phases of Los Naranjos, Honduras, and the Late Classic Lepa phase of Quelepa, eastern El Salvador as well as to the Matzin ceramic complex of the Chalchuapa zone of western El Salvador (Wauchope 1975, Baudez and Becquelin 1972, Andrews 1976, Sharer 1978). Most of these shared elements are those of wide distribution in the Late Classic-Early Postclassic and Cihuatán ceramics retain a very strong local flavor with little slavish copying of any other style. Few, if any, survivals of the polychrome styles so abundantly represented at neighboring Late Classic sites such as Santa Barbara, El Tanque or San Francisco are seen and the Early Postclassic flavor of the Cihuatán ceramic assemblage is marked.

STONE ARTIFACTS

Chipped Stone Artifacts

The majority of stone artifacts from Cihuatán are implements of chipped obsidian. To date all that has been done in the analysis of
these is tabulation of such remains by structure (Table 2) and
plotting of the position of such artifacts within structures along
with the very general description which follows. When funds permit
trace element analyses will be done in an attempt to find the
source(s) of the Cihuatán obsidians.

Visible differences in the Cihuatán obsidians are mainly those
of color. The majority of the obsidian found at the site is trans-
lucent black or gray. A small percentage is black and white striped
and local residents report having found some blades of a pure white
obsidian. These were not available for inspection. No green or
green-gold obsidian has been found in our excavations nor in those
of the Patrimonio Cultural. A very few artifacts of a rather
granular dull black obsidian were encountered in the 1978 excavations.

The majority of the obsidian artifacts encountered consisted
of small broken prismatic blades. Few whole blades have been found
as is to be expected in excavations in domestic refuse and in fill.
The number of blade fragments found varied considerably by structure
(and, of course, by the amount of clearance that was done in each
structure). An effort was made to recover chipping detritus and
there is some correlation between structures containing a large
number of blade fragments and considerable quantities of waste
material. It would appear that obsidian was the common utilitarian
material and that most or all people had access to it. It would
also seem that the production of obsidian tools on any scale was
restricted to some segments of the population and that others worked
obsidian only to retouch a blade or other artifact or to occasionally
make a new blade. Two large obsidian workshops and two smaller ones
were encountered. One of these large ones, that of P-16, may have
been commercial and the lens of obsidian material in the fill of
HP-102 may also have resulted from taking fill from a larger workshop
area.

Obsidian was not apparently a completely abundant and cheap
material. Although remains of polyhedral cores were common these
were generally used until they were very small and then the core
itself was often retouched into a tool. The blade fragments include a substantial number of very small blades. Many of these were retouched several times, presumably until they snapped and were too small to be useful.

Common modifications of prismatic blades include working the end into a graver, carefully chipping one side to form a type of spoke shaver, and the formation of stragulated blades (Figure 37). Other prismatic blades were worked into projectile points (Figure 8).

A fair number of cores, most of them broken, were found. These were mainly polyhedral cores of the common Mesoamerican bullet shape with a roughened striking platform (Figure 37). Two such cores with the final blade still partly in place were encountered; one by us in NW-1, Structure 3, the other by Earl Lubensky in his excavations of P-12 within the Western Ceremonial Center. Non-Polyhedral cores, presumably the origin of the non-prismatic blade tools and the large flake tools, were also frequently encountered. These cores were usually modified after use as a core and used for other purposes to judge from the examples encountered.

Large blade tools from these cores were more common. These may have been utilized as knives or as scrapers. Side and lunate scrapers are quite common although no true lunates have been found. (Figure 39).

Large flake tools include both unifacially and bifacially worked specimens. The most common type are scrapers and what is locally called an "hachita", a small trapezoidal scraper with the sides and wide end retouched into a cutting edge (Figure 17). Wear and breakage patterns of these "hachitas" suggest that they may have functioned as adzes. Most of these exhibit some bifacial retouching, as do the majority of scrapers and other blade tools. Complete bifacial working of surfaces is seen only in the awls or gravers of which two complete and one partial specimen were recovered (Figure 13) and in the projectile points or knives. Projectile points include laurel leaf,
isoceles triangular and stemmed and notched forms. The complete corpus of projectile points recovered in the 1977-1978 excavations is reproduced in Figure 8.

