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THE LATE CLASSIC AND EARLY POSTCLASSIC CERAMICS FROM
THE EASTERN PORTION OF THE OAXACA COAST

by

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ABSTRACT

J. ROBERT LONG. The Late Classic and Early Postclassic Ceramics of the Eastern Portion of the Oaxaca Coast (Under the direction of DONALD L. BROCKINGTON).

This study presents the description and an analysis of the ceramics recovered from archaeological investigations at Sipolite, Hualampamo, San Miguel del Puerto, Tangalunda, and El Arenal sites located on the eastern portion of the Oaxaca coast. Comparison of these ceramics with pottery from other areas of Mesoamerica indicates that a relationship existed between the coast and the western Maya area during late Classic and early Postclassic times. The relationship probably involved both diffusion and migration.

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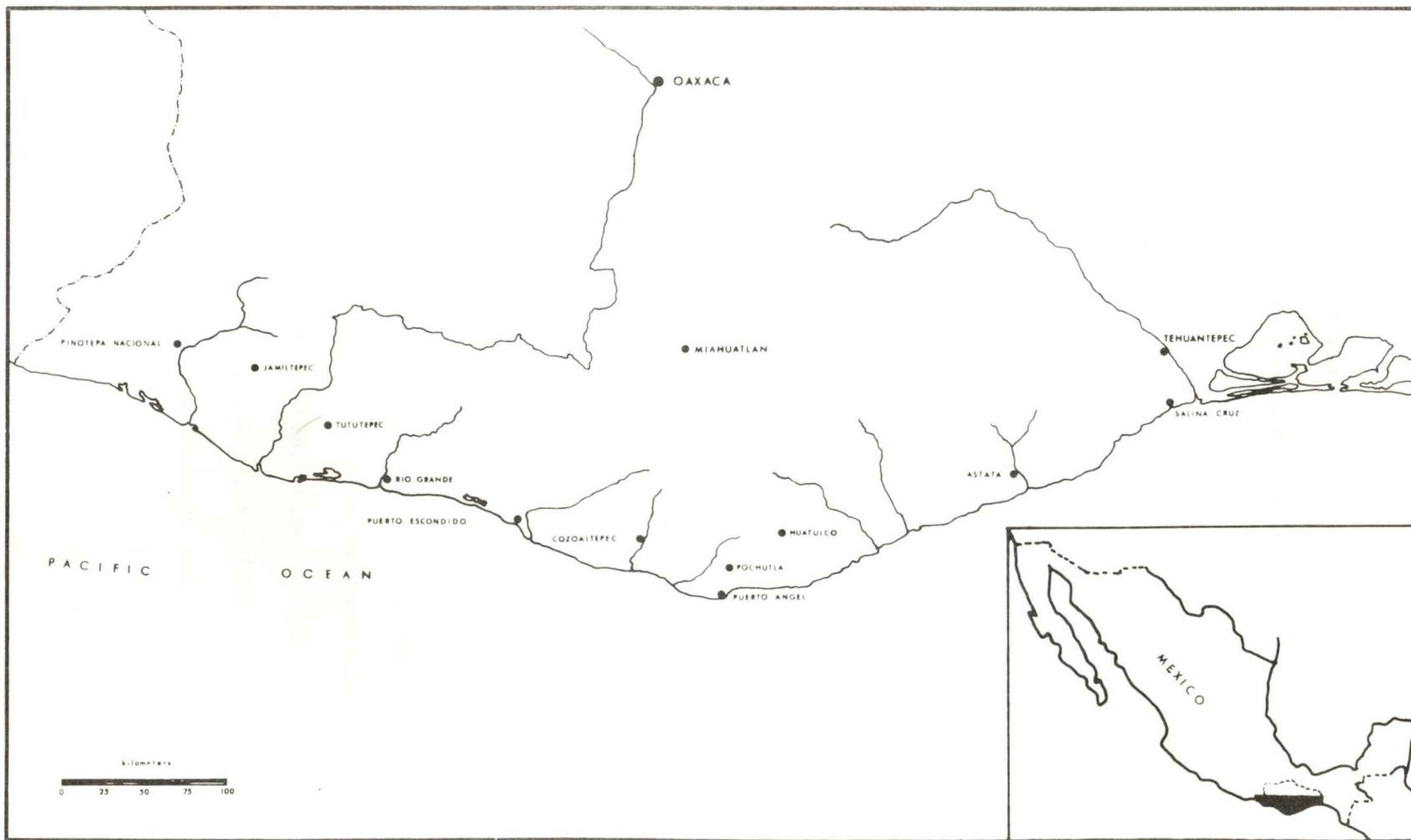
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PREFACE

The focus of this study is the ceramics recovered from excavations and surface collection of the eastern portion of the Oaxaca coast and which, in the main, represents the late Classic and early Post-classic ceramic manifestations in the area. The study is designed to present the ceramic descriptions and attempt to compare these ceramics with those of other Mesoamerican areas where relationships with the eastern portion of the Oaxaca coast during this time period seem indicated.

The Oaxaca coast is the portion of land located between the mountains and the Pacific Ocean, bounded by the states of Guerrero to the west and Chiapas to the east (Map 1). It is part of a coastal zone stretching 1200 kilometers along the Pacific from Bahia de Banderas in the northwest to the Isthmus of Tehuantepec in the southeast, and varies in width from fifty to five kilometers (Brockington 1966:14). The coast is in the southern Pacific drainage system of Mexico, an area noted for its turbulent streams. The majority of these streams flood during summer but are dry in winter (Tamayo 1964:106-107). Volcanic activity has been recorded as recently as 1875 off the coast, but as of 1964 no regional study of volcanology, geomorphology, or structural geology had been published (Maldonado-Koerdel 1964:6).¹

In the eastern portion the coast is characterized by hills descending to the sea. Coastal plain exists as pockets around coves or lagoons and there are some narrow, flood plains along rivers. The area extends from Salina Cruz to the Tonameca River and is subdivided by the Copalita River (Brockington 1972:1).



Map 1. Coast of Oaxaca.

Linguistic and ethnohistorical records for the coast are poor. Too little professional work is available for study. I find the picture presented by the linguistic evidence confusing. Richard Ramsay (1969) gathered together the linguistic maps of the coast.² After reviewing the maps, the impression I received was that there were pockets of Nahuatl speakers around the Pochutla and Salina Cruz areas in the eastern portion. These pockets were separated by the Chontal and Southern Zapotecs. To the west were the Chatino, the coastal Mixtec, and perhaps Amuzgo. Unfortunately, the exact locations of some groups are in doubt, as, in some cases, their existence; however, there is general agreement for the existence of the Chontal in the eastern portion of the coast.

Ethnohistorical data for the coast indicates the importance of the Mixtec kingdom of Tututepec at Conquest, but little else. In a paper, Peter Gerheart summarizes the information available for the eastern portion of the coast. Extracting from his article, we see that three encomiendas are known to have existed in the Chontal region. These were Astatla (near present day Astata), Mazatlan, located ten kilometers east of Astata, and Huamelula (Huamelula). All three had escheated to the crown before 1580. In the 1680s the parish seat at Huatulco was moved inland to San Miguel del Puerto and later, in 1699, to San Mateo Pina because of pirate raids. Huamelula continued as a secular parish which included Astata. After conquest, the area, in large part, was depopulated. Heavy losses occurred before 1550 and plagues in 1566-7, 1576-7, 1596-7, and 1737-8 took many lives. In the western part of the region, Nahuatl speakers were replaced by Zapotecs who moved down from the mountains. A count in 1789 showed 3,283 persons. During the sixteenth century, Negroes entered the area--some came to work at the port of Huatulco while others were fleeing servitude. The port of Huatulco was used as a terminus of maritime trade between New Spain, Central

America and Peru, but declined after 1573 when Acapulco began to dominate trade with the Orient. Sir Francis Drake and John Cavendish raided the area in the late 1500s. In the early 1600's the viceroy ordered it to be deserted. Afterwards, it was important only for contraband traffic. In the 1680's pirate raids caused the inhabitants of Astatla to move to Huamelula, but in 1708 Astatla was resettled somewhat further inland (n.d.:124-126).

Although present day settlements may be equated to these early villages, their locations are only roughly the same; frequently, pirate raids forced the population to move somewhat further inland and resettle.

The lowland Chontal, Tequistlateco speakers, occupied the area between Salina Cruz and the Copalita River. Paul Turner (1971) discusses some of the theories regarding their origins. Citing Torquemada, he writes that the Chontal may have been native to Nicaragua and because of civil wars migrated by way of the Gulf coast to present day Tabasco. In time, they could have spread from the Gulf coast to the Pacific, later being separated by intrusions of Mixes, Huaves, Zapotecs and Zoques. Thus, two groups of Chontal were formed. The Chontal of Oaxaca have a legend that they came from Tabasco; however, this has often been ignored, because, as Turner points out, the linguistic evidence seems to support the notion that the language of the Chontal of Tabasco is of Maya origin, while that of Oaxaca is of Hokan origin (1971:1-2).

Turner describes these people at contact as cave dwellers, living in small groups. They were also fierce warriors, paying no tribute to the Aztecs and later distaining Spanish rule. Apparently, they had been numerous prior to contact because Turner mentions their full scale battles with the Zapotecs who were expanding into the area and with Aztec armies over control of the area. He cites a 17th century manuscript as evidence that the Chontal were divided into two parts--one allied with Zapotecs, while the other

resisted the invasion (1972:4). In accounts of one battle, he said that 70,000 Chontal died. Though the figure may be an exaggeration, it does support the assumption that at one time the area had a fairly large population. After this time, the Chontal "lived scattered in the mountains, not building houses or villages. . . a well built people, vigorous, aggressive, barbaric by nature and undisciplined in soul" (1971:6). The Spaniards had some difficulty in administering the area, but, eventually, priests proved effective so that in 1674, Burgoa wrote that the Chontal were peaceful and rich because the priests had taught them to grow cochinitilla bugs in nopal cactus (1971:15).

Archaeologically, the coast has been virtually unknown, with little exception (Brockington 1966:25-27). In 1969 a research project was initiated by Donald L. Brockington for the reconnaissance and test excavation of the coast. The project was funded by grants GS-2348 and GS-2866 from the National Science Foundation administered by the University of North Carolina at Chapel Hill.

Many people deserve credit for their work on the ceramic descriptions. Judith Wainer Ponce and I share responsibility for the descriptions presented here. Brockington and I formulated the typology, and he abridged the descriptions for publication. Michele Fergoda and Thomas Naylor wrote preliminary descriptions of the ceramics from excavations at San Miguel del Puerto and Hualampamo, respectively. The drawings of ceramics were prepared by Carlos Velasco Coronel and Miguel Angel Morales in Oaxaca with some assistance by Cynthia Dellinger at the University of North Carolina. The map is courtesy of Margaret Houston. To these people I would like to express my sincere gratitude.

CHAPTER I

INTRODUCTION

Problem:

The ceramics furnishing the subject matter of this study were collected during the 1969 and 1970 seasons of the Oaxaca Coast Project. The objectives of the research project included the completion of archaeological reconnaissance of the coast, to reconstruct the cultural-historical sequences, and to provide a framework and basis for future research projects (Brockington 1969:5-6).

The purpose of this study is to present the descriptions of the late Classic and early Postclassic ceramics of the eastern portion of the Oaxaca coast and to compare these ceramics with the pottery of other Mesoamerican areas indicating relationships during this time with the eastern portion of the coast. Present evidence indicates that during this time the eastern portion of the coast was associated with the western Maya region.

I approached the topic with several objectives in mind. Reconstruction of the cultural history of the area was my first objective. With few archaeological reports available for the Oaxaca coast, the presentation of the data obtained by the project was of prime importance. My second objective was to show how this material supports an hypothesized intrusion of western Maya traits and perhaps peoples into the eastern portion of the Oaxaca coast during late Classic times. The late Classic period is not well understood. Sandwiched between the so-called "fall of the Classic"

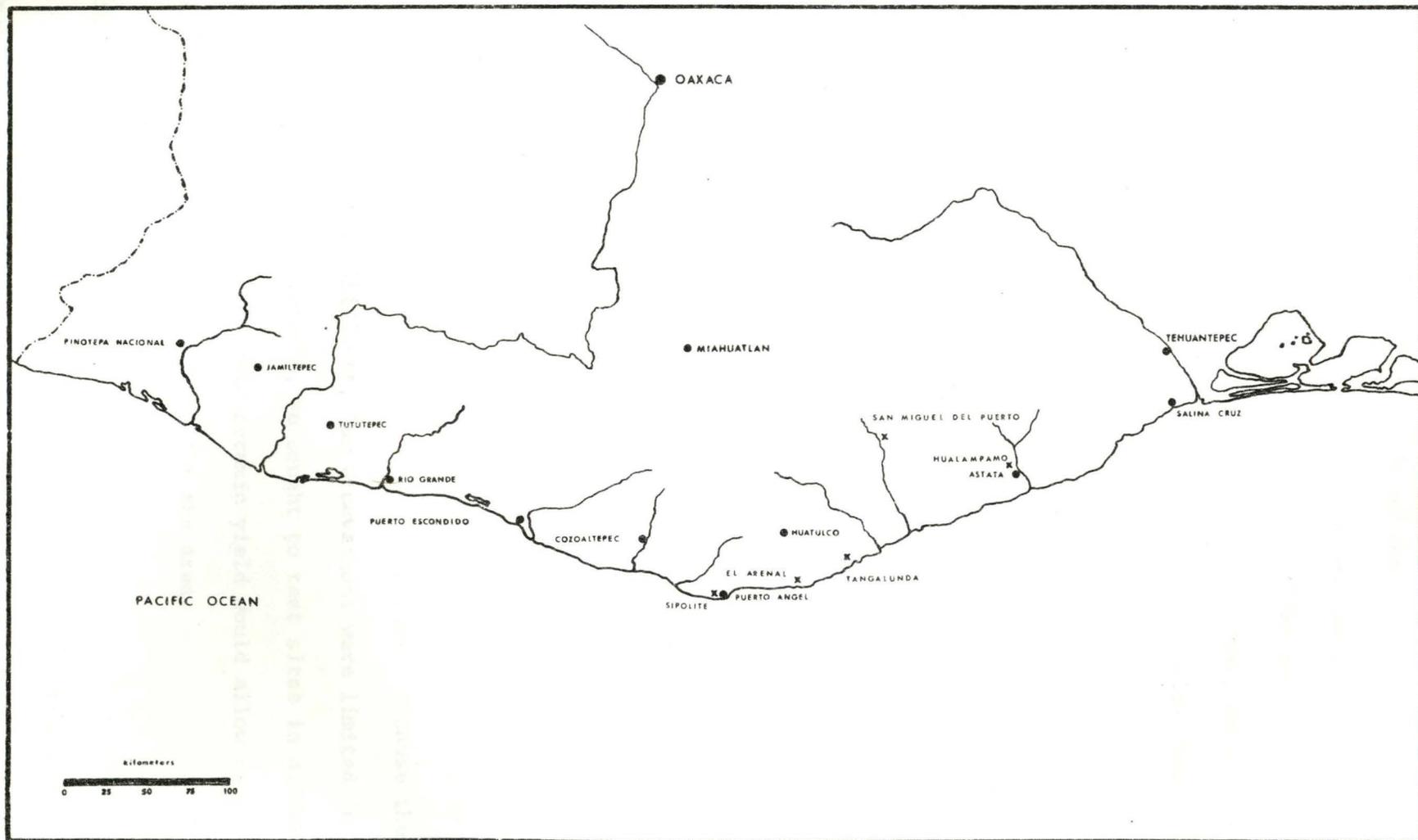
and "Toltec expansion," the late Classic has been viewed as a transitory stage (e.g. Jinenez Moreno 1966:73-82). The late Classic may have been a transitory period, but it was also marked, I think, by dynamic events. By expounding upon a postulated expansion of western Maya ideas and possibly people into the Oaxaca coast, I hope to shed light on one aspect of the developments during late Classic times.

The archaeologist attempts to test hypotheses of contact between areas. In this, he can postulate upon cultural processes that were involved in the relationship which is shown in the similarities of material objects.

The importance of associations in archaeological research cannot be overestimated because they reflect human behavior outside of the limits of what ethnologists call 'material culture' (Wauchope et al. 1956:5).

Since traits or trait clusters exhibited in finds from sites which may be separated by time and space as well as function are compared, it is difficult to determine when a correlation has been demonstrated sufficiently strong to postulate some form of culture contact. The problem is the degree of similarity you must show, and the degree of subjectivity you have exercised in selecting the data used for comparison. I employed Bruce Trigger (1972) and Brockington's (Personal communication) criteria for testing an hypothesis of culture contact. I used them as a framework to supply my comparative study with some cohesion. As my third objective, I was interested in testing such criteria for culture contact with archaeological remains, recognizing the limitations imposed by using any scheme and understanding the limitations of my data.

The ceramics presented here are from the excavated sites of Sipolite, San Miguel del Puerto, and Hualampamo, and the surface collections from Tangalunda and El Arenal (Map 2). The sites are located in the eastern



Map 2. Sites on the eastern portion of the coast.

portion of the Oaxaca coast. Each site is unique in geographical setting, as, for example, Sipolite is directly on the coast while San Miguel del Puerto is located in the mountainous, present-day coffee growing area. However, the ceramic assemblages from these sites indicate a close cultural relationship, and, therefore, were studied as a unit, which represents our universe of late Classic and early Postclassic ceramics from the eastern portion of the Oaxaca coast.

Background:

The field seasons of the Oaxaca Coast Project began in 1969. The crew that year consisted of John Cleary, Susan Cleary, Maria Jorrin, and Michael Michell. They conducted excavations at Sipolite, Lagartero, El Rincon Site 4, Chila Sites 1, 2, 3, and 4, and Rio Grande Site 2.³ The 1970 field season concentrated on the eastern and western sections of the coast while the 1969 season devoted itself to the central portion. In 1970 the field crew included Michele Fergoda, Thomas Naylor, and the writer. Margaret Houston and Judith Wainer Ponce participated in excavations at Piedra Parada Jamiltepec and San Miguel del Puerto, respectively. Other excavations were conducted at San Jose del Progreso 2 and Hualampamo 2. Brockington directed the entire project. Mexican laborers were employed to dig at the sites chosen for excavation and to serve as guides. Because the area is extensive and travel difficult, our excavations were limited in scope and of short duration. Primarily, we sought to test sites in different areas of the coast, hoping that their ceramic yield would allow us to establish an initial chronological sequence for the area.

Ceramic Description:

After being washed and marked, the ceramics from a site were emptied upon a work table. Judith Wainer Ponce and I made an initial sort based

upon surface appearance and apparent texture. After this, the paste and surface were examined with a 10 power hand lense to make more precise divisions. The criteria for texture was size of particles of the paste. These included:

very fine: dust, powery; even surface.
 fine: able to indentify separate particles with hand lense; uniform size.

medium: able to see particle with naked eye; uniform size.

coarse: when sherd is broken, able to see fracture lines around particles; uneven size.
 (Brockington: Personal communication).

Surface color was an important criterion for our initial wares. Especially with the material from Hualampamo, it proved a dubious criterion. The ceramic yield from Hualampamo was unusually homogeneous, and distinct color changes were noted upon a single sherd.⁴ Other criteria included unoxidized-oxidized core (after reviewing forms and surface treatment, this dichotomy proved not to be helpful), and surface treatment and decoration. Inclusions in the paste were described by the material and by the amount. Hardness was determined using the following scale:

| | <u>Moh Scale</u> |
|--------------------------------|------------------|
| 1) scratch with fingernail | 1 to 2.5 |
| 2) scratch with penny | 2.5 to 3.5 |
| 3) scratch with steel | 3.5 to 5.5 |
| 4) will not scratch with steel | 5.5 plus |

Sherd thickness was measured. Vessel forms were determined and charted using an ordering suggested by Brockington, which was based upon results of the investigations he had directed at Miahuatlan, Oaxaca, in 1968. Later, Houston evaluated sherd color using the Munsell Soil Color Chart.