A complete analysis of the Cihuatán obsidian industry is pending. William Fowler has begun an edge wear analysis of artifacts from both his and our excavations. In addition hydration studies are being carried out by Dr. Clement Meighan of the University of California, Los Angeles. These studies coupled with trace element analysis should eventually greatly augment our knowledge of obsidian working in the Early Postclassic.

Other stones utilized in the chipped stone industry include chert and quartzite. A number of red and white chert flakes and one white chert blade were encountered in our excavations along with a single crystalline quartz prismatic blade. P-22 yielded a fragment of a white quartzite point. In her excavations in the West Ball Court and in P-20 Gloria Hernández encountered several complete quartzite projectile points (Hernández, personal communication). All of these exhibit the same careful bifacial working that is seen on the much more common obsidian examples.

**Ground Stone Artifacts**

Ground stone artifacts from Cihuatán are mainly of types associated with culinary activities. These include manos, metates, and pestles. Trapezoidal stone celts of a type which has a general distribution in Mesoamerica, Central America, and northern South America are also found.

Manos are made of hard volcanic stones including both coarse lavas, finer basalts, and the rare granitic rock. Mano forms include thick and thin ovoid/rectangular plano-convex and bi-convex as well as cylindrical forms. These latter are usually made of a coarser black volcanic rock and tend to exhibit heavy wear on a single surface.

Metates are also made of volcanic stones with the occasional granitic example. A variety of forms is encountered. These, like the manos, seem to have no specific distribution as to structure and several
types are often encountered in the same building. Forms include trough or basin metates, generally ovoid in shape with a rounded bottom, rectangular flat slabs with either a rounded bottom or one to three short legs, and curved rectangular forms similar to the metates used by modern inhabitants of El Salvador. Most of the metates found at Cihuatán are rather small when compared to the size ranges found in other southern Mesoamerican sites. A single effigy metate of Nicaraguan or Costa Rican type was encountered. This came from outside the west wall of Structure 3 of NW-1. The head, carved in the full round, may represent the king vulture (Sarcoramphus papa), a bird with a large eye with stripes around it, a raptorial beak, and a prominent wattle (Figure 18a). Only the head and the upper end of the metate were found. The grinding surface has a low relief two element twined design on both sides.

Pestles are relatively rare but, like grinding implements, seem to be associated with both domestic and ceremonial structures. Pestles are of rough volcanic stone and are conical in shape. The only one found by us in a structure was not found with either a mortar or a molecajete. Several bedrock mortars have been found within the site area but it is not known if these were in use at the same time the site was.

Trapezoidal stone celts are relatively rare in domestic contexts. The finer polished ones, which are in hard stones, have been discovered in caches associated with ceremonial platforms (notably P-20). Most of the celts we encountered were surface finds brought to us by local residents. HP-102 yielded both a coarse stone celt and a roughly trapezoidal cobble with some initial pecking on it, perhaps a blank for a celt.

Other ground stone artifacts are represented by the two small pecked balls found in the fill of HP-102, perhaps bolas balls, and a peculiar cone of very light black volcanic stone found with the bird metate in NW-1. This was broken in place and is much too light to
have ever served as a support. A single round ground stone artifact, perhaps a bark beater, has been encountered as a surface find in a plowed area north of the Eastern Ceremonial Center.

Other Stone Artifacts

Polished stone artifacts are rare in domestic structures. A single trapezoidal piece of jadeite, polished on both sides, was found within the cup of the SS-53 cache. Jadeite beads are occasionally found in the course of clandestine archaeological or in agricultural activities. A black serpentine bead and a single fragment of a highly polished black serpentine plaque were found in the fill of HP-102.

Two other polished stones were encountered, both as surface finds in the area between NW-1 and NW-3. These are both of a fine grained greenish gray sedimentary rock. One piece is part of a rounded rectangular slab polished on both sides. The other is an ovoid/rectangular cobble unmodified except for the flat bottom, which was polished. No function is known for these stones although some sort of polishing kit is suggested by their form. 15

Apparently unmodified stones of non-local origin were found in several specific contexts. Small red and white chert pebbles were encountered in many of the structures excavated. These were frequent enough finds to suggest that they had a specific and common function, perhaps as polishing stones, although all are very small. As mentioned above four of the vessels in the SS-54 offering contained unusual although unmodified rocks. A second find of this sort was the Red Ware flaring bowl of NW-1 which contained another water polished green stone. A similar stone came from P-16 along with a piece of chalk like those found in SS-54. These finds suggest that some use was made of specific types of non-local stones. Whether this use was ceremonial or utilitarian we cannot know.
CHRONOLOGICAL AND CULTURAL CONSIDERATIONS

Although Cihuatán has been previously referred to in published reports and syntheses as being of Late Postclassic date, this temporal placement has never been satisfactory. As investigation of the site increased the artifactual base and provided some idea of architectural sequence, at least in the Western Ceremonial Center, a date of Late Postclassic moved from being unsatisfactory to untenable. A number of features of Cihuatán's architecture and ceramics indeed are characteristic of the Late Postclassic (composite silhouette balustrades with a high vertical upper element, I shaped ball courts, Tlaloc and spiked incensarios, etc.) but all of these elements appear in Mesoamerica in the Late Classic and thus cannot be said to be prima facie evidence of a Late Postclassic date.

The presence of significant amounts of Tohil Plumbate in both ceremonial and domestic contexts was the first major clue to a more exact temporal placement (Boggs 1973). This was associated with other Plumbates, fine paste wares including Fine Orange (not further identified as to variety), Mixteca-Puebla polychromes in both local and imported varieties and polychromes apparently related to the Nicoya Polychromes of lower Central America. The closest analogues of all these wares are with ceramic complexes of the Late Classic or Early Postclassic and, indeed, the imported wares can all be associated with such a time period at their points of origin. Appliqué coarse wares, life to near life sized statues of Mexican deities, spiked biconical and various types of ladle incensarios, and red wares all appear throughout Mesoamerica in the Late Classic and are again not specific temporal indicators.

Finally, in 1977, the first radiocarbon determinations for Cihuatán were run. The samples all come from the Western Ceremonial Center from burned wood associated with platforms in that area. As can be
seen from Table 1, these determinations roughly indicate a date of around 1000 A.D. for Cihuatán. Corroboration of this very rough estimate is provided by the radiocarbon determination run on a sample from similar contexts at the site of Santa María in the middle Lempa Valley. Two more samples, both from NW-1, have been submitted and it is hoped that they will clarify the situation further.

The homogeneity of the ceramic assemblage as known from all excavated structures at Cihuatán and as reflected in the collections of artifacts from clandestine operations within the site area suggests strongly that Cihuatán is a single component site. Estimates of the total length of occupation, arrived at independently by the author and by William Fowler, are of a primary occupation of about 150 years and no significant earlier or later occupation of the main site area. This estimate is, of course, subject to modification in the light of further evidence, but it is interesting that there are very few differences in ceramics or other artifacts found in houses, in fill, or in ceremonial contexts. None of the few differences observable can unequivocably be ascribed to temporal separation, but would rather appear to be related to the function of a given structure or area.

Historical records are currently absent for this part of El Salvador. Linguistic maps purportedly reflecting the situation at the time of the Spanish invasion describe ethnic distributions in this area as the Chorti Maya to the northeast, the Pipil (Nahua speakers) on the west and the Lenca to the southeast in this area of the Lempa drainage (Feldman 1977). There is no assurance that this was the case even five to ten years prior to the plotting of these linguistic/ethnic distributions. Their terminal Classic and the Postclassic were eras of considerable social and political turmoil with numbers of well documented migrations, the rapid rise and demise of states, and major realignments in trading patterns and in trade routes. Moreover, linguistic maps have necessarily been drawn up on the basis of early colonial documents which in all too many cases
cannot accurately reflect the situation even at the time of first contact. For these reasons we have been loathe to suggest any specific ethnic identification for the inhabitants of Cihuatán. There is some reason to think that the site may have contained a number of ethnic groups with Mexican elements or Mexican influences predominating, at least politically (Bruhns 1979b). These considerations are based upon the ceremonial architecture, which is clearly of Mexican derivation, and upon the iconography of the modeled pottery and artifacts. Such elements as large figures depicting Xipe Totec, Mictlantecuhtli, and Tlacoc, figurines which may be related to the maize deity complex, as so on indicate a strong Mexican element in the religion as do artifacts such as ladle incense burners and the large biconical incense burners with spiked or Tlacoc ornaments. Tlacoc, Mictlantecuhtli and Huehuetecatl (?) jars are also found and again appear to be of Mexican origin. It is interesting to note that most excavated ceremonial platforms, including P-22, have provided evidence that the incensarios were broken on the west stairs at the termination of occupation.