We attempted to be uniform in treating the material, not disregarding the uniqueness of each site or site area, but keeping terminology as simple and straight forward as possible. Therefore, our descriptions may not be as detailed as desired, but we did try to note the cultural 'idea' inherent

in the ceramics. In the re-evaluation of the material from excavations at San Miguel del Puerto and Hualampamo, we were not suggesting that the previous work was incorrect, only that it was inconsistent with our present model.

Ceramic Analysis and Typology:

Brockington and I began reviewing the ceramic descriptions in the fall of 1971, and subsequently, a typology which fitted our needs of a framework to construct a broad outline of cultural sequences was employed. We felt this approach was the most convenient for our purposes, but, recognized, we were, in some ways, abusing our data by focusing upon the similarities of the ceramics from the area instead of the differences. Brockington, writing on the type-variety approach we employed, states:

The basic definitions used for each of these classes (type, variety, ware, group) were taken from Rober E. Smith (1971:13-14) although they were changed somewhat.

The divisions of ware, type, and variety are based on what are considered different levels of culturally dictated choices.

Ware: A ware is considered to be a ceramic division in which the paste, firing and inclusions are the same or quite similar. Occurrence of trace minerals in a paste are not considered pertinent unless there is a demonstrable functional aspect to their presence. These attributes represent a series of basic choices that were made by the potters. Some of the choices relate to availability of raw materials. For example, there is very little limestone on the Oaxaca coast and a potter accustomed to using limestone would have been forced to seek a locally available alternative. Sand and quartzitic materials are plentiful and so would have served as a possible alternative. The selection of this particular alternative perhaps would be influenced by the long established custom on the coast of using sand and quartzitic materials as grog, intentionally or as a result of clay selections.

Likewise, the geological factors of the coast produced a rather limited range of easily available clays and so we find considerable uniformity of clays over great distances. There may be local minor variations in trace inclusions, but these do not detract from the position that the potters were quite limited. The ware definition, then, is based on fundamental similarities which may be strongly influenced by non-cultural conditions.

Type: Types were defined on the bases of surface finish, slip and, often surface color. Here the potter is thought to have consciously selected from among a number of largely non-functional choices. Cultural values are more closely involved than with the Ware division, and a type is therefore a useful device for detecting presence or absence of those values. A type is considered to have been of regional application.

Variety: A variety is considered a localized reworking of a more widespread theme. Our varieties usually are defined on the basis of vessel forms, a class of attribute that frequently is closely related to vessel (and site) functions. The relationship between form and cultural preference has a sense of immediacy to it and so the variety is particularly useful for detecting variation and differences. The point is that the local views are more apparent and so the Variety serves to sub-divide the region spatially and/or temporally.

Group: Our use of the division Group closely follows Smith's definition: "... This is a collection of closely related types that demonstrate a consistency in variation of form and color. The types of any group are. . . contemporaneous. . . and are always components of the same ware. . . (1971:14). I deviate by including in a Group some types of different colors when those colors are demonstrably segments of a color continuum. (Personal communication).

CHAPTER II

DESCRIPTION OF CERAMICS

The ceramic descriptions are primarily the results of laboratory analysis completed by Judith Wainer Ponce and myself during the summer of 1971. The ceramics of Hualampamo had been described prior to our work by Thomas Naylor and those of San Miguel del Puerto by Michele Fergoda. Although their descriptions may have been completely acceptable in large part, they did not employ the style subsequently used for all the ceramics recovered by the Research Project; therefore, the ceramics had to be restudied as part of a larger universe.

The typology and final presentation found here are the results of work by Brockington and myself during fall of 1971 and spring of 1972. The abridgement was completed by Brockington.

This chapter is a formal description of ceramics. Albert Spaulding states:

. . . formal descriptions and comparisons are made by analyzing artifact form into a number of discrete attribute systems: color, weight, various lengths. . . and so on. . . recognized attributes serve as linking constants from artifact to artifact: they are the units whose presence and absences constitute similarity or difference (1971:25-27).

Ware: Astata Coarse

Paste: The texture is uniformly coarse and is generally completely fired so that no unoxidized core is present. The color ranges from reddish-brown to brown, grey, and black with the great majority of examples being in the reddish-brown to brown area (See type of varieties).

Ware: Astata Coarse (Continued)

Inclusions: They are very numerous, so much that sometimes it appears that the sherd is made of inclusions held together with some paste. Most are quartzite with coarse sand also being common. In a given sherd the size range is considerable, from very fine to quite coarse with the coarse inclusions measuring from 1.5 mm. to 5.0 mm. and with an occasional fragment as large as 15 mm. The average maximum size is around 2.0 to 2.5 mm.

In most cases the visible inclusions have both rounded and sharp margins and it is therefore inferred that either were partially ground before being added to the paste or, more likely, the paste naturally contained particles which were partially smashed during the process of paste preparation.

Other minor and presumable spurious inclusions include diorite, feldspar and miotite mica.

Hardness: It varies from 1.0 (at San Miguel del Puerto only) to 2.5 to 3.5 on the Mohs scale at other sites. The average is around 2.5. (All subsequent hardness ratings use the Mohs scale.) It frequently is difficult to take a hardness reading because the inclusions are so dense that one reads them rather than the fire paste. The San Miguel del Puerto sherds are extremely soft, probably a result of the soil condition at that site.

Thickness; It varies from 4 to 19 mm. with most examples measuring 9 to 10 mm.

Finish: Usually the surface color is approximately the same as the paste color, but not always. The surface color ranges from orange to reddish-brown, brown, light brown, grey, and black with the reddish-brown segment being most frequent (See type or varieties).

Most surfaces have been smoothed and/or polished to some extent and it is possible that all surfaces originally were so treated but have been roughtened by use and destruction. Slipping was common, usually with material of the same color as the paste but occasionally using red or white materials. It is possible that all or nearly all sherds originally were slipped. See the type descriptions for further descriptions of the slip characteristics.

Decoration: It is quite rare. Some types and/or varieties are defined on the basis of decoration or surface treatment. The total range of techniques used

Ware: Astata Coarse (Continued)

Decoration: (Continued)

includes striating and scoring as the most frequent and reed-punching, applique of twisted strands or fillet, plain or notched, and punching, rim-notching, petate impressing and fabric impressing (this last may be from modern sherds only) being present, although very infrequent.

Forms:

Olla and tecomate forms are the most frequent, followed by comals, convex bowls, flared straight-wall bowls, flared excurvate bowls, tecollas, and vaso forms. Some sherds probably are from incense burners and/or braceros.

Appendages include strap handles and solid aviform lugs (plain and decorated). Supports are very rare, but curved slab supports occur as do solid nubbins and a solid conical form, although these last two may be fragments from incense burners and/or braceros.

Frequency: 2,381 sherds.

Occurrence: Hualampamo, San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Comments: This ware probably was a common household "Useful" pottery, as defined by Tourtellot and Sabloff (1972:127-128). Very similar wares are found at every site along the Oaxaca coast, although the forms, surface treatment and appendages vary spatially and temporally.

See type and variety descriptions for the ware divisions as well as the provided illustrations.

Ware: Astata Coarse

Type: Pamo Plain

Paste: Same.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: No red or white slips are present. All slips are of the same color as the pastes. Some of these may be a result of self-slipping.

Decoration: Same.

Forms: Same. See the Variety illustrations.

Ware: Astata Coarse (Continued)

- Frequency: 2,258 sherds.
- Occurrence: Hualampamo, San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.
- Comments: The great majority of Astata Coarse Ware are included in this type. The type is sub-divided into varieties, primarily on the basis of vessel form differences.

Variety: Chon Plain

- Paste: Color ranges 7.5 yr 6/4 Light brown to some 5 yr 6/6 reddish yellow to some 5 yr 4/6 yellowish red to 7.5 yr 5/4 brown (most) to some 10 yr 4/1 dark grey.
- Inclusions: Same.
- Hardness: Same.
- Thickness: Same.
- Finish: Surface color ranges 2.5 yr 6/8 light red to 10 yr 6/4 light yellowish brown (some) to 7.5 yr 5/4 brown (most) to 10 yr 3/1 very dark grey.
- Decoration: Same.
- Forms: The variety includes the same general range of forms noted in the Ware description, although the attributes found on these vessels differ in a number of respects from those seen at the other sites. The convex and flared bowls tend to be more simple and lower and do not have rolled rims and with only slightly reinforced rims. The low, open comal-like bowls noted at Sipolite are not present. There are no compound-silhouette bowls. The ollas have true necks which rise vertically from the (probably) globular bodies or flare outward slightly. The olla rims frequently have everted rims flattened on their superior surfaces.

- Frequency: 389 sherds.
- Occurrence: Hualampamo.

Variety: Puerto Plain (Plate II)

- Paste: Color ranges 2.5 yr 4/8 red to 2.5 yr 6/8 light red (1/2) to 2.5 yr 3/6 dark red to 5 yr 4/4 reddish brown (1/2) to 7.5 yr 4/4 dark brown.

Ware: Astata Coarse (Continued)Type: Pamo Plain (Continued)Variety: Puerto Plain (Continued)

- Inclusions: Same.
- Hardness: As mentioned in the Ware description, these sherds are extremely soft, often 1.0, but this surely is due to the damp soil and humic acids.
- Thickness: Same.
- Finish: Surface color ranges 2.5 yr 5/8 red to 5 yr 4/6 yellowish red (most) to 10 yr 4/1 dark grey.
- Decoration: Same.
- Forms: The range of forms given in the Ware description is present, although specific attributes set the sherds in this Variety slightly apart from the rest of the Type. The convex and flared bowls tend to be simple, without rolled rims and with only slightly reinforced rims. Compound silhouette bowls are very infrequent. The tecomates are quite simple. Ollas generally have no necks, only rims that flare directly outward from the vessel bodies.
- Frequency: 1,562 sherds.
- Occurrence: San Miguel del Puerto.
- Comments: This variety is extremely frequent at San Miguel del Puerto, 1,562 sherds out of a total of 2,210 from the site. The high frequency probably is due to the nature of the site, at least in part. There is but one structure that may be ceremonial in nature while house outlines are very numerous.

Variety: Tanal Plain (Plate I)

- Paste: The colors are restricted to reddish-brown, brown and a few black examples. The range is 7.5 yr 4/4 dark brown (some) to 5 yr 4/4 reddish brown (most), some 10 yr 4/1 dark grey and 2.5 yr 4/4 reddish brown.
- Inclusions: Same.
- Hardness: This variety seems a bit harder than the average for the Ware, nearer 3.0.
- Thickness: Same.

Ware: Astata Coarse (Continued)

Type: Pamo Plain (Continued)

Variety: Tanal Plain (Continued)

Finish: Surface colors are restricted to reddish-brown, brown and some black; the colors ranges 2.5 yr 5/6 red to 5 yr 5/4 reddish brown (most) to 10 yr 5/2 grayish brown.

Decoration: Same.

Forms: The general range of forms found in the Ware are present. True comals were found as well as some very low, comal-like vessels with grooves on their interiors or exteriors. Tecomates are simple and tecoallas rather frequent. The compound silhouette bowl with its variants are notably frequent.

Frequency: 94 sherds.

Occurrence: Tangalunda and El Arenal.

Type: Pamo Plain

Variety: Angel Plain (Plate I)

Paste: The color includes reddish-brown, grey and black with the first being by far the most frequent. The range is 2.5 yr 4/4 reddish brown to 5 yr 4/4 reddish brown (most) to a few 5 yr 4/2 dark reddish grey.

Inclusions: The particles are usually smaller than those described for the Ware as a whole. The average here is less than 1.5 mm in size.

Hardness: Same.

Thickness: Same.

Finish: Surface color ranges 2.5 yr 5/6 red to 5 yr 4/4 reddish brown (most) to N4/0 dark grey.

Decoration: Same.

Forms: Bowl forms are relatively common. The open bowls often have a rolled or heavily reinforced rim. There are a number of very low vessels resembling comals and these often have very heavily reinforced rims. The ollas are simple and without necks. Their rims usually diverge directly from the olla bodies at angles of between 30 and 50 degrees.

Ware: Astata Coarse (Continued)Type: Pamo Plain (Continued)Variety: Angel Plain (Continued)

Frequency: 200 sherds.

Occurrence: Sipolite.

Variety: Angel Brushed (Plate I)

Paste: It is reddish-brown (2.5 yr 4/4 to 5 yr 4/4) or black. The texture seems to be slightly more crumbly than the ware average.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: The exteriors of these vessels bear striations, usually quite light, that probably were made by brushing the surface with the ends of a brush of stiff grass. Surface color ranges 2.5 yr 5/6 red to 5 yr 4/4 reddish brown (most).

Decoration: One sherd bears a petate impression.

Forms: Only convex bowls (shallow or fairly deep) are present. Almost all have rolled rims.

Frequency: 13 sherds.

Occurrence: Sipolite.

Type: Pamo Striated (Plate II)

Paste: Color ranges 2.5 yr 6/6 light red to some 7.5 yr 6/4 light brown to some 5 yr 5/8 yellowish red to 7.5 yr 5/4 brown (most) to 5 yr 4/4 reddish brown, some cores are 10 yr 3/1 very dark grey.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: The surface color ranges 2.5 yr 6/6 light red to 5 yr 6/6 reddish yellow (most) to some 5 yr 4/3 reddish brown to N 3/1 very dark grey.

Ware: Astata Coarse (Continued)Type: Pamo Striated (Continued)

Decoration: The vessel exteriors bear striations which may be vertical (in most cases) but occasionally are horizontal or diagonal or with multiple direction striations. The most frequent occurrence is on a vessel having a high neck, ollas, where one finds a band smoothed around the rim and rather deep vertical striations going down from the band to the body. Some of the striations appear at first inspection to have been made by cords but close examination has failed to reveal any definite cord impressions.

Forms: Most are ollas, although bowls with flared straight and flared excurvate walls are present, as are comals.

Frequency: 64 sherds.

Occurrence: It is found only at Hualampamo. A somewhat similar ceramic was found at Sipolite (Angel Brushed Variety).

Type: Pamo Rim-smoothed (Plate II)

Paste: Color ranges 2.5 yr 5/6 red to 5 yr 6/6 reddish yellow (some) to 7.5 yr 5/4 brown (most), several sherds have interior charring, N 2.5/0 grey.

Inclusions: These are more dense than indicated in the Ware description.

Hardness: Same.

Thickness: Same.

Finish: The surface colors include reddish-brown, brown and black, although the latter may be due to "milpa" firing. The range 15 2.5 yr 5/8 red to 7.5 yr 6/4 light brown (a few) to 5 yr 5/4 reddish brown (some) to 7.5 yr 5/4 brown (most).

Decoration: A band around the exterior rims always has been smoothed, usually very nicely done.

Forms: Only bowls with straight walls and flared excurvate walls were noted.

Frequency: 19 sherds.

Occurrence: Hualampamo.

Ware: Astata Coarse (Continued)Type: Pamo Red-slipped (Plate II)

Paste: The color ranges 7.5 yr 6/4 light brown to 5 yr 5/6 yellowish red (most) to 7.5 yr 5/4 brown.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: The surface colors include reddish-brown, brown, and red, ranging 7.5 yr 6/4 light brown to 2.5 yr 5/6 red (most) to 5 yr 5/3 reddish brown.

All examples bear at least traces of a bright red slip which often seems to have been well burnished. Many of the sherds are in very poor condition, badly weathered. Some of the slipping may have been due to self-slipping. Slip ranges 2.5 yr 6/8 light red to 2.5 yr 5/8 red (most) to 2.5 yr 5/6 red.

Decoration: Same.

Forms: Same.

Frequency: 37 sherds.

Occurrence: Hualampamo, San Miguel del Puerto, Tangalunda, and El Arenal.

Comments: While this type seems to be a bit more homogeneous than some others, that may be due to the small size of the sample. In general, it also appears to be a slightly better made (better preserved) version of the Pamo Plain Type.

Type: Pamo White-slipped

Paste: The only color noted is 5 yr 5/6 yellowish red.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: All sherds bear traces of a white slip (5 yr 8/1 white) surface color is 5 yr 6/6 reddish yellow which had been polished.

Decoration: None was noted.

Forms: Uncertain.

Ware: Astata Coarse (Continued)Type: Pamo White-slipped (Continued)

Frequency: 3 sherds.

Occurrence: Tangalunda and El Arenal.

Comments: The use of a white slip seems to have been especially frequent at Tangalunda and El Arenal, on coarse and medium wares.

Ware: Pochutla Medium

Paste: The texture varies from fine medium to medium coarse and the color from reddish-brown to brown, dark brown, grey and black with most being in the brown range. The paste usually is compact, but some is crumbly and dark, unoxidized cores may be present. See type or variety descriptions for the variations.

Inclusions: Only quartzite was noted. Size varies from very fine to 5 mm. with the average less than 1 mm. A given sherd may have the full range present with grains in excess of 1 mm. being widely scattered.

Hardness: The range is 1.0 to 3.5 with the great majority being between 2.5 and 3.5

Thickness: The range is from 3 to 8 mm. with most between 6 and 7 mm.

Finish: Unless slipped the surface color is almost always the same as the paste. The ware always is finished, smoothed, or polished to some extent. Slip is rare and usually white to cream in color. See the type or variety descriptions.

Decoration: One example was noted, a single broad incised line beneath a white slip.

Forms: Most are bowls although tecomate and ollas occur. Bowls include convex, flared straight and flared excurve forms as well as a compound silhouette bowl with a number of variations. The only appendages include one cruved slab support and some strap handles, presumable from ollas.

Frequency: 104 sherds.

Occurrence: San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Comments: The Astata Coarse and Hualam Fine wares are relatively

Ware: Pochutla Medium (Continued)

Comments: (Continued)

homogeneous while Pochutla Medium Ware is not. It probably includes slightly finer or coarser versions of the other two wares. Also, it may be that some of our types placed here would form other wares if the sample were larger.

Type: Sipolite Slipped-white

Paste: It is usually in the fine medium range. The color ranges 7.5 yr 6/4 light brown to 5 yr 4/4 reddish brown (most) to 10 yr 5/3 brown, some 2.5 yr 4/6 red. Cores range N 5/0 grey to 5 yr 4/1 dark grey.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: Exteriors are covered with a thick slip that ranges from chalky white to very light brown in color. The same slip usually is found on bowl interiors, often having been applied in a band 2 to 4 cms. wide around the interior rim. Slip N 8/ white to 7/5 yr 7/2 pinkish grey.

Decoration: One bowl has a broad incised line beneath the slip.

Forms: A flared escurvate bowl with a rim everted downwards is the most frequent, although flared straight-wall bowls and a compound silhouette bowl form are known.

Frequency: 28 sherds.

Occurrence: San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Comments: The El Arenal collection has a high percentage (23.91%) of this type. The 1962 collection from Sipolite yielded more of the type than did our 1969 excavations, and the earlier lot included a greater variety of forms, including a tecomate and tecolla form (Brockington 1966:246-247).

Type: Sipolite Rough (Plate III)

Paste: It is medium fine and tends to be crumbly and often there are dark unoxidized cores. The paste color ranges 5 yr 4/6 yellowish red to 10 yr 4/1 dark grey (most) to 10 yr 3/1 very dark grey, some 10 yr 5/3 brown.

Ware: Pochutla Medium (Continued)Type: Sipolite Rough (Continued)

- Inclusions: Same.
- Hardness: 2.5 to 3.5 Mohs.
- Thickness: It varies from 6 to 8 mm.
- Finish: It has been poorly smoothed, sometimes rather carelessly scraped. It has the roughest surface of any type in the Ware. Surface color ranges 10 yr 5/3 brown (most) to 10 yr 4/1 dark grey, some 10 yr 5/4 yellowish brown and 2.5 yr 5/6 red.
- Decoration: None.
- Forms: Most are bowl forms which include straight and excurvate flared bowls, straight walled bowls, and constricted convex bowls.
- Frequency: 11 sherds.
- Occurrence: Sipolite.
- Comments: The 1962 excavations yielded other forms and a higher frequency of the type.

Type: Sipolite Finished (Plate III)

- Paste: The color varies from brown to grey, ranging from 10 yr 5/2 greyish brown to 5 yr 4/6 yellowish red to 7.5 yr 5/4 brown (most) to 10 yr 4/1 dark grey.
- Inclusions: Same.
- Hardness: Same.
- Thickness: Same.
- Finish: It seems to be slipless and smoothed without evidence of burnishing. Some sherds are badly eroded and judgment is uncertain. Surface color ranges 10 yr 5/3 brown to 10 yr 5/2 greyish brown (most) to 10 yr 4/1 dark grey.
- Decoration: None.
- Forms: Rather low straight and slightly excurvate flared bowls dominate, although convex bowls and a comal-like form are present. Rims often are slightly everted.
- Frequency: 23 sherds.

Ware: Pochutla Medium (Continued)Type: Sipolite Rough (Continued)

Occurrence: Tangalunda and Sipolite.

Type: Sipolite Burnished

Paste: The texture is medium. The sherds look as though they have been slightly chewed. Color ranges 2.5 yr 4/6 red to 2.5 yr 3/6 dark red; core color is N 3/0 very dark grey.

Inclusions: Same.

Hardness: 2.5 to 3.5 Mohs.

Thickness: Same.

Finish: Surfaces have been smoothed and burnished. The surface is streaked where uneven, noncontiguous burnishing has left lighter and only smoothed areas. Surface color ranges 5 yr 4/6 yellowish red to 2.5 yr 4/4 reddish brown.

Decoration: None.

Forms: Only tecomates were noted, although presence of one curved slab support indicates bowls (probably flared excurvate) should be found.

Frequency: 4 sherds.

Occurrence: San Miguel del Puerto.

Type: Sipolite Painted

Paste: This is rather coarse textured.

Inclusions: All are less than 3 mm.

Hardness: Same.

Thickness: Same.

Finish: Some bear traces of white slip and others traces of red paint. See the Variety descriptions.

Decoration: None.

Forms: At El Arenal, convex bowls and tecomates. At Tangalunda, flared straight wall or straight wall bowls, compound silhouette bowls, ollas and strap handles.

Ware: Pochutla Medium (Continued)Type: Sipolite Painted (Continued)

Frequency: 38 sherds.

Occurrence: Almost all are from Tangalunda and a few from El Arenal.

Comments: This type is very similar to Pamo White-slip and Pamo Red-slip types.Variety: Renal Slipless

The description basically conforms to the Type description, except for the finish.

Paste: Color ranges 5 yr 5/4 reddish brown to 5 yr 4/4 reddish brown (most) to 10 yr 4/1 dark grey.

Finish: There are traces of a red paint. Surface color ranges 5 yr 4/6 yellowish red to 2.5 yr 4/4 reddish brown.

Frequency: Approximately 19.

Occurrence: Tangalunda and El Arenal.

Variety: Renal Slipped

The description basically conforms to the Type description, except for the finish.

Paste: Color ranges 2.5 yr 5/6 red to 5 yr 4/6 yellowish red (most) to 10 yr 5/1 grey.

Finish: There are traces of slip, at least on the interior surfaces; slip ranges 2.5 yr 5/8 red to 2.5 yr 4/4 reddish brown (most) to 5 yr 5/4 reddish brown. Surface color ranges 5 yr 5/6 yellowish red to 10 yr 5/2 greyish brown (most).

Frequency: Approximately 19.

Occurrence: Tangalunda and El Arenal.

Ware: Palam Crumbly

Paste: The texture ranges from medium to fine with most being rather fine. The sherds are "weak" and are easily broken or crumbled with the hand. The surfaces often are badly weathered. The color

Ware: Palam Crumbly (Continued)

- Paste:** (Continued)
usually is grey but varies to salmon grey, brown, reddish-brown, and orange (See type or varieties). Numerous air pockets occur in the paste, possibly indicating the paste was poorly prepared.
- Inclusions:** They are numerous but scattered sand and quartzite particles ranging up to 4 mm. in size but averaging around 1.5 mm. Particles of feldspar, gness and hornblende were noted.
- Hardness:** It varies from 2.5 to 3.5 Mohs using a scratch test.
- Thickness:** Vessel walls range from 4 to 10 mm. in thickness with most being around 5 or 6 mm. Olla and tecolla bases may be thicker, up to 16 mm.
- Finish:** The surface color is often approximately the same as the paste (See type or varieties). Surfaces often are so badly weathered that it is not possible to say if they were burnished. It appears that the surfaces were smoothed but not burnished or slipped, except for Puerto Slipped-crumbly Variety.
- Decoration:** One example of reed punctation on a rim was noted.
- Forms:** Ollas and tecomates and tecollas and bowls including convex, straight and flared excurvate variations are present. Ollas and falred excurvate bowls are the most common. There is one solid slab support.
- Frequency:** 168 sherds.
- Occurrence:** Hualampamo and San Miguel del Puerto.
- Comments:** It is possible that this ware includes sherds from reject vessels which would have been placed in other wares, especially the fine-textured types, if they had been correctly done. It certainly seems that these vessels would have been unsatisfactory for most uses.

Type: Pamo Crumbly Slipped-crumbly (Plate III)

This conforms to the Ware description. yellowish red to 2.5 yr red to 10 yr 4/1 dark grey (most).

Variety: Chon Crumbly (Plate III)

Paste: Color ranges 7.5 yr 6/4 light brown to 5 yr 5/4 reddish brown (most) to N 4/0 dark grey.

Ware: Palam Crumbly (Continued)Type: Pamo Crumbly (Continued)Variety: Chon Crumbly (Continued)

Inclusions: They are smaller than the Ware average, averaging around 1 mm. and not exceeding 2.5 mm.

Hardness: Same.

Thickness: They are thinner than the Ware average, being about 4 to 6 mm. thick.

Finish: Surface color ranges 2.5 yr 6/8 light red to 7.5 yr 6/6 reddish yellow (most) to 10 yr 4/1 dark grey.

Decoration: One rim sherd bears reed punctation.

Forms: Same.

Frequency: 22 sherds.

Occurrence: Hualampamo.

Variety: Puerto Crumbly

Paste, inclusions, hardness, thickness, and finish all conform to the Ware description. Paste color ranges N 6/0 grey to 5 yr 5/6 yellowish red (most) to 10 yr 4/1 dark grey. Surface color ranges 5 yr 5/4 reddish brown (most) to some 10 yr 5/2 greyish brown and 10 yr 3/1 very dark grey.

Decoration: None.

Forms: The bowls of this variety are deeper than those of Chon Crumbly Variety and include the compound silhouette form which is unknown at Hualampamo.

Frequency: 130 sherds.

Occurrence: San Miguel del Puerto.

Variety: Puerto Slipped-crumbly (Plate III)

Paste: The color ranges 5 yr 4/6 yellowish red to 2.5 yr 3/6 dark red to 10 yr 4/1 dark grey (most).

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Ware: Palam Crumbly (Continued)

Type: Pamo Crumbly (Continued)

Variety: Puerto Slipped-crumbly (Continued)

Finish: The surfaces were polished and a thin red slip is visible on one or both surfaces (2.5 yr 4/6 red (most) to 2.5 yr 5/8 red). Surface color ranges 2.5 yr 4/6 red to 7.5 yr 5/4 brown (most).

Decoration: None.

Forms: They seem to be like those of Puerto Crumbly Variety.

Frequency: 16 sherds.

Occurrence: San Miguel del Puerto.

Ware: Lam Micaceous

No type or varieties have been defined.

Paste: This is a medium-textured paste; color ranges 5 yr 4/6 yellowish red to 2.5 yr 3/6 dark red (most).

Inclusions: Some widely scattered sand and quartzite ranging from 1.5 to 5 mm. in size is present. Numerous micaceous and iron pyrite particles are visible.

Hardness: It varies from 1 to 2.5 Mohs.

Thickness: It is uniformly around 7 mm.

Finish: The surface has been smoothed. Many micaceous particles are on the surface giving the pottery a sparkling appearance. Surface color ranges 5 yr 5/4 reddish brown to 5 yr 4/6 yellowish red (most) to 7.5 yr 5/4 brown.

Decoration: None.

Forms: Only straight-walled bowls and ollas were noted.

Frequency: 4 sherds.

Occurrence: Hualampamo.

Comments: A similar ware is being produced today in a small village about three kilometers north of Astata. This pottery may be recent. All sherds are from surface levels.

Ware: Huamelula Fine

- Paste:** The texture varies from very fine to fine and often is almost powdery. In about one-third of the examples there is a very thick, unoxidized core while in the others no such core is present. There are numerous but scattered air pockets. The color of the paste varies from red to orange, buff, white, grey, black and brown and the major color differences serve for distinguishing types (See type or varieties). Also, see the comments given below.
- Inclusions:** While there are examples without any visible inclusions, the ware usually contains widely scattered particles of sand and/or quartzite averaging about 1 mm. in size but with some as large as 2 and 3 mm. In addition, many small bits of gness, feldspar, granite, quartzite, and ferrous materials often are present. William Payne (personal communication) detected bits of sherd in one paste from San Miguel del Puerto and suggested that it may indicate sherd tempering.
- Hardness:** The great majority are rather soft, from 1.0 to 2.5 Mohs. The sherds from Hualampamo were much harder, frequently from 3.5 to 5.5 Mohs.
- Thickness:** The range is from 3 to 13 mm. with most being around 5 to 7 mm. Thickness seems to be related to vessel form and, presumably, to function.
- Finish:** The surface color usually is approximately the same as the paste color (See type or varieties). Most of the ware was nicely smoothed but apparently was neither slipped nor burnished. Slipping is rare but includes use of white, red, brown and black colors. Almost all of the slipped sherds were also burnished.
Many of the sherds are badly weathered and have pocket surfaces. Weather may have destroyed evidence of slipping and/or polishing. Quite often sufficient surface has eroded to leave inclusions projecting from the paste.
- Decoration:** It is rare and consists almost entirely of incised simple geometric designs and lines circling vessels. The most elaborate and numerous occurrences are in Type Pamo Fine Buff, Antonia Incised variety. There are a very few examples of groove incision, punctation, painting, molding, carving, and excising, but these all are rare or very rare.
- Forms:** Bowls are the most frequent. These include convex, flared straight walled, flared excurvate walled (the most common), compound silhouette, and straight walled or tumbler forms. Also, there are ollas, tecollas, tecomates, and flat plate forms. Vessel supports

Ware: Huamelula Fine (Continued)

Forms: (Continued)
include solid nubbin and curved slab (the most common), hollow conical, hollow bulbous, and hollow mold-made effigy supports representing a "fat god," and old man, and a monkey head. If we were to pick a "typical" vessel from this ware, it would be a flared excurved wall bowl with a flat bottom and three curved slab supports.

Some ollas had strap handles, and there is one example of a hollow handle.

Frequency: 2,081 sherds and 3 vessels.

Occurrence: Hualampamo, San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Comments: This Hualampamo sherds seem to form a complicated color continuum. Orange blends into red and buff, buff into brown and white, and grey into white and black. Placement of a sherd in one color group or another may be uncertain. At the other sites, each color group seems more clearly distinctive.

Incision is most frequent and more elaborate in the west at Sipolite and the designs used there are ones that were being used before this ware appeared.

Type: Pamo Fine Orange

Paste: It varies from light orange to orange-tan in color (See varieties).

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: See the variety descriptions.

Decoration: Same.

Forms: Same.

Frequency: 275 sherds.

Occurrence: Hualampamo and San Miguel del Puerto.

Variety: Higo Slipless (Plate V)

The description is basically the same as for the type, except for

Ware: Huamelula Fine (Continued)

Type: Pamo Fine Orange (Continued)

Variety: Higo Slipless (Continued)

finish. Paste color range 2.5 yr 6/4 light reddish brown to 7.5 yr 6/6 reddish yellow (most) to 7.5 yr 5/4 brown. Cores range N 6/0 grey (most) to 10 yr 5/2 grayish brown.

Finish: Surfaces are well smoothed but without indication of slip or burnishing. Color ranges 5 yr 6/6 reddish yellow to 7.5 yr 7/6 reddish yellow (most) to some 10 yr 6/3 pale brown.

Decoration: Same.

Forms: Same.

Frequency: 270 sherds.

Occurrence: Hualampamo and San Miguel del Puerto.

Comments: It was in a sherd of this variety that Payne detected sherd inclusions.

Variety: Hule Slipped-red

The description is basically the same as for the type, except for finish. Paste color ranges 10 5/6 red to 2.5 yr 5/4 reddish brown, cores are 5 yr 4/1 dark grey.

Finish: There is a red slip (10 R 3/6 dark red) on bowl interiors and it has been burnished. Surface color ranges 2.5 yr 5/6 red to 2.5 yr 6/6 light red.

Frequency: 3 sherds.

Occurrence: Hualampamo.

Variety: Hule Slipped-white

The description is basically the same as for the type, except for the finish. Paste color is 5 yr 4/4 reddish brown.

Finish: A white slip (5 yr 8/1 white) covers both surfaces. It does not seem to have been burnished. Surface color is 2.5 yr 4/6 red.

Decoration: Red paint was applied over an exterior slipped surface although the design is not clear.

Frequency: 2 sherds.

Ware: Huamelula Fine (Continued)

Type: Pamo Fine Orange (Continued)

Variety: Hule Slipped-white (Continued)

Occurrence: Hualampamo.

Type: Pamo Fine Buff

Paste: The color varies from tan, buff, brown, and light grey (see varieties).

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: See the variety descriptions.

Decoration: See the variety descriptions. Most varieties conform to the Ware description.

Forms: See the variety descriptions. Form differences within the type were the basic criterion used for distinguishing varieties.

Frequency: 791 sherds.

Occurrence: Hualampamo, San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Variety: Talun Slipless (Plate VI)

Paste: The color centers around tan, ranging from 7.5 yr 5/4 brown to 10 yr 6/4 light yellowish brown (most) to some 10 yr 6/2 light brownish grey. Cores range 10 yr 6/1 gray to 10 yr 3/1 very dark grey.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Finish: It is neither slipped nor burnished, but is nicely smoothed. Surface color ranges 5 yr 6/4 light reddish brown to 10 yr 7/4 very pale brown (most) to 10 yr 6/3 pale brown.

Decoration: It is rather rare and consists mostly of inclined lines, single or double, circling a bowl on its exterior.

Ware: Huamelula Fine (Continued)Type: Pamo Fine Buff (Continued)Variety: Talun Slipless (Continued)

Forms: The most frequent form is a flared excurvate bowl with the vessel rim being slightly thickened and frequently slightly everted. Convex bowls and other forms including ollas, tecomates, and flat plates occur.

Frequency: 435 sherds.

Occurrence: Hualampamo.

Variety: Tepol Slipless (Plate VII)

Paste: Color ranges 5 yr 5/8 yellowish red to 7.5 yr 5/4 brown (most) to some 7.5 yr 4/4 brown. Cores N 6/0 grey to N 4/0 dark gray.

Inclusions: Same.

Hardness: These are in the lower range of the Ware, from 1.0 to 2.5 Mohs.

Thickness: Same.

Finish: It is smoothed but there is no evidence of burnishing or slipping. Surface color ranges 5 yr 6/8 reddish yellow to 7.5 yr 5/4 brown (most) to some 10 yr 5/3 brown.

Forms: While flared excurvate bowls are most frequent, there are more convex bowls in this variety than in the Anita Slipless Variety. Also, bowl rims here are often truly everted and in general are not as thickened as in Anita Slipless.

Frequency: 147 sherds.

Occurrence: San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Variety: Tanga Slipless (Plate VII)

Paste: The color ranges 7.5 yr 5/4 brown (most) to 10 yr 4/2 dark greyish brown. Cores range 10 yr 5/1 grey to 10 yr 4/1 dark grey. The texture is fine.

Inclusions: Same.

Ware: Huamelula Fine (Continued)Type: Pamo Fine Buff (Continued)Variety: Tanga Slipless (Continued)

Hardness: 1.0 to 2.5 Mohs.

Thickness: It averages around 7 to 8 mm., slightly greater than the Type or Ware averages.

Finish: The surfaces are smoothed. Surface color ranges 7.5 yr 6/4 light brown to 10 yr 6/4 light yellowish brown (most) to 10 yr 4/2 dark greyish brown.

Decoration: None.

Forms: Same as the Type description. However, some bowls have compound silhouettes with the area below the exterior rim being slightly concave, probably due to having been pressed with the potter's thumb as the vessel was rotated.

Frequency: 46 sherds.

Occurrence: Tangalunda and El Arenal.

Variety: Tanga Incised

Paste: Unoxidized cores are fairly frequent. The texture is very fine. Color ranges 7.5 yr 5/4 brown to 10 yr 6/4 light yellowish brown (most) to 10 yr 5/2 greyish brown.

Inclusions: Same.

Hardness: 1.0 to 2.5 Mohs.

Thickness: Same.

Finish: It is well smoothed and may have been slipped using a material of the same color as the paste. Surface color ranges 5 yr 6/6 reddish yellow to 10 yr 6/3 pale brown (most) to 10 yr 5/1 grey.

Decoration: Simple incision is typical although grooved incision occurs. The motifs are simple lines--single or double--circling the exterior rims of bowls, triangles, squares, and stepped or zigzag lines.

Forms: It is primarily bowls, especially flared excurvate forms.

Frequency: 20 sherds.

Ware: Huamelula Fine (Continued)

Type: Pamo Fine Buff (Continued)

Variety: Tanga Incised (Continued)

Occurrence: Sipolite.

Comments: The use of incised decoration in this Type and Ware is rare, except at Sipolite. At Sipolite the same motifs and techniques were applied earlier to other wares, but usually are found on earlier fine wares.

Variety: Tona Slipless

Paste: This has a very thick, unoxidized core. The texture is fine. Color ranges 5 yr 5/6 yellowish red (most) to 10 yr 7/3 very pale brown.

Inclusions: There are scattered quartzite particles of less than 1 mm. in size.

Hardness: 1.5 to 2.5 Mohs.

Thickness: It is around 5 mm.

Finish: All are very well smoothed and probably all had been burnished. Surface color ranges 10 yr 7/3 very pale brown (most) to 10 yr 7/2 light grey.

Decoration: None.

Forms: All are flared bowls.

Frequency: 5 sherds.

Occurrence: Sipolite.

Comments: This variety is unusual because of all probably having been burnished. It would have formed a separate type had the sample been larger.

Variety: Talun Carved (Plate VIII)

Paste: The texture varies from powdery to fine. One sherd has a very thick unoxidized core. Paste color ranges 5 yr 6/6 reddish yellow to 7.5 yr 6/4 light brown.

Inclusions: Same.

Hardness: Same.

Thickness: Same.

Ware: Huamelula Fine (Continued)

Type: Pamo Fine Buff (Continued)

Variety: Talun Carved (Continued)

Finish: Surfaces seem to have been well smoothed and some may have been slipped. Color ranges 5 yr 6/6 reddish yellow to 7.5 yr 6/4 light brown to 10 yr 7/4 very pale brown.

Decoration: Exterior surfaces had designs (Anthropomorphic, zoomorphic, glyphic (?), and decorative) made by carving, modeling or using molds. In one case a red specular hematite band 13 mm. broad was painted around the exterior rim (m0 R 3/6 dark red).

Forms: All seem to be from high or medium convex bowls.

Frequency: 4 sherds.

Occurrence: Hualampamo and San Miguel del Puerto. See Comments.

Comments: This variety seem to be an excellent time marker and is surely related to the late Classic area. We have found sherds of it at other sites along the Oaxaca coast, including a press-mold fragment at Manialtepec 1. Two sherds were found at Sipolite in 1962 and one sherd at Miahuatlan (Brockington 1966:268-270; 1973:73-74). As was mentioned in the latter source, Payne considered the mold produced examples to have been made by using a press-mold. Also, one sherd of a very similar ware, but fine orange paste, found at San Miguel del Puerto as part of a private collection. This sherd (See Plate VIII) was examined by Payne who noted it was eologically distinct and not like the coast sherds in composition. He thought the sherd probably came from coastal Tabasco (personal communication).