Elements such as the rather large number of wheeled figurines known to have come from the site, clay flutes with sonadores, Plumbate related ceramics, incensarios with a large full figure attached to one side, and the rare fine paste ceramics all suggest a possible Vera Cruz origin for this Mexican influence (Boggs 1973, Casasola 1976/77, Bruhns 1979b and n.d.). The Late Classic Lepa phase of Quelepa in eastern El Salvador, a phase which should at least partly overlap in time with the occupation of Cihuatán shows a number of similar artifacts (Andrews 1976). Andrews theorizes that Quelepa’s attraction to these Mexican peoples, who may have arrived by sea, was the agricultural richness of the San Miguel region in general and specifically its suitability for growing cacao. Although Quelepa itself was abandoned around 1000 A.D. the area remained an important cacao growing region into the colonial period (McLeod 1973).
In 1978 the author suggested much the same reason for Cihuatan's brief florescence and related the abandonment to Cihuatan both to political upheavals related to the Pipil migrations of the Early Postclassic and to economic causes such as distance from major (and perhaps changing) trade routes and to growing competition from newly established commercial centers (Bruhns 1978, 1979a). This hypothesis has not been rigorously tested in the field but it is notable that cacao was and is grown in the Cihuatan region although mainly on the hill slopes flanking the Acelhuate-Chalchigue Valley. Moreover there is evidence from the site area itself that water conservation and irrigation was practiced. It is also possible that cotton, which was re-introduced as a commercial crop when the valley was repopulated (largely in the last quarter of the 19th and the first half of the 20th centuries) and which remained the important commercial crop until replaced by sugar cane about 20 years ago, was also involved in the Cihuatan economy. Cotton was an important element in tribute from the surviving towns of this area in the early colonial period as well (Cerrato et al 1548-1551). At this point we have little evidence for either crop from the site. Certainly cotton was spun in some quantity, but to date we have uncovered no major workshops for cotton processing even though these may exist. There is also the possibility that raw cotton was traded in which case any specific evidence would be hard to find. Paleobotanical investigations now in progress may help to clarify these problems as may the continuing excavations at Cihuatan.

Whatever the specific peoples and mechanisms involved, we are left with a curious situation: a large town of a type which has not been reported in other areas of El Salvador or from other time periods, was constructed on a piece of previously un- or little occupied high ground in the lower Acelhuate-Chalchigue Valley. At the same time the large Classic ceremonial centers in the adjacent Lempa Valley, and
presumably the Classic period (?) center of San Francisco in the Acelhuate-Chalchigüe Valley were abandoned. A single small Early Postclassic site, Santa María, has been identified in the Lempa Valley.

Cihuatán itself seems to have flourished and in addition to its large resident population was important enough to have a number of subsidiary centers within a 2-8 km. radius of the main civic/ceremonial group. There must have been powerful social, economic and political reasons for this major change in population distribution and in settlement type. Defensibility could have been a factor. Cihuatán is more or less defensible; it is built on a ridge and commands an excellent view of the surrounding valley. However, although the site is protected by steep slopes and a river on two sides and a barranca and a smaller river partly protects a third, there is easy access over the gentle slopes of the south side of the site, a side which had a dense resident population. These factors indicate that defense could not have been a primary motive in the site location.

Although the economy of Cihuatán can only be speculated about it seems evident that trade was involved. Cihuatán commands major east-west and north-south routes in this region. That these routes were (and continue to be) important is shown by the location of major earlier and later sites (Bruhns 1979b). The dense, apparently all contemporary, population around the main ceremonial centers is another curious matter and we do not as yet know where the people came from, why there was this rather major change in settlement type, or where these people went when Cihuatán was burned and abandoned. However it is evident that potent political and economic forces must have been involved in this situation.

The current major problems are now those of intra-site variability, site chronology, and ancient economics. Some of these problems are sure to be solved with continuing controlled excavations and analysis of archaeological materials; others may be made somewhat
clearer by further absolute dating, assuming that suitable materials can be located, although the problems of short term occupations are legion and not amenable to existing absolute dating methods. Paleo-botanic investigations may hopefully shed some light on the ancient economy even though the preservation conditions of this area are not favorable to these investigations.

The investigations at Cihuatán are continuing, oriented towards solving these and other problems. As in inevitable the work completed has mainly served to point out how little we really know about ancient Cihuatán, its peoples and their fate.
ACKNOWLEDGEMENTS

The success of any archaeological project is due to the generosity and hard work of a great many people and the Cihuatán Settlement Archaeology Project is no exception. The 1975 mapping season was funded by a Faculty Development Grant from The Frederick Burk Foundation for Education, San Francisco State University. The 1977 mapping season was financed through the generosity of a great many good friends in the private sector. The 1977 and 1978 excavations were supported by grants from the Center for Field Research/Earthwatch, Inc. Continuing technical, logistical and social support was given by the Administración del Patrimonio Cultural of El Salvador, then under the directorship of Dr. Roberto Huezo, and the Department of Anthropology and the Treganza Anthropology Museum, San Francisco State University, helped with equipment and technical supplies. Without this support there would have been no project.

We would especially like to thank Stanley Boggs of the Depto. de Arqueología and the staff of the Museo Nacional "David J. Guzmán" for their unfailing help in many aspects of the project. Dr. Boggs has shared his great knowledge of El Salvador and Salvadoran archaeology with us and has been unstinting in his practical and moral support throughout the project. Mr. William Fowler and Mr. Richard Crane likewise were extremely generous with their time and expertise as was E. Margarita Solís Angulo, who worked on the two mapping projects and who drew the first published map to come from the project. Both Solís and Fowler were extremely helpful in contacting local landowners. Of these we have to especially thank Don José María Peralta and Doña Marta v. de Peralta for their kind permission to work on their lands and for their interest in the project.

Dr. Mario Inclán, the lawyer of the Patrimonio Cultural has been extremely helpful in our dealings with governmental agencies. Hal
Ball and Mario Alvarez provided opportunities to see Cihuatán from the air and to take much needed aerial photographs of the site. Don Roberto Simms of the Instituto Geográfico in San Salvador provided maps, supplies and advice which was much valued. Dr. Wolfgang Haberland has continually shared his insights into Central American archaeology with us. Earl and Anita Lubensky were invaluable to the project; Earl for his enthusiasm for all things archaeological, Anita for cheer, comfort, and large quantities of cold Bloody Marys in the nick of time. Don Antonio and Doña Margarita Quintero of Aguilares kindly provided mail service and Janet Washington took over many of the problems of seeing to it that we got to know El Salvador.

The Earthwatch volunteers who worked with us were amazing. In a situation which was generally uncomfortable, occasionally frightening, and always a bit strange they did a stupendous job. The regular crew moved mountains. Charles Cecil kept things going even when I was about to take a flying leap off of La Gloria. Mark Hodges, April Thanos, Virginia Monk, Kathryn Hill, Terry Broyer and Mike Smith moved dirt, people and potsherds and managed to keep things under control even in beer crises and Ginny followed up by spending her free time in Fall 1978 tabulating stone and ceramic artifacts. Magüé Calanché fed us in 1978 and still found time to teach English in the local school and numbers of visitors came to see us, lend a hand and support both the project and our morale. To all of these people heartfelt thanks are due for their contributions.

Most of any credit for the success of this project must go to the guardians of Cihuatán, Don Lolo Garcia and Don Gregorio Quijano and their families. They have taken both their duties as the caretakers of Cihuatán and the guardians of the hordes of helpless foreigners very seriously and have always gone well beyond the call of duty in helping us with any and every aspect of the project. We have been trouble and overwork for them and have received nothing but kindness and help at their hands.
Finally, I would like to thank T. W. Weller who never complained about delivering me to the airport at an ungodly hour only to see me months later, dirty and bug bitten and ready to disappear once again after littering the house with paper and photographs.
NOTES

1: Rainfall statistics kept by the Hacienda y Ingenio La Cabaña located on the valley floor about 4 km from Cihuatán show an alternation of rainfall through the year varying from a minimum of 0 cm. (16 years of 20) in January to a maximum of 250-350 mm. in August (also 16 years of 20). The mean annual precipitation in the 20 year period from 1957 to 1978 was 1704.26 mm. Most rain today falls from late April through September. We have as yet no paleoclimatological information for the Cihuatán region.