Variety: Tortugas Slipped-red (Plate VII)

Paste: Color ranges 7.5 yr 7/4 pink (most) to 7.5 yr 6/4 light brown; cores range N 7/0 light gray to N 4/0 dark grey.

Inclusions: Same.

Hardness: This Variety tends to be harder, near 3.5 Mohs.

Thickness: The range is 3 to 7 mm. with an average of 4 to 5 mm.

Finish: It always is slipped on exterior surfaces and sometimes also on the interiors. All surfaces have been nicely smoothed. Surface color ranges 7.5 yr 6/6

Ware: Huamelula Fine (Continued)Type: Pamo Fine Buff (Continued)Variety: Tortugas Slipped-red (Continued)

Finish: (Continued)

reddish yellow to 7.5 yr 6/4 light brown (most) to 10 yr 6/3 pale brown. Slip color ranges 10 R 3/6 dark red to 2.5 yr 6/8 light red to 2.5 yr 6/6 light red (most) to 5 yr 5/4 reddish brown.

Decoration: None.

Forms: Only flared straight-wall and excurvate bowls were noted. They are thinner than Avelardo Slipped-red and usually have a slightly everted rim.

Frequency: 17 sherds.

Occurrence: Hualampamo.

Variety: Tronco Slipped-red (Plate V)

Paste: There usually is a thick, unoxidized core. The texture is very fine. Paste color ranges 10 yr 6/4 light yellowish brown (most) to 10 yr 5/2 grayish brown.

Inclusions: Widely scattered quartzite up to 1.5 mm. in size.

Hardness: This is rather soft, from 1.0 to 2.5 Mohs.

Thickness: Same.

Finish: It is well smoothed and voered with a thin red slip on both surfaces. Slip color ranges 2.5 yr 5/8 red to 5 yr 5/4 reddish brown.

Decoration: None.

Forms: Compound silhouette bowls and falred straight-wall bowls.

Frequency: 7 sherds.

Occurrence: Sipolite.

Variety: Tortugas Slipped-white (Plate VI)

Paste: It frequently has a thick, unoxidized core. Paste color ranges 5 yr 5/8 yellowish red to 5 yr 6/4 light reddish brown (most) to 5 yr 5/3 reddish brown.

Inclusions: Same.

Ware: Huamelula Fine (Continued)Type: Pamo Fine Buff (Continued)Variety: Tortugas Slipped-white (Continued)

Hardness: Same.

Thickness: Same.

Finish: Surfaces are well smoothed and slipped with a chalky white slip, usually on both surfaces but always on the exterior, that usually was lightly burnished. Slip color ranges 10 yr 8/2 white to 7.5 yr 8/2 pinkish white (most). Surface color ranges 7.5 yr 7/4 pink to 7.5 yr 6/4 light brown (most) to 5 yr 5/4 reddish brown.

Decoration: One sherd bears simple incised lines (before or after slipping?). There may be traces of red paint on exteriors, presumably traces of lines.

Forms: Flared excurvate bowls, solid curved slab supports, hollow conical support, flared straight-wall bowl, convex bowl, ollas and hollow bulbous supports.

Frequency: 67 sherds.

Occurrence: Hualampamo, San Miguel del Puerto, Tangalunda, and El Arenal.

Variety: Tortugas Slipped-brown (Plate VII)

Paste: It often has a thick, unoxidized core. Paste color ranges 5 yr 5/6 yellowish red to 10 yr 6/4 light yellowish brown (most). Cores range 10 yr 6/1 grey to 10 yr 3/1 very dark grey.

Inclusions: Same.

Hardness: This tends to be in the soft range, 1.0 to 2.5 Mohs.

Thickness: Same.

Finish: Surfaces always were well smoothed or lightly burnished. All were covered with a thin brown slip, although some sherds may have been self-slipped through burnishing. Surface ranges 5 yr 5/8 yellowish red to 10 yr 6/4 light yellowish brown (most) to 10 yr 5/2 grayish brown. Slip color ranges 7.5 yr 5/4 brown to 7.5 yr 4/2 dark brown (most).

Decoration: Incision, grooving, and punctation are present. Most decoration consists of single or double parallel lines circling the vessel exterior.

Ware: Huamelula Fine (Continued)Type: Pamo Fine Buff (Continued)Variety: Tortugas Slipped-brown (Continued)

Forms: Convex bowls, flared excurvate bowls, and beakers are present.

Frequency: 1 vessel and 42 sherds.

Occurrence: San Miguel del Puerto and Sipolite.

Type: Pamo Fine Red

Paste: The paste is uniformly brick red in color, 2.5 yr 4/8 red, and of a very fine texture.

Inclusions: None is visible.

Hardness: It ranges from 1.0 to 2.5 Mohs.

Thickness: It is rather thin, 3 to 5 mm.

Finish: All surfaces were smoothed. Most sherds bear a thick white slip on their interiors and sometimes on exteriors. All surfaces may have been slipped. The slip ranges 19 yr 8/3 very pale brown to 7.5 yr 8/2 pinkish white.

Decoration: There is simple pre-slip incision and groove incision around vessel exteriors.

Forms: Convex bowls.

Frequency: 14 sherds.

Occurrence: San Miguel del Puerto.

Type: Pamo Fine White

Paste: Most are white with some sherds shading into light grey and a few examples of red or orange pastes (See varieties). The texture is uniformly fine.

Inclusions: This varies from none visible to widely scattered particles of quartzite less than 1 mm. in size.

Hardness: It usually is fairly hard, 2.5 to 3.5 Mohs.

Thickness: Same.

Finish: All examples were, at least, nicely smoothed and many were lightly burnished. The surface color is basically

Ware: Huamelula Fine (Continued)Type: Pamo Fine White (Continued)

- Finish: white (See varieties). Slipping is relatively rare. See the variety descriptions.
- Decoration: It is very rare and includes area excision and simple painting of lines.
- Forms: Convex bowls, flared straight-wall and flared excurvate bowls, ollas, and solid curved slab supports and hollow bulbous supports.
- Frequency: 1 vessel and 178 sherds.
- Occurrence: Hualampamo (177 sherds) and San Miguel del Puerto.

Variety: Lunda Slipless (Plate VIII)

- Paste: Color ranges 10 yr 8/2 white to 10 yr 7/3 very pale brown (most) to 10 yr 6/3 pale brown, some 7.5 yr 7/4 pink. Cores range N 8/0 white to N 5/0 grey, most are N 6/0 grey.
- Inclusions: Same.
- Hardness: Same.
- Thickness: Same.
- Finish: It is nicely smoothed, sometimes lightly burnished, but never slipped. Surface color ranges 10 yr 7/4 very pale brown to 10 yr 8/2 white (most) to 7.5 yr 6/4 light brown.
- Decoration: One curved slab support is excised.
- Forms: Same.
- Frequency: 143 sherds.
- Occurrence: Hualampamo and San Miguel del Puerto (1 sherd).

Variety: Lana Slipped-red (Plate VIII)

- Paste: Color ranges 7.5 yr 8/2 pinkish white to 10 yr 7/3 very pale brown (most) to 10 yr 6/1 grey, some 7.5 yr 6/4 light brown. Cores range N 5/0 grey to N 4/0 dark grey.
- Inclusions: Same.

Ware: Huamelula Fine (Continued)Type: Pamo Fine White (Continued)Variety: Lana Slipped-red (Continued)

Hardness: Same.

Thickness: Same.

Finish: A red or orangish-red slip (ranges 10 R 5/8 red to 5 yr 6/6 reddish yellow (most) to 10 R 3/6 dark red) occurs on interiors and/or exteriors. Some sherds show signs of burnishing. Surface color ranges 10 yr 8/2 white to 10 yr 7/3 very pale brown (most).

Decoration: It is more frequent on this variety than on any other of the Type. Rims may be painted with red pigment and there is one example of groove incision around an exterior rim.

Forms: All are bowls of convex, flared excurvate, and straight-wall variations. One sherd may be from an olla. There is one possible curved slab support, solid, and one object may be a long hollow handle or support.

Frequency: 32 sherds and 1 vessel.

Occurrence: Hualampamo and San Miguel del Puerto (1 vessel).

Comment: There may be one example of double slipping, red over white, although this could be a result of painting.

Variety: Lana Slipped-white

Paste: The color ranges 10 yr 7/3 very pale brown to 10 yr 6/3 pale brown. Cores are 10 yr 6/1 grey.

Inclusions: Same.

Hardness: 3.5 to 5.5 Mohs, rather hard.

Thickness: Same.

Finish: It is slipped with a white (10 yr 8/2 white) material on exteriors and, on one example, the interior. Surface ranges 2.5 yr 7/2 light grey to 10 yr 7/3 very pale brown.

Decoration: None.

Forms: Only bowls, flared excurvate and convex, are known.

Frequency: 3 sherds.

Occurrence: Hualampamo.

Ware: Huamelula Fine (Continued)Type: Pamo Fine Grey

- Paste:** The color usually is a shade of grey, light to dark, although some are brown (See varieties). Unoxidized cores are frequent. The texture ranges from fine to powdery, with most being very fine.
- Inclusions:** Same.
- Hardness:** It varies from 1.0 to 5.5 with a bimodal distribution, a peak at each end of the span.
- Thickness:** Same.
- Finish:** It usually is slipless with red or white slips being quite rare (See varieties). All surfaces are nicely smoothed with burnishing being rare. The softer sherds may be quite eroded so that inclusions project from the surfaces. In such cases, any evidence of burnishing obviously has been lost.
- Decoration:** Only incision and very rare grooving was noted. The incised designs usually are single or double lines circling a vessel exterior although simple geometric designs are known. One sherd bears traces of red paint.
- Forms:** Convex bowls, flared excurvate bowls, straight-wall vessels (tumblers), ollas, compound silhouette bowls, flared straight-wall bowls, solid curved slab supports, hollow bulbous supports, a hollow conical support and strap handles (on ollas?) are present.
- Frequency:** 398 sherds.
- Occurrence:** Hualampamo, San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Variety: Girasol Slipless (Plate III)

- Paste:** Color ranges N 7/0 light grey to 10 yr 5/1 grey (most) to 5 yr 4/1 dark grey, some 2.5 yr 6/2 light brownish grey and 10 yr 6/3 pale brown. Cores range 10 yr 6/1 grey to 10 yr 3/1 very dark grey.
- Inclusions:** Same.
- Hardness:** Same.
- Thickness:** Same.
- Finish:** All surfaces were smoothed and there is no indication

Ware: Huamelula Fine (Continued)Type: Pamo Fine Grey (Continued)Variety: Girasol Slipless (Continued)

Finish: (Continued)

of burnishing. There is no slip. Surface color ranges 5 yr 7/1 light grey to 2.5 yr 6/2 light brownish grey (most) to N 4/0 dark grey, some 10 yr 4/3 dark brown and a few 5 yr 6/8 reddish yellow.

Decoration: One sherd bears traces of red paint and a few examples have single or, more frequently, double parallel lines incised around the vessel exteriors.

Forms: Same.

Frequency: 200 sherds.

Occurrence: San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Variety: Geranio Slipless

Paste: Color ranges 10 yr 5/1 grey (most) to 5 yr 4/1 dark grey and 10 yr 6/3 pale brown. Core range 10 yr 6/1 grey to 10 yr 3/1 very dark grey.

Inclusions: Same.

Hardness: This Variety tends to be harder, above 3.5 Mohs.

Thickness: Same.

Finish: Surface color ranges 2.5 yr 6/2 light brownish grey (most) to N 4/0 dark grey, some 10 yr 4/3 dark brown.

Decoration: It is very rare and consists of single or double lines incised around vessel exteriors, and there is one example of double lines incised around the interior rim.

Forms: Same. There is one sherd which may be an ear or sherd from an anthropomorphic figure, about 3/4 life size.

Frequency: 101 sherds.

Occurrence: Hualampamo.

Variety: Guineo Slipped-red

Paste: All of these sherds have dark grey to almost black

Ware: Huamelula Fine (Continued)Type: Pamo Fine Grey (Continued)Variety: Guineo Slipped-red (Continued)

- Paste: (Continued)
paste, ranging 10 yr 6/1 grey (most) to 5/0 grey.
- Inclusions: Same.
- Hardness: Same.
- Thickness: Same.
- Finish: All were slipped red (10 R 4/6 red) or painted with a rather thick red pigment. Some sherds have traces of burnishing over the slip. Surface color ranges 2.5 yr 6/2 light brownish grey (most) to 10 yr 4/1 dark grey.
- Decoration: There is one example of incision.
- Forms: Flared excurvate bowls, hollow conical support, miniature vessel, flared straight-wall bowl.
- Frequency: 7 sherds.
- Occurrence: Hualampamo.

Type: Pamo Fine Black

- Paste: The color is usually black but ranges into very dark grey, grey, dark brown, and brown (See varieties). The texture grades from fine into very fine.
- Inclusions: This is the same as in the ware description, although the size of inclusions is slightly smaller for this type.
- Hardness: This type is usually rather hard, averaging around 3.0 Mohs.
- Thickness: The range is 3 to 11 mm. with most being around 5 mm., slightly thinner than the Ware average.
- Finish: All have been smoothed and most were burnished. Many surfaces have been weathered and occasionally are pocked. Almost all are slipless. See the Variety descriptions. Some have been smudged and have a waxy feel, possibly a result of being smoked by a fire burning resinous fuel.
- Decoration: The techniques include incision, groove incision, painting, mold production of effigy supports (old man, "fat god," and monkey), and gouging and carving (both very

Ware: Huamelula Fine (Continued)

Type: Pamo Fine Black (Continued)

Decoration: (Continued)

rare). The motifs usually are single or double lines circling the vessel exteriors. Painting always was application of red pigments, usually applied as a band circling the basal break on flared excurve bowls although some rims were painted red. See the Variety descriptions.

Forms: Convex bowls, flared excurve bowls (the most common form), flared straight-wall bowls, straight wall vessels (tumblers), ollas, compound silhouette bowls, hollow conical supports, solid nubbin supports, solid curved slab supports, and hollow bulbous supports with mold-made anthropomorphic or zoomorphic faces on their exterior sides.

A "typical" vessel of this Type would be a flat-bottomed, flared excurve bowl with a basal ridge, perhaps with a red band painted above the ridge, and three curved slab supports.

Frequency: 3 vessels and 356 sherds.

Occurrence: Hualampamo, San Miguel del Puerto, Tangalunda, El Arenal, and Sipolite.

Comments: The varieties of this type often are specific to one site.

The Sipolite sample is quite small, only 9 sherds. The 1962 excavations at Sipolite yielded many more examples as well as several complete vessels, including two tall vase forms which are not present in our 1969-1970 collections from any site (Brockington 1966:60) and 18 of the hollow mold-made effigy supports, the greatest number from any site. The more recent collections are different from the earlier one. Also, these hollow supports are not found at Hualampamo, only from the other four sites. One such support made of the same ware and type was found at El Rincon is about 20 kilometers west of Sipolite.

The greatest variation of this Type was found at San Miguel del Puerto and also the greatest elaborations were from there. See the Variety descriptions.

Variety: Malamujer Slipless (Plate V)

Paste: Color ranges 10 yr 6/4 light yellowish brown to 2.5 yr 4/2 dark greyish brown (most) to 10 yr 6/1 grey. Cores are 10 yr 4/1 dark grey.

Inclusions: Same.

Ware: Huamelula Fine (Continued)Type: Pamo Fine Black (Continued)Variety: Malamujer Slipless (Continued)

Hardness: Same.

Thickness: Same.

Finish: Surface color ranges 2.5 yr 6/2 light brownish grey to 10 yr 5/1 grey (average) to N 3/0 very dark grey.

Decoration: Same. One basal angle sherd has a "coffee bean" applique on the basal flange.

Forms: There are no hollow effigy supports. Flared excurvate bowls (most frequent), convex bowls, tumblers, constricted convex bowls are the forms. Rims often are everted and/or thickened. Supports include hollow truncated cone forms.

Frequency: 184 sherds.

Occurrence: Hualampamo.

Variety: Malvonez Slipless (Plate IV)

Paste: Has a fine texture. Color ranges 10 yr 5/1 grey to some 10 yr 4/1 dark grey and 5 yr 4/4 reddish brown (most) to N 3/0 very dark grey.

Inclusions: Same.

Hardness: Same.

Thickness: It varies from 3 to 6 mm. with an average around 5 mm.

Finish: It is slipless. Surface color ranges 10 yr 5/1 grey to 10 yr 4/1 (most), some 2.5 yr 5/2 greyish brown, to N 2.5/0 black.

Decoration: There is some use of red paint around exterior basal angles and on rims. Hollow bulbous supports may be decorated with effigy faces. Otherwise, the Variety is undecorated.

Forms: Flared excurvate bowls, flared straight-wall bowls, small basal ridges on flared bowls is a feature, compound silhouette bowls with small everted rims, convex bowls, hollow mold-made effigy supports, and solid curved slab supports.

Frequency: — 57 sherds.

Ware: Huamelula Fine (Continued)Type: Pamo Fine Black (Continued)Variety: Malvonez Slipless (Continued)

Occurrence: Tangalunda, El Arenal, and Sipolite.

Variety: Margaritas Slipless

Paste: The texture is uniformly fine. Color ranges 10 yr 6/3 pale brown to 5 yr 5/6 yellowish red (most) to 5 yr 3/2 dark reddish brown.

Inclusions: Same.

Hardness: Same.

Thickness: This is thinner than the Type average, around 4 mm.

Finish: It seems to have been smudged while being fired with a resinous fuel, probably pine wood. The surfaces always are at least smoothed and usually highly burnished to give a waxy feel. Surface color ranges 10 yr 4/1 dark grey (most) to N 2.5/0 black. Trace of slip 10 R 4/8 red.

Decoration: It is rare but some incision occurs and there are a couple examples of red paint (10 R 4/8 to 10 R 3/6 dark red) applied in bands.

Forms: Compound silhouette bowls, tumbler, convex bowls, straight flared bowls, and tumbler with basal flange.

Frequency: 1 bowl and 21 sherds.

Occurrence: San Miguel del Puerto.

Comment: Coniferous trees are fairly plentiful around San Miguel del Puerto.

Variety: Macahuite Slipless (Plate IV)

Paste: Color ranges 10 yr 6/1 grey to 7.5 yr 6/4 light brown (most).

Inclusions: Same.

Hardness: Same.

Thickness: The range is 3 to 7 mm.

Finish: All surfaces were burnished, except for exterior bases

Ware: Huamelula Fine (Continued)Type: Pamo Fine Black (Continued)Variety: Macahuite Slipless (Continued)

- Finish: (Continued) which are rough (through use?). The surface color ranges 10 yr 5/2 greyish brown to 10 yr 4/1 dark grey (most) to 10 yr 3/1 very dark grey.
- Decoration: None.
- Forms: Flared excurvate bowls, straight-wall bowls, solid curved slab and hollow bulbous supports. Everted rims are fairly common.
- Frequency: 1 compound silhouette bowl and 15 sherds.
- Occurrence: San Miguel del Puerto.

Variety: Mesquite Slipless (Plate IV)

- Paste: The color ranges 5 yr 5/1 grey to 10 yr 5/3 brown (most) to N 4/0 dark grey.
- Inclusions: Same.
- Hardness: Same.
- Thickness: The average seems slightly thinner than the Type description, around 6 mm. The range is the same.
- Finish: All surfaces have been smoothed and burnished with burnish lines frequently being visible. Surface color ranges 10 yr 4/1 dark grey (most) to N 3/0 very dark grey.
- Decoration: None.
- Forms: Flared excurvate bowls (most frequent), convex bowls, tecomate, strap support for spout (olla?), and tumblers. The bowls seldom have everted rims.
- Frequency: 51 sherds.
- Occurrence: San Miguel del Puerto.
- Comments: This variety may be too inclusive. If we had a larger collection, it probably would have been divided into two varieties with the differences being based on paste distinctions and vessel forms and wall thicknesses.

Ware: Huamelula Fine (Continued)

Type: Pamo Fine Black (Continued)

Variety: Manguey Slipped-brown

Paste: The color is 10 yr 7/4 very pale brown. Core color is 10 yr 4/1 dark grey.

Inclusions: Same.

Hardness: It is around 2.5 Mohs.

Thickness: The range is 4 to 6 mm.

Finish: The surfaces are covered with a greyish brown (10 yr 5/2) slip and highly burnished to produce a waxy feel. Some examples have smudged areas. Horizontal burnish lines often are clearly visible.

Decoration: Some sherds seem to show carving although the motifs cannot be defined. One sherd has two parallel lines circling the vessel exterior.

Forms: Only one is definable and it is a rather straight wall flared bowl.

Frequency: 1 vessel and 7 sherds.

Occurrence: San Miguel del Puerto.

Variety: Manguey Slipped-black (Plate IV)

Paste: The color ranges 10 yr 6/1 light grey to 5 yr 4/6 yellowish red (most) to 5 yr 4/3 reddish brown.

Inclusions: Same.

Hardness: It is around 2.5 Mohs.

Thickness: The range is 4 to 9 mm. with an average around 6 mm.

Finish: Surface color ranges 10 yr 6/4 light yellowish brown to 7.5 yr 5/4 brown. These sherds seem to have been covered with a thin slip that was smudged black during firing. All exteriors and some interiors have been burnished. Slip color ranges 10 yr 5/1 grey to 10 yr 4/1 dark grey (most) to 10 yr 3/1 very dark grey.

Decoration: One sherd has a raised band circling a vessel shoulder and another sherd may have been carved.

Forms: Convex bowls, slightly excurvate flared bowls (often with small everted rims).

Ware: Huamelula Fine (Continued)Type: Pamo Fine Black (Continued)Variety: Manguay Slipped-black (Continued)

Frequency: 18 sherds.

Occurrence: San Miguel del Puerto.

Variety: Manguay Slipped-white

Paste: Color ranges N 5/0 grey to 5 yr 5/4 reddish brown to N 4/0 dark grey.

Inclusions: Not determined.

Hardness: Not determined.

Thickness: Not determined.

Finish: All bear traces of white slip (10 yr 8/1 white) with red paint (10 R 4/6 red) on them. Surface color ranges 7.5 yr 6/2 pinkish grey to N 3/0 very dark grey.

Decoration: Red paint was applied to the white slip. The motifs cannot be defined because the painting is so fragmentary.

Forms: Flared excurvate bowls, one with a double molding around the base and a hollow effigy support.

Frequency: 3 sherds.

Occurrence: Tangalunda.

Type: Pamo Fine Brown (Plate V)

Paste: The color varies from 5 yr 7/6 reddish yellow to 7.5 yr 6/4. Light brown (most) to 10 yr 4/2 dark greyish brown. Some cores N 4/0 dark grey.

Inclusions: Fine quartzitic and granitic particles averaging .5 mm. and ranging up to 1.5 mm. are present along with granules of gneiss and feldspar.

Hardness: 2.5 to 3.5 Mohs.

Finish: The surface color is brown, usually a rather light brown, that has been smoothed and burnished. Surface color ranges 7.5 yr 7/4 pink to 7.5 yr 6/4 light brown (most) to 10 yr 4/1 dark grey. It is slipless and scattered

Ware: Huamelula Fine (Continued)Type: Pamo Fine Brown (Continued)

Finish: (Continued)

pock marks occur. The surface often is weathered.

Decoration: There are rare examples of simple line and groove line incisions.

Forms: Convex bowls, flared excurved bowls, flared straight-wall bowls (most frequent), tumbler forms, and a tecomate sherd are found along with solid curved slab supports, hollow round supports (a scar was found but no actual support was found) and a truncated cone support.

A small slightly everted rim on flared bowls is quite common.

Frequency: 68 sherds.

Occurrence: Hualampamo.

CHAPTER III

THE COMPARATIVE STUDY

Introduction and Methodology:

Archaeological data is limited in scope, for it consists only of items that have weathered the destruction of time. It does represent facts of prehistoric cultures. Arrangement and interpretation of these facts is the archaeologist's responsibility. In a discussion of the nature of artifacts and the cultural relevance implied in the way archaeologist structure their data, Irving Rouse states:

Each type or mode, whether intrinsic, extrinsic, or cognitive may be said to consist of a pattern or cluster of attributes that the artisan has built into his artifacts in accordance with the norms of his culture. In effect, the attributes are the norms, for an artisan may be presumed to have been guided by his memory of previous procedures and of previously completed artifacts. The various kinds of materials may likewise be considered indicative of cultural norms, insofar as they appear to have been selected in accordance with culture (1972:167-168).

A norm is a construct which is ". . . a creation of the investigator.

It consists of regularities that he observes in a people's activities and that he abstracts from the activities and material for purposes of study (1972:164)."

The archaeologist must judge what norms or attributes conform to the pattern which he labels a type.

Comparison of archaeological remains is employed to test the hypothesis of relationships over time and space. The prehistorian's task of cultural reconstruction relies heavily upon similarities or lack of

similarities evident in the assemblages of artifacts. Comparison on the formal level (Spaulding 1971:25) is greatly facilitated if reliable types have been established. The anthropologist must assume that the data presented by other investigators reflects cultural reality.

I am testing an hypothesis of contact between the eastern portion of the coast of Oaxaca and other areas by comparing their ceramic remains. My comparison is on the type-variety level, and is therefore based upon comparison of the formal descriptions of ceramics.

To test my hypothesis of culture contact, I chose areas which may be thought to form a geographical arc with its focus the eastern portion of the Oaxaca coast; the time element has been held constant.

Similarities may occur in the archaeological record of different areas without culture contact occurring. If you postulate two cultures have been in contact, the validity of your hypothesis rests not only upon similarities of objects, but also upon several other factors:

- 1) Similarities must occur at the same point in time.
- 2) There should be a degree of complexity in the nature of the traits (preferable, a cluster of traits will be studied).
- 3) Local antecedents should be documented for the donor culture. Antecedents in the recipient culture would indicate contact was less likely.
- 4) There must exist a probability of travel.

(Brockington: Personal communication)

Obviously, even if all criteria hold, culture contact has not been proven. The case for contact is strengthened, however.

Three cultural processes are involved in culture change. These include innovation, which is not a contact situation, and diffusion and migration, which are. If a single trait be studied, the archaeologist would assume the group discovered it themselves if no other culture with the trait exists or if diffusion was improbable. "Most innovations are minor ones and are not important (Trigger 1970:297-298). Rarely too, does

the innovation occur without leaving an archaeological record of the development of the trait. Sites on the eastern portion of the Oaxaca coast have yielded a cluster of traits--Fine Orange, Fine Gray, Fine Black Pottery, and, in this tradition, flared vessels with tripod supports, slab and effigy supports, beakers or cylindrical vessels, and pear-shaped vessels--which show no record of developing in situ, and it is highly likely that they developed in another area. The method of their transmission and the place of origin cannot be proved, but the evidence indicates that diffusion and migration played parts and that the origin of the traits is in the western Maya region, perhaps of western Tabasco and eastern VeraCruz.

"Diffusion involves the spread of ideas and. . . must be distinguished from the spread of goods" (Trigger 1972:299). The material Brockington recovered from excavations at Sipolite, Oaxaca in 1962 suggests diffusion of ideas between Sipolite and western Tabasco, the traits which came to dominate the late Classic/early Postclassic scene on the eastern part of the coast are seen as an accretion into the existing ceramic assemblage, slowly becoming numerically important over a period of time. Brockington also suggests ideas from the coast made their way back to the western Tabasco area, as shown at Palenque, during this time (1966:266). Two excavated sites on the coast--San Miguel del Puerto and Hualampamo-- illustrate few traits of the Oaxaca coast culture, but have a full-blown compliment of the traits mentioned above. There is no indication at San Miguel del Puerto and Hualampamo of a development of earlier coastal culture followed by an accretion of these additional traits as seen at Sipolite. Some carry-overs do exist, such as effigy lugs and a high percentage of the tecomate form (the effigy lug may have occurred on the tecomate), but the vast majority of the ceramics are basically quite dis-

tinct from the known earlier development of the coast.

If migration of an organized, dominant group occurred, Bruce Trigger (1970) suggests that: 1) a sharp break in the cultural continuity of the archaeological record would be evident; 2) there would be evidence of a genuine change in population; 3) there would be clues as to the nature of the replacement of the original population; 4) no transitional period exists; 5) that antecedents of the intrusive culture exists; and 6) a probable migration route can be shown (1970:314-315).

Unfortunately, when pot sherds represent most of the evidence one has, it is impossible to respond meaningfully to all of Trigger's points. But, over all, the evidence suggests that a migration of peoples occurred into the eastern portion of the coast of Oaxaca during the late Classic/early Postclassic times. The ceramics are quite distinct and different from the other sections of the coast and show no local antecedents. Since no human remains are known to exist from this time period in the area, it is impossible to discuss population types. It is also likely that the intrusion of peoples occurred into an area which was sparsely inhabited anyway. Antecedents of the distinctive traits of the late Classic/early Postclassic in the region exist elsewhere, although at no one site yet discovered. The traits seem to represent a conglomeration of traits from Mayaland.⁵ The route of the proposed migration could have been across the Isthmus of Tehuantepec then west into the Oaxaca coast, or perhaps more probably, through the mountains west of the Isthmus and on to the coast. The distance is not great, and there are no true geographical barriers to either route.

Finally, during the late Classic times, J. Eric Thompson (1970) has shown that a group of western Maya peoples were actively expanding. Thompson describes this group, the Putun, also called the Chontal Maya,

as:

. . .a thrusting group, strongly affected by Mexican-speaking neighbors whose home was in southern Campeche and in the huge delta of the Usumacinta and Grialva rivers of Tabasco (1970:3).

Later he adds that they were:

. . .a virile, expanding group which quite probably developed its aggressive qualities as a result of an earlier injection of Mexican blood and toughness from Nahuatl-speaking neighbors in the Chontalpa. The culture and people were hybrid Maya-Nahuatl (1970:43).

They captured Chichen Itza and Seibal in the late Classic and controlled northern Tabasco, Campeche, Cozumal, Bakhal, and Chetumal. The Putun were supposedly seafarers, and the Nahuatl word, Acalan, which referred to the province and capital of the Putun means "Place of the Canoes" (1970:4 and 7).

It is not necessary here to postulate that the Putun were the group that migrated to the coast during the late Classic/early Postclassic period; though certainly, they are, at present, a prime suspect. The fact that they were "seafarers" and traders could explain their expansion into the coast. One of the excavated sites, San Miguel del Puerto, is located on the Copalita River which was a traditional route of travel between the coast and the highlands of Oaxaca (Brockington 1973:5).

The remainder of this chapter is a comparison of the ceramic descriptions of areas in Mesoamerica which are the coast of Oaxaca. I have attempted to base comparisons, in large part, on the Ware and Type level, and, only occasionally, referring to Variety. Temporally, I am interested in finds from the late Classic and early Postclassic.

Fortunately, when I began to compare the ceramics from the eastern portion of the coast, I had some valuable advice. Brockington had shown pottery from Hualampamo and San Miguel del Puerto to Ignacio Bernal, John

Paddock, and others, and their opinion was that it was unlike anything known for the highlands of Oaxaca, northern Oaxaca, the Valley of Mexico, Puebla, Tehuacan, and, in fact, anything from north of the Isthmus of Tehuantepec. They suggest that similarities exist between our finds and Maya material (Brockington: Personal communication).

Nochixtlan, Oaxaca:

Located in the northwestern part of Oaxaca, the Nochixtlan Valley has been investigated since 1966 by Ronald Spores. Chronologically, the finds extend from 1000 B.C. to the present. Spores postulates the valley shows continuous Mixtec development during this span (1972:3 and 5).

Spores notes similarities with finds from Monte Alban and finds corresponding designs in wares described for Cholula and Tehuacan pottery (1972:28-66). The pottery illustrated by Spores is not similar to any known for the eastern section of the coast during late Classic and early Postclassic times and suggests that during this time they were influenced by different areas.

Monte Alban, Oaxaca:

The ceramics of the important highland Oaxaca site of Monte Alban were studied by Alfonso Caso, Ignacio Bernal and Jorge R. Acosta (1967). The pottery is quite distinct from the eastern end of the coast of Oaxaca. One illustrated sherd is relevant to this study. Figure 299, c is a carved rim sherd; the principle design elements included a face in profile, headress and glyphs (?). The sherd is described as an import from somewhere in the Maya region and designated as Monte Alban IIIa (1967:361). This type of plano-relief carving on fine paste pottery has been noted on the two purchased sherds from San Miguel del Puerto and has been found on a sherd from Hualampamo.

Lambityeco, Oaxaca:

Lambityeco is a Monte Alban Period IV site located west of Tlacolula in the Valley of Oaxaca. In the report of excavations at Tomb 2, John Paddock notes finds of Balancan Fine Orange pottery (Z Fine Orange) in association with carbon dated at AD 640 (1968:22-23). The pottery was made from clay native to the area, and Paddock suggests Maya craftsmen were the potters (1970: Personal communication). I do not want to speculate upon a relationship between the eastern portion of the coast and Lambityeco because work at the site is still in progress and because Lambityeco is known to be strongly associated with the Monte Alban culture and has only a few of the late Classic/early Postclassic traits of the coast.

Lambityeco does clearly show Maya influences, as spiked braseros (Figure 10) which are characteristic of Tepeu 3. But the traits are intrusive into an existing ceramic tradition. On the coast two excavated sites have ceramic assemblages without local antecedents and which I think are related to the western Maya tradition.

Sipolite, Oaxaca:

Brockington's investigation of Sipolite, Oaxaca in 1962 provided the necessary framework for the interpretation of the chronological placement of the material recovered during the 1970 season. Sipolite is located in the transition area between the eastern and central portion of the coast, and, as such, shares in two ceramics traditions. Brockington's initial work documented the elements of the coastal Oaxaca tradition as well as showing the intrusion of certain traits, including a fine paste black pottery and Fine Orange pottery, having everted rims, beakers and pear-shaped vessels, hollow, mold-made effigy supports, slab supports, and mold-carved pottery, dated stratigraphically as late Classic and early Postclassic. These so-called intrusive traits are the diagnostic features of the pottery

from the eastern section of the coast.

Brockington described Sipolite as having early affinities with Monte Alban 1 and 2, but developing a Classic culture along its own lines with strong survivals (1966:374). After similarities with Monte Alban decline during the Classic, Brockington postulates greater associations between Sipolite and more southerly regions, especially Tabasco, until strong direct relationships are seen with late Classic Maya culture (1966: 10).

The Fine Orange pottery of Sipolite falls into the Z range of the Jonuta Horizon of Tabasco (late Classic) and is characterized by tall cylindrical vessels. The pottery appears in levels 2 and 3 with one example in level 4 at Sipolite. The black ware is most significant in level 3, but it is quite numerous in level 4 (1966:267-268). Fine Orange and a fine paste black ware are found in the eastern portion of the coast, but unfortunately, there is no good stratigraphic evidence for their relationship. A similar sequence is reported for western Tabasco:

The picture resulting from the sherd analysis and brought out by the tables is surprisingly revealing. Three major wares succeed one another: Classic Maya, Black, and Fine Orange. . . . The next era is ushered in apparently by black wares and, perhaps, the beginning of Z Fine Orange (Berlin 1956:131).

Brockington illustrates a good deal of the pottery recovered from Sipolite. I have selected a few to mention here because they are of particular interest to this study. Everted rim, basal break bowls are common at Sipolite (Plate XXLII). Two of the rim profiles (53a and b) have the appearance of thumb-smoothing, similar to the Pamo Fine Buff from Tangalunda. The everted rim, basal break bowl form permeates all fine wares documented for the coast.

The pear shaped and the tall cylindrical vessels common in Mayaland are illustrated by Brockington (Plates XIII, XIV, and VIII).

This form is common in Pama Fine Buff on the coast, and see "comments" (p. 41) concerning Pama Fine Black.

Slab supports, very common on the coast in the fine wares, make their appearance in levels 5 and 6 at Sipolite, becoming a major component in levels 3 and 4 and then decline (1966:Table 35:285). One of the most interesting slab supports is a large support with carved inverted triangles in Pama Fine White from Hualampamo (Plate VIII). Hollow, mold-made effigy supports, similar to those of the fine black pottery from Tangalunda (Pama Fine Black, Plate IV) are illustrated by Brockington (Plate LX). He notes identical examples from the Maya influenced, late Classic sites of Francesa and Cupia in Chiapas (1966:64-65). Brockington also illustrates carved, mold-made sherds (Plate XLVIII); sherds of this type have been found in the investigations of the eastern portion of the coast, including two purchased sherds from San Miguel del Puerto. Similar pottery found in the Fressel Museum in Oaxaca has been assigned, perhaps incorrectly, as Monte Alban 3a. If, indeed, these are related to the coastal tradition, then they may be evidence of the spread of the tradition into the Valley of Oaxaca.

In his Sipolite report, Brockington suggested that the western Maya influenced this section of the coast. When comparing Sipolite and central Chiapas, Brockington cites his personal communication with Bruce Warren for his suggestion of "close similarities in certain types but always on a late Classic/early Postclassic time level when central Chiapas was receiving strong influences from the lowland Maya area, probably the Usimasita-Palenque region which is not well known (1966:260).

Brockington postulates that ". . .there is a block of traits present at Sipolite that also are present in Tabasco and indicate a probably rather direct relationship between the two areas (1966:266). "Further,

it is possible that the reappearance of Preclassic traits at Palenque (as tecomates and the everted rim on basal break bowls in Tepeu 3) is due to influences from the Oaxaca coast (1966:383)."

The 1969 investigations at Sipolite did not yield the range of finds noted for the 1962 work; this can be explained by the different locals which were excavated and by the brevity of the 1969 investigations. Interestingly, the 1969 yield seems to belong exclusively to the late Classic/early Postclassic ceramic tradition of the eastern portion of the coast, and, due to this, the Sipolite material of 1969 was integrated into the body of ceramics presented in this report. Fortunately, the Sipolite excavations of 1962 revealed the broad scope of cultural manifestation at the site and led Brockington to state:

A major migration to Sipolite cannot be inferred since the basic household ceramics remain practically unchanged. . . . The evidence suggests more of an accretion to the existing ceramic tradition (1966: 379).

Archaeological research on the eastern portion of the coast in 1970 revealed two sites, San Miguel del Puerto and Hualampamo, which illustrate more than an accretion of traits to an existing ceramic complex. Both sites share in the late Classic/early Postclassic ceramic manifestation in the east and are without local antecedents; the sites appear full-blown and have a complement of traits foreign to what Brockington calls the Oaxaca coast culture (Personal communication). Thus two processes of culture change can be postulated; migration, as shown by the intrusive sites of Hualampamo and San Miguel del Puerto, and diffusion of traits as documented by the 1962 work for Sipolite.

To test my hypothesis that these traits originated in western Tobasco and eastern VeraCruz, I am presenting examples from the archaeological record of sites which geographically arc the Oaxaca coast, noting

similarities in their ceramic assemblages.

The Isthmus of Tehuantepec:

Matthew Wallrath reports in a monograph the results of archaeological investigation of the Tehuantepec region of Mexico which was carried out during 1960. The work centered on the Pacific Plains of the Isthmus. Interestingly, the material presented by Wallrath is not at all like material from the eastern portion of the Oaxaca coast. It is possible to argue that the barrier represents ethnic boundaries, but there are complicating factors. Wallrath also suggests the finds in the Isthmus are associated with "Maya" during approximately the same period as those of the coast. The materials from the Oaxaca coast and the Isthmus are dissimilar enough to exclude comparable contact with the western Maya, if one group were responsible for the contact, and between the Isthmus and the eastern portion of the coast during the last Classic/early Postclassic period.