2: The 1979 excavations at Cihuatán are directed by Dr. Jane Holden Kelley of the University of Calgary and have as their specific objective beginning to delineate intra-site variability in occupation and/or ethnicity.

3: San Francisco has not been investigated at all. Hernández (1976) shows it as a location south of Las Pampas near the now destroyed Blokitubos site. There is some doubt about the exact location however and San Francisco is only reputed to be a large (and a) Classic period site. Materials supposedly from San Francisco in local collections include Mayoid figurines, Usulatán technique ceramics, and some unusual incised supports reminiscent of lower Central American wares of the Early and Middle Polychrome periods.

4: The Western Ceremonial Center and the recent excavations there will be the topic of the forthcoming doctoral dissertation of William Fowler, University of Calgary. Fowler and Mr. Earl Lubensky (then of the U.S. Embassy, San Salvador) have kindly given their permission to use some of their unpublished material here.

5: The Eastern Ceremonial Center was mapped by the author, Charles Cecil and Terry Golden (San Francisco State University) in January 1977. The maps and a more complete description of the architecture and artifacts will form part of Cecil's Master's Thesis at San
Francisco State University. The regulations of this university forbid publication of any substantive part of a thesis before it is submitted and accepted and so this description is necessarily cursory.

6: Feature designation on the 1976 Solís map was done according to a system devised by the Patrimonio Cultural in their work at Cihuatán. Structures associated with the Western Ceremonial Center are sequentially numbered and given the prefix P; those with the Eastern Ceremonial Center the prefix O, and non-ceremonial structures are designated by their physical relationship to the two ceremonial centers. Thus the southern structures are prefixed SS. In our own work we have simply numbered structures in order of mapping and this will be reflected in the feature maps when finished. To date all excavated structures have been given provisional numbers in accordance with their location vis-à-vis the ceremonial centers.

7: The fact that a number of the vessels in this deposit were evidently not whole when placed with the others lends credence to this having been an offering. Sabloff and Rathje (1975) remark that a characteristic of the Postclassic caches that they excavated on Cozumel Island was that the objects in the caches were damaged. They consider this to be further evidence of the pragmatic mercantile frame of mind of the Cozumel merchants. Perhaps the Cihuatecos were equally pragmatic.

8: Boggs (1973:9) reports that Sr. Hueso Córdoba excavated this structure in the 1950's and found fragments of wheeled figurines. These excavations were never recorded nor reported formally. We could find very little evidence of any excavation in this structure unless the paucity of sherds and obsidian at the north end is evidence of this excavation. The north end was a little clearer of stone than the rest of the structure, a fact which could be explained by the loose rock cairn formed in recent years by agricultural workers, but the subfloor cobbling was almost entirely intact indicating that any excavations in this structure were of the most limited and superficial sort.
It seems more likely that Huezo Córdoba excavated in platform P-15, a rectangular platform of ceremonial type directly north of P-16. This platform preserved remains of a deep pit (of some antiquity) in the top. Questioning of local people did not clear this point at all, although Don Felipe Quijano, the brother of one of the guardians and the **administrador** of the farm on which P-15 is located, said that in plowing of the mound a few years back a large blade of white obsidian was turned up along with a few jadeite beads.

9: It was somewhere in this area that Huezo Córdoba found the cache of wheeled figurines described by Boggs (1973:9sf). We could not locate with any certainty the structure from which these had come as we would have had to have cleared about 5 platforms in that area to examine them for evidence of prior investigation. It should be mentioned that bits of Plumbate and polychrome ceramics are common in this area and there was no evidence from our own excavations that the structures were either earlier or later than the other structures excavated at Cihuatán. Of these latter there is no reason to doubt their contemporaneity with the Western Ceremonial Center and their Early Postclassic date.

10: The soil samples were taken from the floor around the bowls and the metate. Trial flotation of part of these samples yielded a single unidentifiable seed and a little carbonized root material. Two bags of this soil were saved for further flotation by a paleobotanist expert in this method of retrieval as the excavators had minimal experience with flotation.