Sublabia flange on flared bowls found in Diego Flanged pottery of the Goma phase (Figure 21) is similar to forms from the late Classic/early Postclassic on the eastern part of the coast; however, the Goma phase is Formative (Preclassic) in the Tehuantepec, and there is no evidence of the form being so early on the Oaxaca coast. In the Classic period a good number of tripod vessels with elaborate incision were produced in the Tehuantepec. During the late Tixum sub-phase (late Classic), slab supports were found in Vixahui Medium-Course Slipped:Vixahui Variety (Figure 52); unfortunately, no whole vessels were shown. Painted pottery is heavily illustrated for the Classic, late Classic, and Postclassic periods for the Tehuantepec (as Figure 37, 38, and 58); painting is unusual on pottery from the eastern portion of the coast.

Wallrath postulates Toltec and Mayan influences on the Pacific Plains of the Isthmus, and if the hypothesis of western Maya intrusion during the late Classic times on to the eastern portion of the coast of Oaxaca is accepted, the question arises as to why the pottery from the Isthmus lacks substantial similarities with the material presented in this study. Several possibilities occur, even assuming that the input into the two areas were from a common "Maya" area, Rands (1965) has shown that sites in western Tabasco, separated only by 30 miles, yielded a substantially different ceramic complex. I might add that Wallrath suggests the intrusion into the Isthmus occurred somewhat earlier than thought for the Oaxaca coast. Possibilities for future research exist. More research in the eastern portion of the coast and in the Pacific Plains of the Isthmus, as well as in the proposed donor area of western Tabasco and southern VeraCruz, is needed.

Palenque:

Robert Rands studied the ceramics of the ceremonial center of Palenque, the adjacent satellite communities of the state of Chiapas and the adjoining regions, including portions of the state of Tabasco. The investigations uncovered remains of middle Preclassic through the modern habitation (1969:1). At the site of Trinidad, Tabasco, on the lower Usumacinta River, excavations revealed a broken sequence of cultural development. This extended from the middle Preclassic to early Postclassic, with settlement peaks manifested in the middle Preclassic and late Classic periods (1969:5). A total of eight ceramic complexes were delineated.

The Texinchan Ceramic Complex, temporally placed in the late Classic, Tepeu 1-2 equivalent, illustrates incipient similarities with the eastern portion of the Oaxaca coast. The forms of this complex include

ringstand bowls, restricted orifice bowls, deep bowls with labial molding, everted-rim plates, a common form in the Huamelula Fine Ware, and cylinders, which have been noted for Pamo Fine Buff, Red-black orange Sache and Palmar Polychrome appear and some resist painting occurs. Temper is usually volcanic ash with carbonate and quartz sand temper also found. Some of the untempered pottery has an orange past and is viewed as a possible ancestor of some types of Fine Orange Ware (1969:8-9). Although only a small sample of the ceramics are illustrated, Figure 7 shows shallow, out-flaring bowls with everted rims and a compound silhouette to straight, thin bowl (cylindrical vase) which is elaborately decorated. Both forms relate to those of the coast.

Unfortunately, there are few illustrations to use for comparative purposes. In archaeology, as in any science, reliance upon descriptive data with few or no illustrations presents problems. Even assuming clear and precise terminology, it is still possible to misread the data because of your own biases. Therefore, I have limited my remarks to generalities.

The Naab Ceramic Complex is a late Classic, Tepeu 2 equivalent. Here polychrome declines and becomes extinct, and there is a marked increase in fine paste pottery. Cream and black monochromes become dominant in the fine pottery. Continuities from the Texinchan Complex include resist painting and red-on-cream pottery. Fine Gray Wares appear, but no established types of Fine Orange Ware is present. There is wide use of cream slip and more groove-incision and fluting. New forms include beakers, which are quite similar to those from the eastern Oaxaca coast (as Pamo Fine Buff), and basins with heavy out-curving rims and impressed ringstands, which function as burial urns. Volcanic ash is still used as temper. Rands postulates there were rapid cultural changes which brought about the emergence of localized monochrome styles of a western

Maya rather than a Peten Maya orientation. He feels that the fine paste development represented here is closely connected to Palenque and Las Sierras. The fine paste types appear to spread prior to the establishment of Fine Orange Pottery. He states that it seems to have a complex history meshed in the Classic rather than being introduced from an alien, non-Classic source (1969:9-11).

As Rands suggests, rapid culture change appears to be occurring at this time, and I think the dynamic forces effecting life in Tabasco are the same as those that influenced the eastern portion of the coast of Oaxaca.

During the early Postclassic, the site of Trinidad, Tabasco, seems to be abandoned. The materials of the Chacbolay Ceramic Complex are surface finds and include Fine Orange Ware which had incised and gouged-and-incised designs (1969:10).

Rands depicts a small pear-shaped vessel and a low bowl with slightly everted rim, both in the late Classic and early Postclassic. The low bowl is in the Fine Orange Ware of the Silho Ceramic Group from the Chacbolay Ceramic Complex. Although more elaborately decorated, there both forms appear on the coast at this time (Brockington, 1966 shows pear shaped vessels; the everted rim, low bowl is common in Huamelula Fine Ware). Oddly, no slab supports are depicted.

Rands feels that during the late Classic, Trinidad is in contact with the Peten and sites up the Usumacinta drainage as Piedras Negras, Altar and Siebal. He postulates that Naab Ceramics are at least stylistically in the Tepeu polychrome tradition; the other sites mentioned show the sudden appearance of fine paste pottery (Fine Orange and Fine Gray Wares) without local antecedents, (1969:12) as, I reinterate, does the coast of Oaxaca.

Tabasco:

Heinrick Berlin worked in Tabasco in 1953 and 1954. Tecolpan, Jonuta, and Huimango, three sites which corresponded to one horizon, the Jonuta Horizon (late Classic), were excavated.

Similarities of vessel forms between western Tabasco and the eastern portion of the Oaxaca coast are not particularly numerous. Several suggestions for this may be made. Berlin illustrates little of the pottery, so it is difficult to compare forms. Also, relatively little archaeological investigation has been carried out in the western Tabasco area.

Basal break bowls of the Fine Gray Ware in the Jonuta Horizon (Figure 4, w and x) and the slightly flared excurvate, incised bowls (t and u) are similar to Oaxaca coast forms (as Pamo Fine Black). Tripod shallow bowls of the Fine Gray Ware from Huimango are more elaborate cousins, perhaps of Oaxaca coast forms (Figure 5, ff). Tripod bowls with elaborate stepped slab supports are illustrated in V and U Fine Orange Types from Jurez and Astata (Figure 6, i and j), both have medial molding. A small restricted orifice bowl (h and i) in the same pottery is similar to finds from Sipolite, and in the black pottery is another pear shaped vessel (Figure 6, dd) similar to those found at Sipolite in 1962 (Brockington:1966).

The ceramic sequence in western Tabasco is also interesting. Three major wares succeed one another--Classic Maya, Black, and Fine Orange (1956:131). The Black and Fine Orange are both noted at Sipolite and the Black precedes the Fine Orange. The Fine Orange of western Tabasco is basically a monochrome (1956:131), just as it is on the Oaxaca coast.

Berlin places the Jonuta Horizon at the end of the late Classic, with the early Postclassic as its upper limit (1956:132). I am postulating a general, if not specific, association between western Tabasco and the

eastern portion of the Oaxaca coast at this time, which is indicated by the movements of traits (as represented in ceramic assemblages), and perhaps peoples.

It is also possible that the traits of this complex find their way into highland Oaxaca from Sipolite or perhaps by way of Huatulco.

Yucatan:

Similarities existing between the ceramics of Yucatan, studied by George Brainerd, (1958) and the Oaxaca coast are found beginning in the Florescent Period slatewares from Yaxuna. Here shallow vessels with tripod, slab supports are found (Figure 10). The drawn profiles of the slipped Regional monochromes from Oxkistoh (Figure 13) include some small flared tripod vessels and, interestingly, a small slightly flared to straight walled vessel (Figure 13) similar to one from Hualampamo in Hualampamo Fine Brown. In the Slateware from Mayapan (Figure 15) are small basal break bowls with slab supports and one of the supports is stepped. The same type vessels and supports are illustrated in the Regional and Florescent slipped wares from Acanceh (Figure 18) with the inclusion of grooved-incision on the supports.

These forms are found throughout the ceramic history of Yucatan.

Other wares containing these forms include:

Coarse Slateware and Red on Thin Grayware from Dzibilchaltun and Acanceh (Figure 20),

Medium Slateware and Thin Slateware from Acanceh (Figure 21),

Coarse Redware of the Late Mexican substage from Mayapan (Figure 26),

Florescent medium slateware and thin slateware from Mani Cenote (Figure 32),

Some of the vessels from a collection of pottery from Dzebtum (Figure 35), especially a pear shaped vessel,

Medium Slateware basal break bowls from the Puuc area (Figure 45)

Florescent Medium Slateware from the Peabody Museum Collection, which includes a tall cylindrical vessel and plano-relief carving although the style is somewhat different from the Oaxaca coast material (Figure 47),

Florescent Medium Slateware from Oxkintob and Dzan and Blackware from collections in Merida which include small cylindrical vessels (Figure 48),

Slateware from the Puuc region (Figure 50),

Redware from the Puuc region (Figure 52) which has the basal break bowl but lacks slab supports,

Decorated Medium Slateware and Redware basal break bowls with slab supports in Florescent Medium Slateware from Chichel Itza (Figure 67).

A synopsis of Yucatan basal break bowls is found in Figure 107 and 108 and cylinders and beakers on Figure 109.

Striated pottery, infrequent at the other sites noted in this report, is recovered frequently in Yucatan. The time span is primarily from Regional and Florescent periods. The pottery is usually unslipped and has a coarse or medium paste. Primarily, the forms are jars (ollas) and a bowl or basin with ring base and often a sublabial flange. (Figures 1, 2, 8, 11, 12, 37, and 38). Striated pottery is found on the Oaxaca coast at Hualampamo in association with the Fine Orange pottery, and is primarily found on olla necks (see Pamo Striated).

The Fine Orange type of pottery illustrated by Brainerd (Figures 78-81) shows less form similarities with the Oaxaca coast material than does some of the earlier wares he depicts for Yucatan. Again, as I noted when discussing the western Tabasco finds, form similarity seems strongest prior to the establishment of Fine Orange types. I can not present conclusive evidence for this, however; the possibility of sampling error or misrepresentation caused by the selection of illustrations exists.

Campeche Coast:

I can make few remarks concerning Campeche ceramics due to the limited archaeological investigation and reports. Alberto Ruz Lhuillier, who worked in Campeche, illustrates shallow, tripod vessels with molded effigy supports and basal flange (Figure XLII) much like those of Pamo Fine Black found at Tangalunda. Other supports of this type are shown in Figure XLIV (1969:1-18). Striated pottery is illustrated in the Ceramica de Jaina (Figure LI).

Mayapan:

Robert Smith investigated the site of Mayapan located in the west central part of the state of Yucatan, Mexico. Smith included in his report a study of ceramic material from Uxmal, Kabah, and Chichen Itza (1971:23). Pottery of the Pre-Cehpech Ceramic Complexes (Preclassic) were only briefly mentioned in the report (1971:137) and will not be discussed here. Similarities with the pottery of the eastern portion of the Oaxaca coast exist, but, as these are with the later ceramic assemblages, I will begin with the Classic Cehpech Ceramic Complexes, discussing only what is relevant to this study, and continue from there.

Puuc Slate Ware of this complex is tempered with volcanic ash and calcite. The texture is medium to fine. Surface color is gray, brown, beige, drab, buff, fawn or cream. The surface is smoothed, slipped and polished. Often the slip has a waxy feel. Forms include tripod dishes, basins (as noted for the Huamelula Fine Ware), bowls with beveled rims and ringstands, and rounded side bowls (1971:27-28). Slightly flanged, basal break dishes with hollow effigy supports are illustrated in Figure 6. These are similar to those of Pamo Fine Black. Thin Slate Ware is somewhat similar to the above, but it is usually lighter than Puuc Slate

Ware and has forms which include hemispherical bowls, tripod dishes, cylindrical vases, deep bowls, basins and a few jars (1971:27-30).

The Fine Orange of the Altar Group (Y Fine Orange) has a very fine texture and no temper. The surface is well smoothed, usually slipped, and lightly burnished. The common color is orange. Black paint is often applied. Forms include flared bowls with rounded to flat bases, ringstand and flat based barrel-shape vases, and hemispherical bowls. The Fine Orange of the Balancan Group (Z Fine Orange) has a fine paste and no temper. The surface is well smoothed, usually slipped orange, and burnished. Other surface colors include white and black. Forms include deep and shallow spheres or ovoids, hemispherical bowls with ringstand bases, barrel-shape vessels, and tripod dishes with outcurving sides (1971:18-19). Smith postulates that the Fine Orange originated in southwestern Campeche or eastern Tabasco.

The Sotuta Ceramic Complex consists of three wares: Chichen Unslipped, Chichen Slate, and Chichen Red. Associated with these are two important trade groups - fine Orange Silho and plumbate Tomil. These ceramics are known almost entirely from finds at Chichen Itza and Mayapan (1971:170-171). Chichen Red Ware is of medium texture with ash used as temper. The surface is smoothed and slipped with a medium polish having a slightly waxy feel. Surface color ranges from red to reddish brown and orange (1971:15). Rounded dishes make up the majority of finds. Other forms include jars with high neck and small mouths, or low necks and wide mouths, restricted bowls, tripod dishes, cylindrical vases and flaring side dishes (1971:15). The Fine Orange Silho has a fine texture and no temper. The surface is well smoothed, usually slipped, and lightly burnished. Most of the sherds have an orange slip, and bands of cream, black, or red slip are used. The principal forms are jars in a wide

range of neck and mouth sizes, vases, flat or ringstand based hemispherical bowls, restricted orifice bowls, flaring wall bowls, plates and dishes (1971:23). Smith feels this is a trade import from the coast of Campeche (1971:184). The Plumbate Tohil Group has a dense paste but fine texture, and has feldspar crystals which may be considered temper. The surface is glazed. Forms include jars, vases, and composite silhouette bowls (1971:27). Smith views this as a trade ware (1971:185).

The Hocaba Ceramic Complex includes Mayapan Unslipped Ware, Mayapan Red Ware, Peto Cream Ware, and one significant trade ware--Fine Orange of the Matillas Group. Smith dates this complex at Mayapan as AD 1200-1300 (1971:202). Mayapan Unslipped Ware has a coarse texture with heavy tempering with calcite. Surface is smoothed, never polished; and surface colors include gray, dark gray, cinnamon, beige, cream, and pink. Forms are mostly low neck, wide mouth jars, censers, flat base dishes, basins and restricted orifice bowls are also present (1971:23). Mayapan Red Ware has a coarse texture and calcite temper. The surface colors include red, orange, reddish-brown, brown, and gray; and it is smoothed, slipped and burnished. Forms are high neck jars, tripod dishes with flaring walls, restricted orifice bowls, and a few basins and cylindrical vases. The tripod dishes have mold-made effigy feet (Figure 40), and are similar to those found at Tangalunda in Pamo Fine Black. Peto Cream Ware also has a coarse texture and calcite temper. The pottery is smoothed and slipped. The slip is usually cream, but may be dull orange. Surface color readings on the slip include cream, beige, light gray, light brown, and cinnamon. Forms are jars, tripod dishes with flaring sides, bowls or basins with restricted orifices and one cylindrical vase. The Fine Orange of the Matillas Group includes tripod dishes with or without flange. Mold-made effigy supports, either anthropomorphic or zoomorphic, are common. The

paste is fine and the pottery is thin. The forms are very similar to the forms of the Huamelula Fine Ware from the coast.

In general, forms of the Yucatan pottery match up well with forms known for the eastern portion of the coast of Oaxaca. The exception is that ringstands are not an element of the late Classic/early Postclassic tradition of the coast.

Quintana Roo:

William Saunders carried out archaeological investigation in the state of Quintana Roo, Mexico, during 1955. The excavations centered upon the sites of Tancah and Tulum, and yielded an almost continuous ceramic sequence for northern Quintana Roo from late Formative (late Preclassic) to the conquest period (1960:169).

The ceramic assemblage at Tulum is basically unchanged in vessel shapes and basic wares from lowest to top levels. It does not seem necessary to present Saunders' descriptive data here, but some of the illustration he presents are of interest. He shows stepped slab supports in the Tulum Red (Figures 59 and 60), effigy supports of V Fine Orange (Figure 7), and shallow bowls with tripod slab supports (Figure 11). As noted before, these forms are all common in the fine ware during the late Classic and early Postclassic on the eastern part of the coast.

Bilbao, Guatemala:

Bilbao, Guatemala, is located on the Pacific slopes of the department of Escuintla. Lee Parson authored a report of the archaeological investigations which took place in 1962 and 1963. The ceramics indicate a long sequence from early or middle Preclassic through late Postclassic, but the emphasis seemed to be in the late Preclassic and Protoclassic, and in the middle and late Classic (1967:24).

Bilbao ceramics are quite numerous and the following discussion will thus be limited to the middle and late Classic sherds. The Lagueneta Phase and the Santa Lucia Phase are defined by ceramic complexes of the same names. These are actually subphases of a continuous middle to late Classic development which begins about AD 400 (1967:102).

Similarities with the Oaxaca coast are few. Some traits are shared, and probably represent traits shared over a large area innocuous to trade or contact.

Vessel forms show some similarities, such as bowls with flared walls, but these similarities are dubious contact markers. More specific are tall cylindrical vases in the Barranquilla Ceramic Group (Figure 60, items d, e, and f). These tend to be more highly decorated than the Oaxaca coast examples (as for Pamo Fine Buff). Decoration includes broad line grooving, vertical and horizontal fluting, and one example has a monkey head in relief. The pottery is a fine hard ware, surface color ranging from yellows to red, to browns and black, and the pottery is well polished and generally slipped.

Vessel forms characteristic of the middle Classic period include tall cylindrical vases, large incurved rim bowls, hollow pronged and mold decorated rim vessels. Plumbate pottery is the prime marker of this period (1967:142-143). The incurved rim bowl is most provocative. Parsons notes its occurrence at Uaxactum in periods Tepeu 2 and 3, and in late Classic deposits at Tikal and at Altař de Sacrificios, and postulates it is a horizon marker for the late Classic in Guatemala.

One of the photographed vessels is noteworthy. It is a Cylindrical vase with stamped or molded panel (Plate 14) of the Laguenta Ceramic complex. The Cylindrical form is common on the coast and the design elements are somewhat similar to the purchased sherds from San Miguel del

CHAPTER IV

SUMMARY, CONCLUSIONS AND OBSERVATIONS

Summary:

This paper is a description and analysis of ceramics recovered from excavations at Sipolite, San Miguel del Puerto, and Hualampamo, and surface collections from Tangalunda and El Arenal. These sites are located on the eastern end of the Oaxaca coast.

I have presented formal descriptions of the ceramics and compared them with the ceramics of other sites in Mesoamerica. The sites chosen for comparison may be considered as forming a geographical arc with its focus on the eastern end of the coast. The temporal span with which I deal is the late Classic and early Postclassic. By enumerating and evaluating similarities with other areas, I test an hypothesis of culture contact and speculate upon the processes which were involved in this contact.

Conclusions and Observations:

To test an hypothesis of culture contact, several factors must be investigated. Similarities of cultural remains must exist and occur during the same time range. Local antecedents must exist in the donor culture. Although it is possible to have local antecedents for certain traits and still postulate culture contact on the basis of the presence of the traits, the case for contact is strengthened when no local antecedents can be shown. Travel between the two areas must be probable. Rarely will the study of one trait suffice to postulate culture contact. A better case can

be made when similarities occur in a cluster of traits (Brockington: Personal communication).