11: This metate excited much interest among the local residents many of whom came by our house to see it and comment upon it. None of them had seen such a metate before from the Cihuatán zone although all were very familiar with local archaeological remains. The guardians of the site recognized the type and identified it as being just like ones they had seen in the Museo Nacional which had come from the east (the Quelepa and Tehuacán areas).
12: It was called NW-3 because we had not completed work on NW-1 when we began here and we had no idea how many structures there would be on the NW-1 terrace.

13: The NW-3 vessels were mostly smashed into such little pieces that only tentative identifications could be made of the vessels. Most of the 3A group of vessels appeared to be unslipped ollas.

14: The Eastern Ceremonial Center is unwalled and appears to stretch to a line of large platforms slightly south of HP-102. HP-102 and its fellows form a line along the very edge of a steep hill and this line terminates in a large double platform with a central stair or ramp. It may well be that this group of constructions was the eastern boundary of the ceremonial center and the midden fill in HP-102 suggests that it came from somewhat more elite contexts, to judge from the amount of imported and polychrome wares, figurine fragments, etc. found in it. Only one controlled excavation has taken place in the Eastern Ceremonial Center (Boggs 1973) and very little is known except that the constructions would appear to be contemporary with those of the Western Ceremonial Center and with the residential areas.

15: In 1979 in the same plowed area north of the Eastern Ceremonial Center where the possible bark beater was encountered a second slab of identical material and form to the one described was found, also as a surface find. A similar sedimentary rock "mano" was found in the fill of HP-102.
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TABLE 1

Radiocarbon determinations from Cihuatan

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*Same sample divided in half
*Santa Maria, Lempa Valley
TABLE 2

CHIPPED STONE ARTIFACTS

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<td>7 red</td>
<td>3 red</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3 red</td>
<td>6 white</td>
<td></td>
</tr>
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<td>1 spoke</td>
<td>1 quartz</td>
<td>1 quartz</td>
<td>-</td>
<td>-</td>
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<td>1 white blade</td>
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<td>flake</td>
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<td>2 red</td>
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<td></td>
<td>flake</td>
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<td></td>
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<td>yellow chert (?)</td>
<td>pebbles</td>
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CAPTIONS TO ILLUSTRATIONS

Artifacts illustrated have, unless otherwise indicated in the text, been chosen because they are representative of their class. All are located below by structure and excavation unit. Except where otherwise indicated they are associated with the floor level of that structure. However, those artifacts from HP-102, which had no discernable floor surface and which was composed of primary fill, can be said only to be associated with the filling of the platform.

Conventions used in the ceramic illustrations are solid black for black where this is a decorative color, slanting lines for red, and stipple for yellow. In structure diagrams the bedded foundation stones are shown in solid black. All drawings and photographs are by K. Bruhns unless otherwise specified. Artifact drawings except for Figures 27d and 32 are at a scale of 1:1.
Figure 8f-j.
Figure 13a-d.
Figure 14.
Figure 15.
Figure 17a-e.
Figure 17f-h.
Figure 171-1.
Figure 19.
Figure 20a-f.
Figure 21a-f.
Figure 23a–f.
Figure 24a-i.
Figure 24j-1.
Figure 25a-h.
Figure 26a-1.
Figure 27 a-d.
Figure 28e-i.
Figure 29a-j.
Figure 30 a-g.
Figure 31a-f.
Figure 31g-j.
Figure 33a.
Figure 33b.
Figure 34a-f.
Figure 35a-f.
Figure 36a–d.
Figure 37a-j.
Figure 38a-c.
Figure 39a-e.
Figure 40
FIGURE 2.

RUINAS DE CIHUATÁN
DEPTO. DE SAN SALVADOR
CENTRO CEREMONIAL PONIENTE

X Datum/Datum
■ Muro/Wall
■■■ Muro no excavado/unexcavated wall
■■ Muro de terraza/terrace wall
■■■ Muro de terraza no excavado/unexcavated terrace wall
■■■■■ Plataforma/platform
■■■■ Descarga/drain

0 5 10 15 20 METERS/MEETRES

Dibujo: Design: M. Hopkins 1978