Culture contact can be thought of in terms of diffusion and/or migration. Trigger suggests that if an organized, dominant group migrated into an area, the archaeological record should show a sharp break in cultural continuity. This is evidence of a genuine change in population, clues to the replacement of the original population (as destruction of cities), and no true local antecedents of the intrusive culture in the same area. He also notes that a probable migration route must exist (1970: 314-315).

It appears that the pottery of the eastern portion of the Oaxaca coast represents a tradition which, prior to the late Classic/early Post-classic times, was foreign to the coast. The ceramics from each site on the eastern portion of the coast are remarkably homogeneous, yet each site has its own particularities. At Hualampamo there are less marked surface-color distinctions as opposed to the other sites. Here a continuum is seen in the white-orange-brown-black-gray pottery. The sample of fine black pottery at San Miguel del Puerto is more numerous and varied than at any other of the sites and is almost as large as that of Fine Orange. This is quite contrary to the samples from Sipolite, Tangalunda and El Arenal. Another example is thumb smoothing, an earlier coastal trait, which has been noted at Sipolite (Brockington, 1966) and Tangulanda and El Arenal, but is absent at Hualampamo and San Miguel del Puerto. Taking a broad view, the Fine Orange tradition is strongest in the San Miguel del Puerto and Hualampamo area, where almost none of the older coastal traits are observed. As one moves west, the tradition somewhat dilutes.

Hualampamo, and to a lesser extent San Miguel del Puerto, represent an unusual phenomenon on the coast of Oaxaca. Their ceramic yield is

abberant to the preceeding coastal development. They do not share in the coastal tradition as documented at Sipolite (Brockington 1966) and elsewhere on the coast, except in some minor ways, such as frequency of tecomates. Investigations at Sipolite in 1962 furnished information concerning the chronological placement of this abberant pottery. There, in late Classis levels, similar pottery occurs which has been called an accretion into the existing ceramic tradition (Brockington 1966:379). The traits diagnostic of this period include Fine Orange, Fine Gray, and Fine Black pottery, low flared bowls with slab supports or hollow, round supports which include anthropomorphic and/or zoomorphic representations, beakers or cylindrical vessels, and pear-shaped vessels. Although unlike the known ceramic tradition of Oaxaca and the highlands of Mexico, the traits are found in the Gulf plains and Mayaland. Much of the pottery fits into the general description of Fine Orange Pottery. It must be considered, however, a local rendition of the tradition and therefore does not equate perfectly to Gulf plains fine wares (Brockington 1973:2).

No single site of origin can be shown, rather the traits seem to represent a conglomeration of ideas. The ceramic sequence shown at Sipolite is remarkably similar in some aspects to those Berlin (1956) reports for western Tabasco. The pottery in the eastern part of the coast at this time is an unusually homogeneous lot as is the pottery in western Tabasco, and, characteristically, it is a fine paste, monochrome ware. The forms common on the eastern portion of the coast are found in Yucatan (Brainerd 1958), Palenque (Rands 1969 and Rands and Rands 1957), and to a lesser extent at other areas in Mayaland. Unfortunately, the ceramic samples that were the basis for my comparison, and thus provided the data to test my hypothesis of culture contact, were not uniform. A good deal of information is known for some sites, little is known or reported for others.

Theoretically, one would expect to find a site in the western Maya region which would yield ceramics virtually identical to those on the eastern portion of the coast. The task of finding such a site is complicated by the diversity of ceramic provinces in the western Tabasco region. Rands (1965) noted that distinct ceramic provinces in the area may exist in an area with a radius of only 15 miles. And if the late Classic times in the western Maya area were characterized by population movements, then the task of finding such a site becomes increasingly difficult.

The lack of similarities of finds reported for the Isthmus of Tehuantepec (Wallrath 1967) and the Oaxaca coast seems to indicate that if a migration across the Isthmus occurred, then it must have been a fairly rapid movement of ideas and peoples, or, at least, present evidence indicates that the people, if taking this route, did not leave their remains between western Tabasco and the coast of Oaxaca.

Perhaps it is significant to note that a group of western Maya people, the Putun, were known to be expanding during this time. Because of the scarcity of data, I would hesitate to suggest that the Putun Maya settled on the coast of Oaxaca, but certainly, more investigation is warranted. Whatever group was involved, the fact of their presence might account for the appearance of Maya-like traits into the highlands of Oaxaca and the reappearance of certain traits such as the tecomate and the everted rim form, in the Palenque area during this time.

We know little of the archaeological record of the late Classic times. Definitive statements are impossible. The ceramics recovered in archaeological investigations of the eastern portion of the coast show a strong affinity with Mayaland. Temporally, it seems the similarities begin in the late Classic, perhaps prior to the establishment of Fine Orange types in the Maya Region. Why the coast was important at this time is unclear.

Perhaps it served as a link in a trade network reaching into the highlands of Oaxaca; perhaps it was important for coastal products (See Brockington 1966:34-35), such as dye obtained from the *Purpura* snail, or, perhaps, it was simply an area of low population density that was suitable for an expanding population.

Our investigations of the eastern portion of the coast were brief and, unfortunately, the excavated sites were not stratified. Primarily, we were testing sites, and our data must be viewed in this light. Chronological placement of the material is based upon the excavations carried out by Brockington at Sipolite in 1962. Further work on the coast is needed to establish a more precise idea of the relationship of the earlier Oaxaca coast culture and the intrusive traits which are associated with the late Classic western Maya. It is necessary to define the interrelationships of sites of the eastern portion of the coast, and to further investigate their place in time and their external relationships.

The two most salient features of archaeological data are that it is fragmentary, and it is buried (Deetz 1970:117). Yet, it does represent a part of the total culture of past peoples and provides the evidence for reconstructing their cultural history. The picture constructed by the archaeologist is based upon his interpretation of the data.

I have presented an hypothesis of culture contact between the eastern portion of the coast of Oaxaca and the western Maya area. In doing so, I made a comparison with pottery from other areas. The comparative approach, when using archaeological data, has obvious deficiencies. The total culture is not compared, only a segment which is the material remains. The type-variety approach of structuring the data involves interpretation, so that a comparison is actually being made of interpretations. And, of course, the archaeological record is always incomplete; additional and more intensive

investigation and the use of better techniques can lead to redefining and a reinterpretation of the data. Despite the limitations of such an approach, the usefulness far outweighs the deficiencies. Concluding remarks must however always be somewhat speculative, and understood in the light of the purpose and methodology employed by the archaeologist.

Richard P. ...

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FOOTNOTES

¹William Autrey (1972) communicated with specialists in Mexican geology and found that although additional research had been completed since 1964, no results of this work were published.

²Richard Ramsay (1969) gathered together linguistic maps of the coast; these included:

- 1) "Linguistic Map of Southern Mexican Highlands and Adjacent Regions at Contact Period" modified from Mendizabal, Jimenez Moreno, and Arana Osnaya, 1959. (Handbook of Middle American Indians. V. 7, p. 318).
- 2) Appendix by Mendizabal and Jimenez Moreno in Jorge A. Vivo's Razas y Linguas Indigenenas de Mexico. 1939.
- 3) "Linguistic Map of Mexico and Central America," by Federich Johnson in The Maya and Their Neighbors, 1940.
- 4) "Geographic Distribution of the Zapotec, Oaxaca," by T.E. Kemnitzer in Laura Nader's "The Zapotec of Oaxaca," (Handbook of Middle American Indians. Vo. 7, p. 330).
- 5) "The Zapotec and Mixtec at Spanish Contact," by Ronald Spores. (Handbook of Middle American Indians. V. 3, p. 963).
- 6) "Systemic Comparison and Reconstruction," by Robert Longacre (Handbook of Middle American Indians. V. 5, p. 120).
- 7) "The Chontal Area of Oaxaca," by Pedro Carrasco in Anthropological Records. V. 20, p. 3.
- 8) "Linguistica de Oaxaca" by Rafael Garcia Granados in Boletin de la Sociedad Mexicana de Geografia y Estadistica T 44, 1935.

³To save space, sites will be designated by name and number (where appropriate), omitting the term "site."

⁴Due to firing, sherds might have several surface colors. The problem involved the orange and brown (or buff) wares from Hualampamo; after some consideration, we decided to assign sherds with any orange coloration which was due to firing as "orange".

⁵"Mayaland" is a generalized term used by the project to refer to an area which has Maya or Maya-like traits, and thus it refers to an area encompassing more than the traditional "Maya" area of Yucatan and the Peten.

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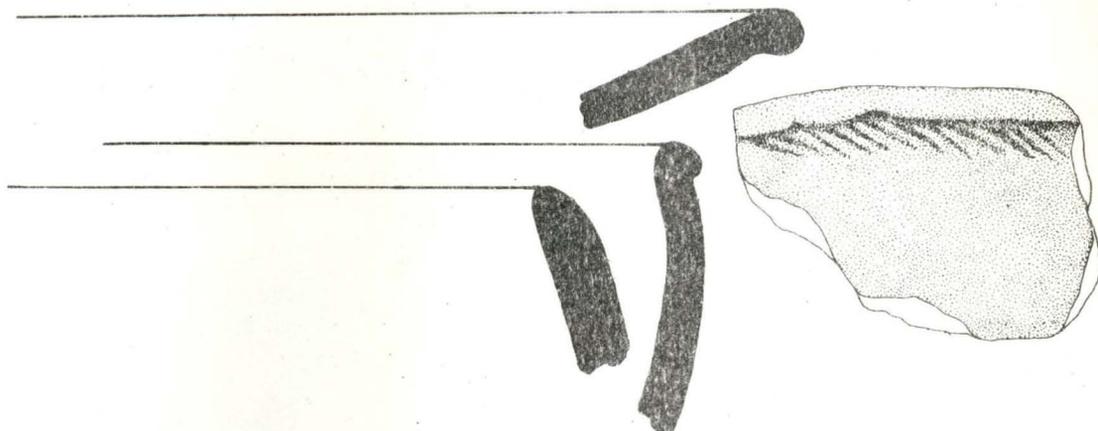
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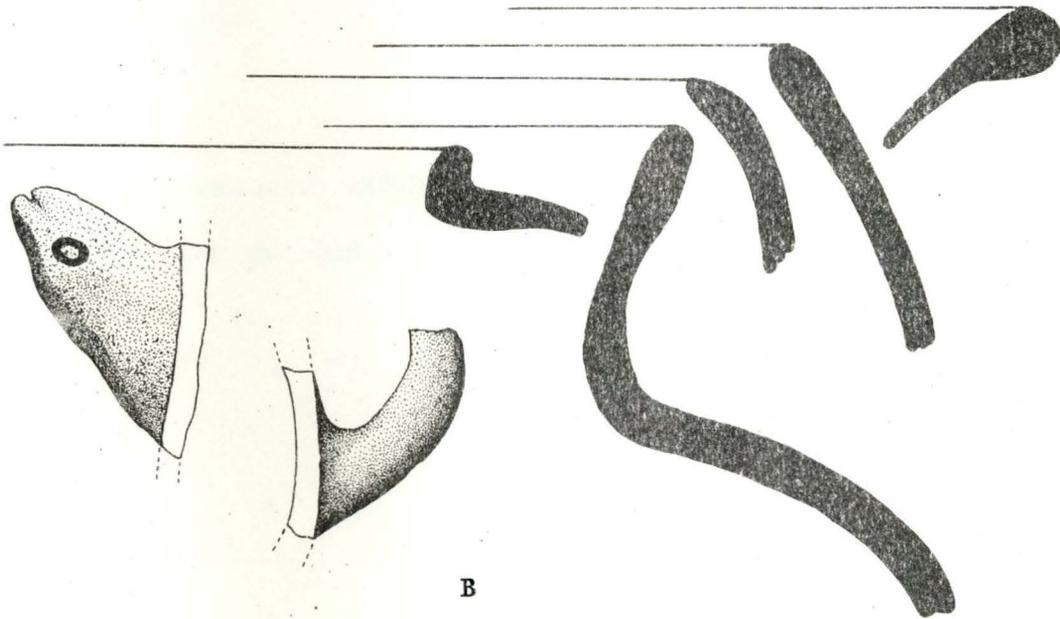
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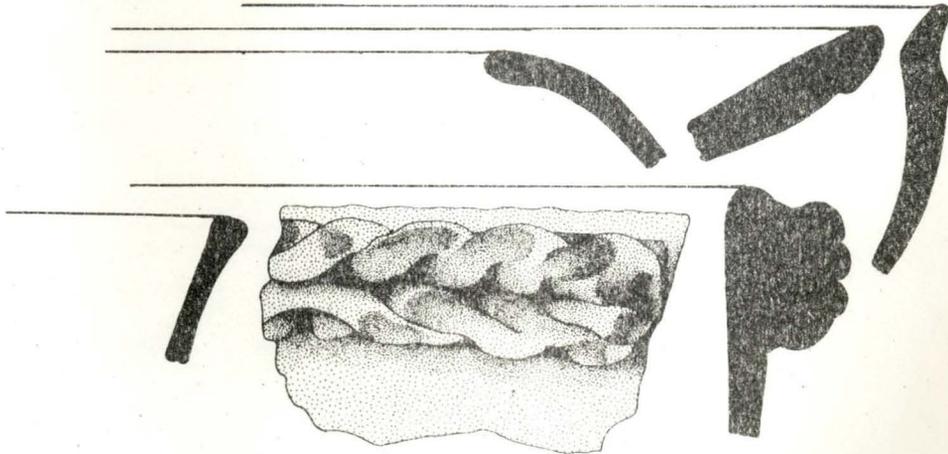
Plate I. Astata Coarse Ware form profiles. A, Type Pamo Plain, Variety Angel Brushed; B, Type Pamo Plain, Variety Angel Plain; C, Type Pamo Plain, Variety Tanal Plain. Scale is one-quarter (fifty percent reduction) throughout unless otherwise indicated. Solid black lines indicate actual fragments; broken lines indicate reconstruction of profile. Diameter of vessel is shown by solid horizontal line; a broken line indicates that the diameter is of uncertain length.



A

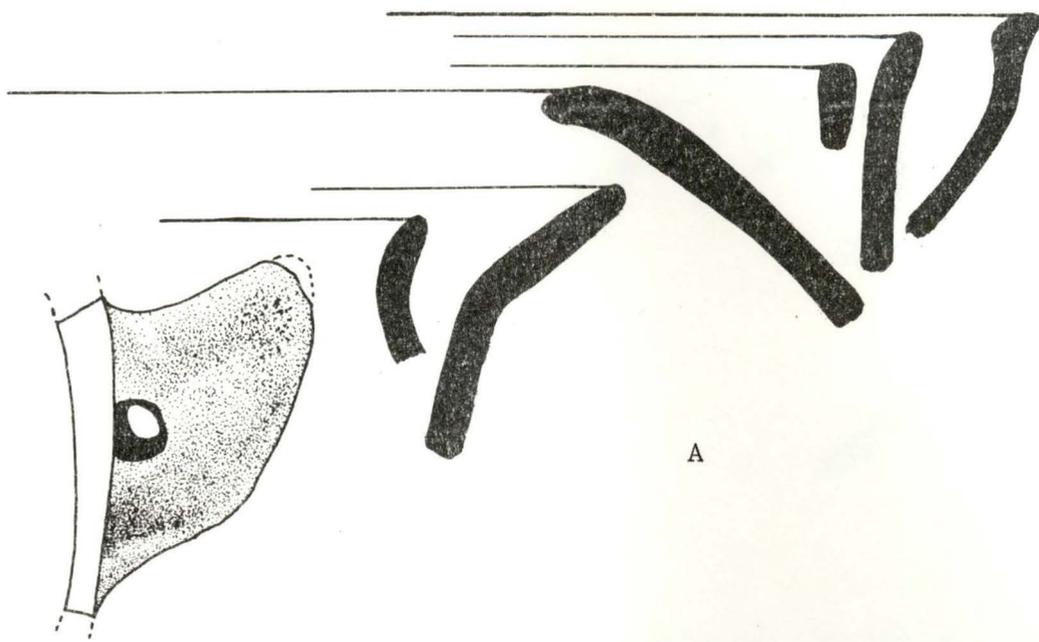


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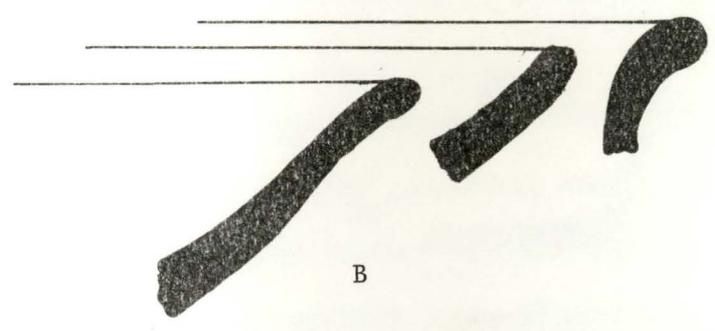


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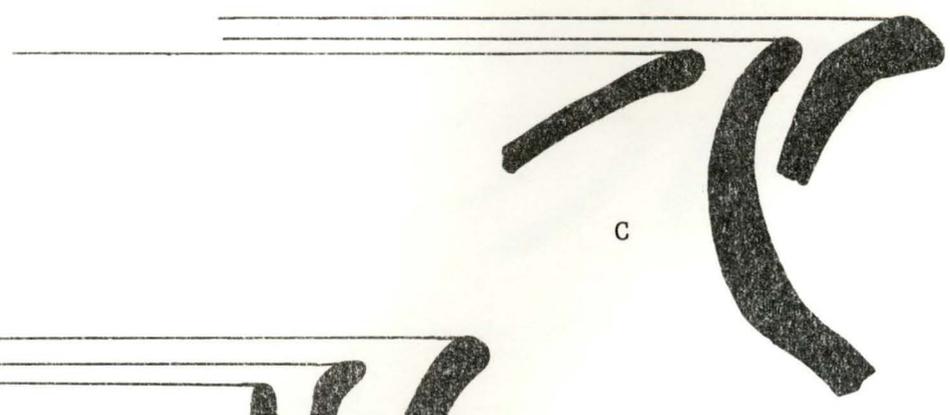
Plate II. Astata Coarse Ware form profiles (continued). A, Type Pamo Plain, Variety Puerto Plain; B, Type Pamo Rim-smoothed; C, Type Pamo Striated; D, Type Pamo Red-slipped.



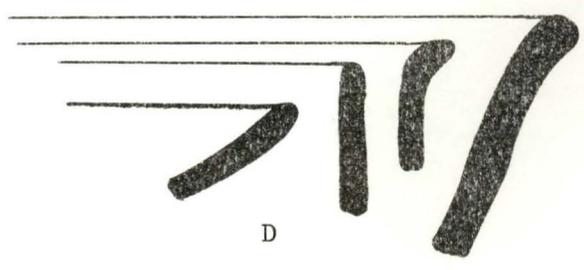
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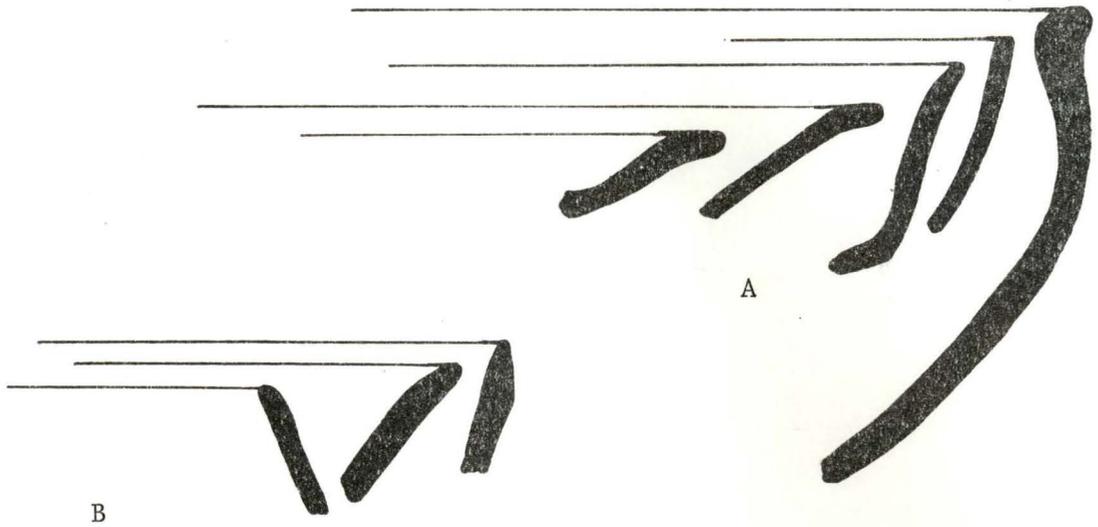


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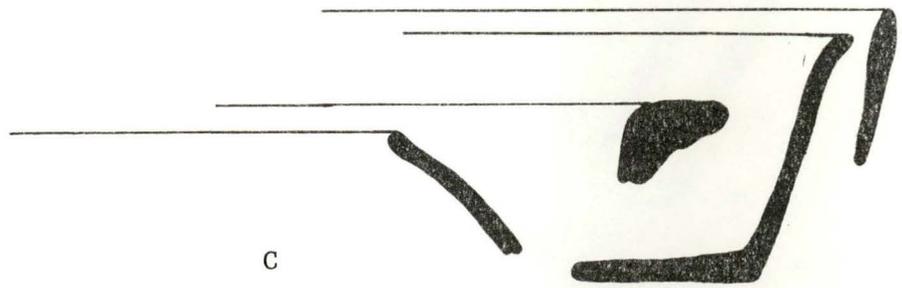
D

Plate III. Pochutla Medium Ware, Palam Crumbly Ware, and Huamelula Fine Ware form profiles. A, Ware Pochutla Medium, Type Sipolite Finished; B, Ware Pochutla Medium, Type Sipolite Rough; C, Ware Palam Crumbly, Type Pamo Crumbly, Variety Chon Crumbly; D, Ware Palam Crumbly, Type Pamo Crumbly, Variety Puerto Slipped Crumbly; E, Ware Huamelula Fine, Type Pamo Fine Grey, Variety Girasol Slipless.

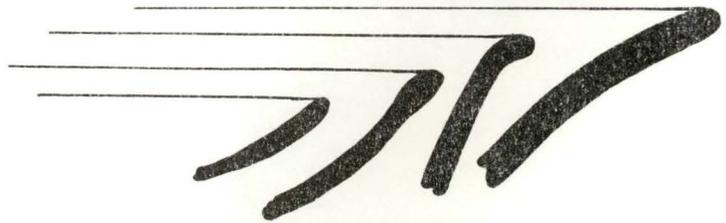


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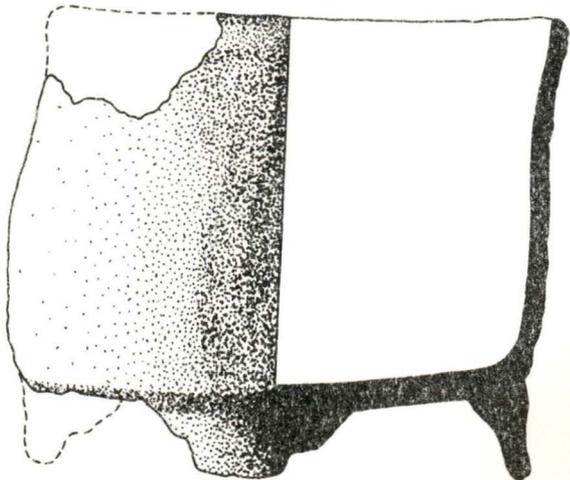
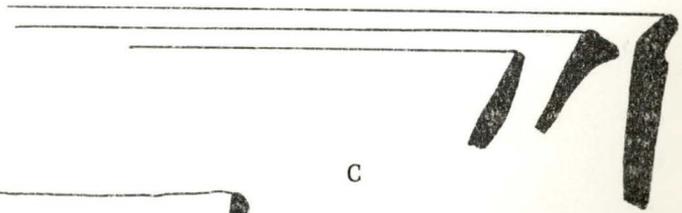
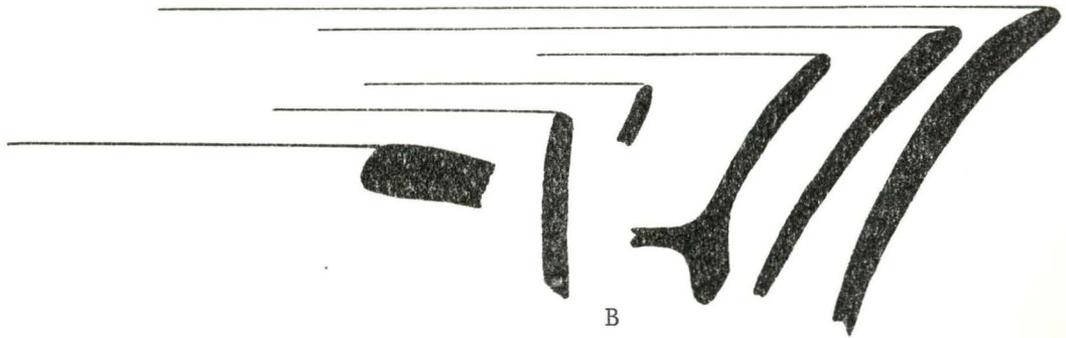
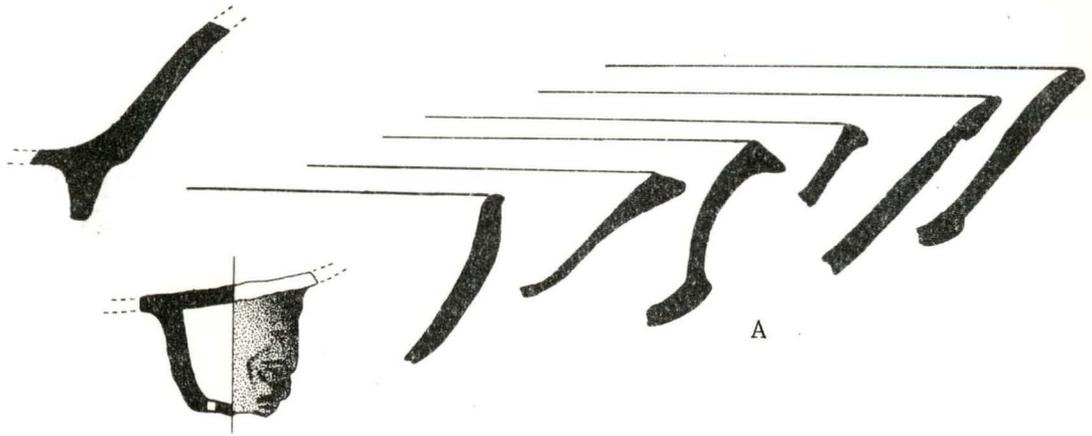


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E

Plate IV. Huamelula Fine Ware form profiles (continued). A, Type Pamo Fine Black, Variety Malvonez Slipless; B, Type Pamo Fine Black, Variety Mesquite Slipless; C, Type Pamo Fine Black, Variety Manquey Slipped-black; D, Type Pamo Fine Black, Variety Machuite Slipless.

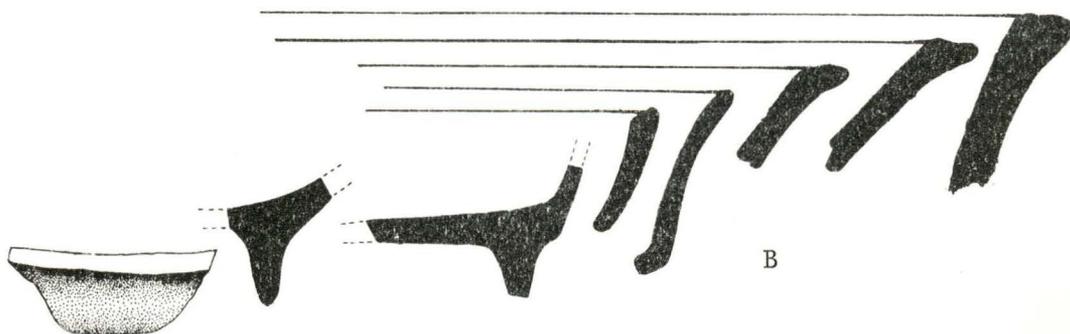


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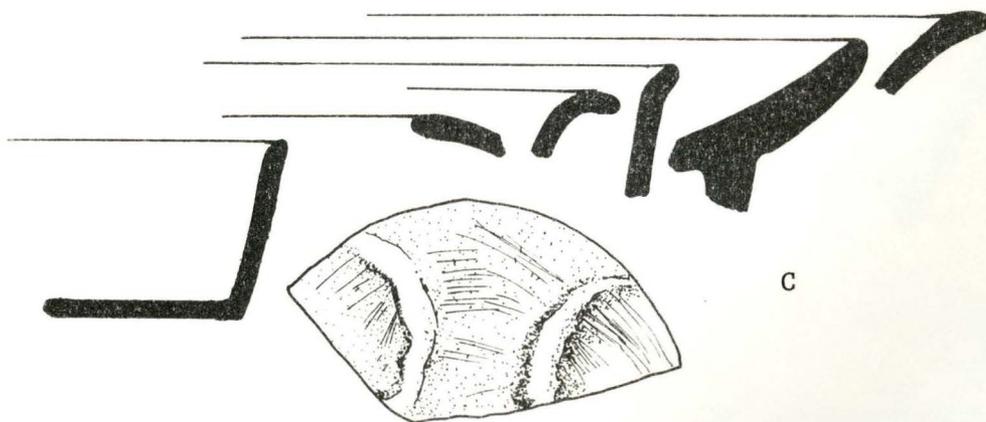
Plate V. Huamelula Fine Ware form profiles (continued). A, Type Pamo Fine Black, Variety Malamujer Slipless; B, Type Pamo Fine Orange, Variety Higo Slipless; C, Type Pamo Fine Brown; D, Type Pamo Fine Buff, Variety Trono Slipped-red.



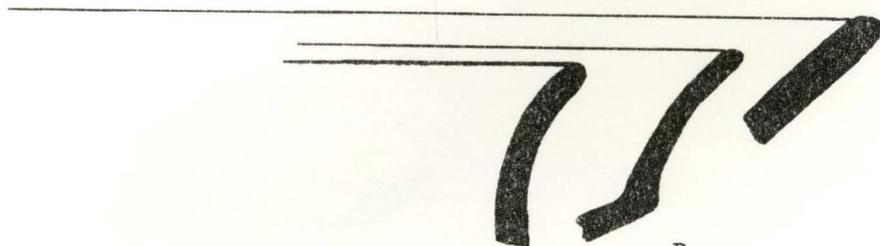
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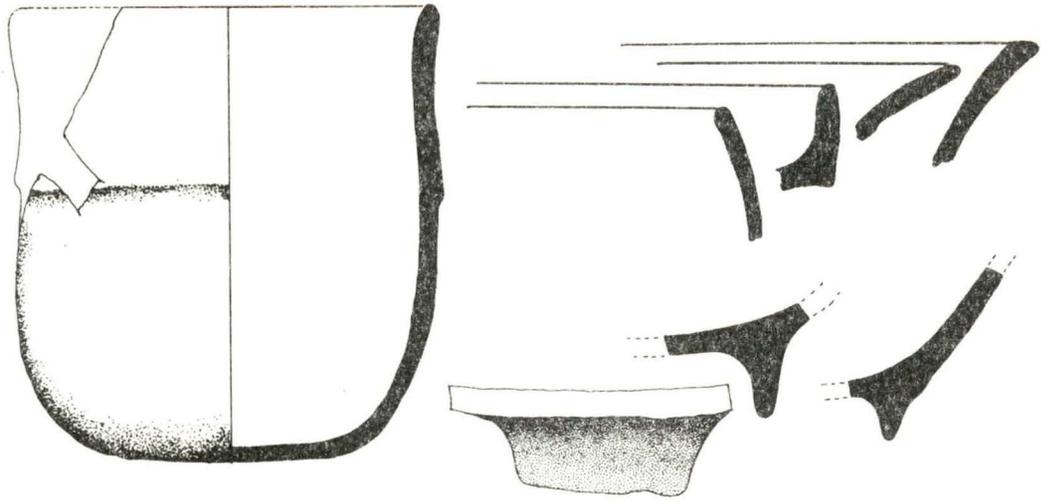


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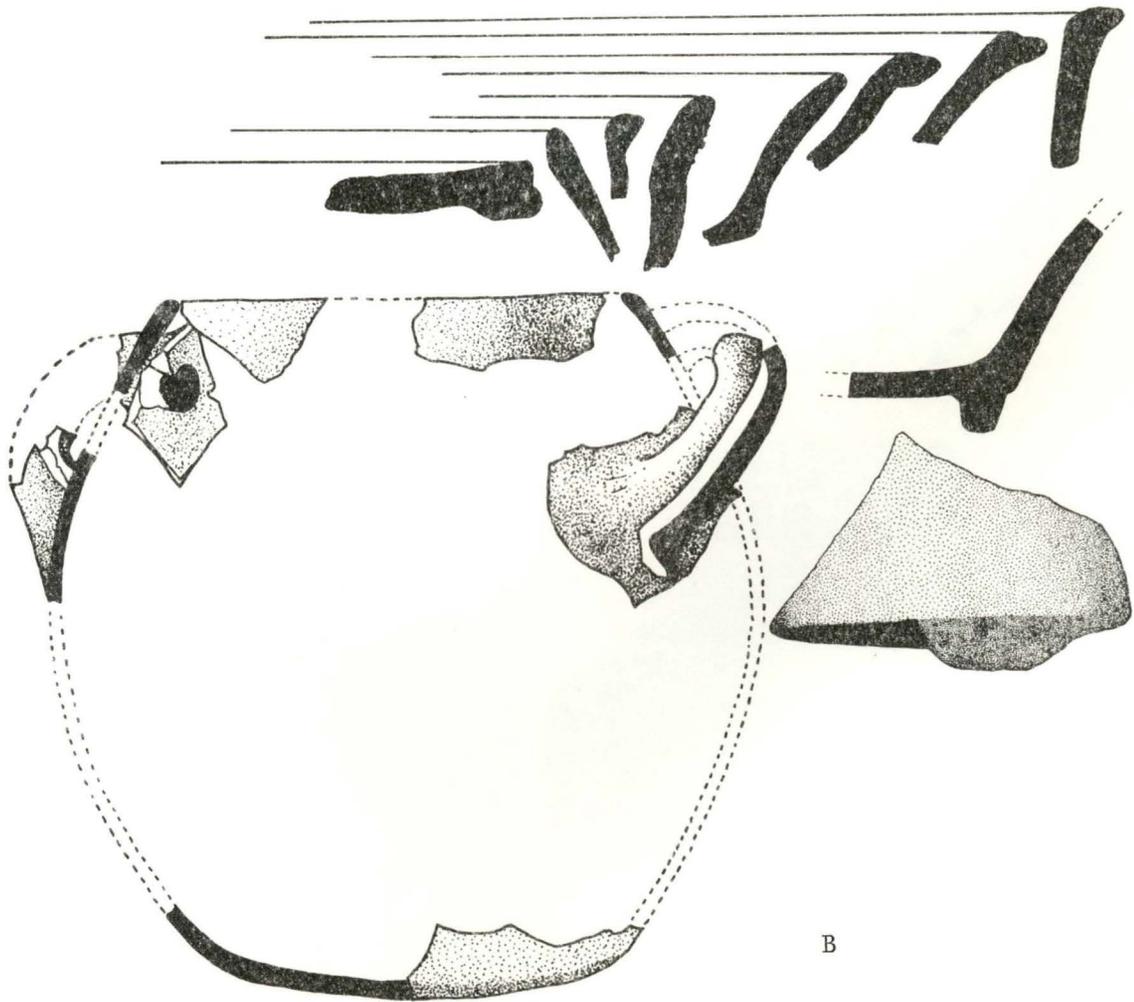


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Plate IV. ²¹ Huamelula Fine Ware form profiles (continued). A, Type Pamo Fine Buff, Variety Tortugas Slipped-white; B, Type Pamo Fine Buff, Variety Talum Slipless (whole vessel is one-eighth original size).



A

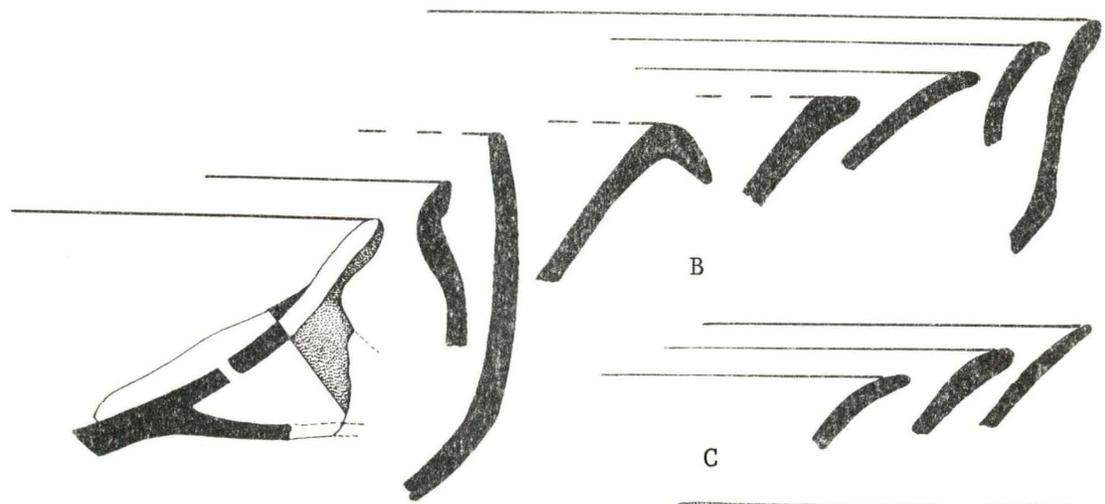


B

Plate VII. Huamelula Fine Ware form profiles (continued). A, Type Pamo Fine Buff, Variety Tanga Slipless; B, Type Pamo Fine Buff, Variety Tepol Slipless; C, Type Pamo Fine Buff, Variety Tortugas Slipped-red; D, Type Pamo Fine Buff, Variety Tortugas Slipped-brown.

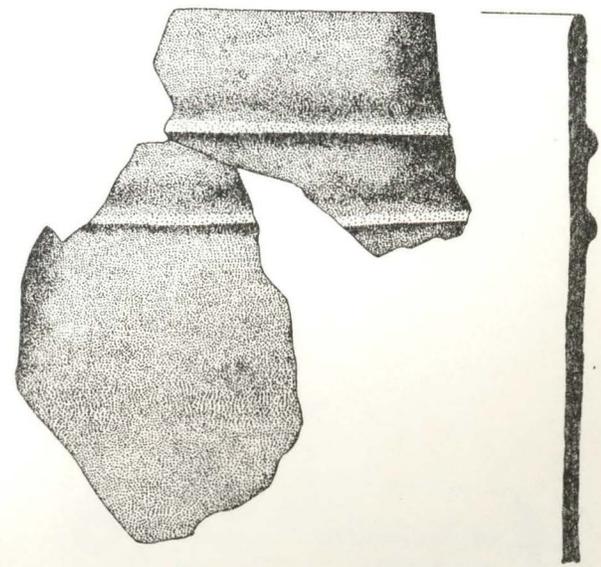


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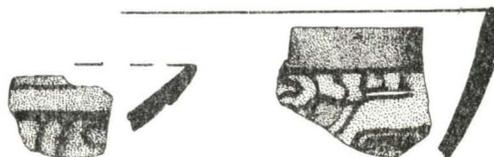
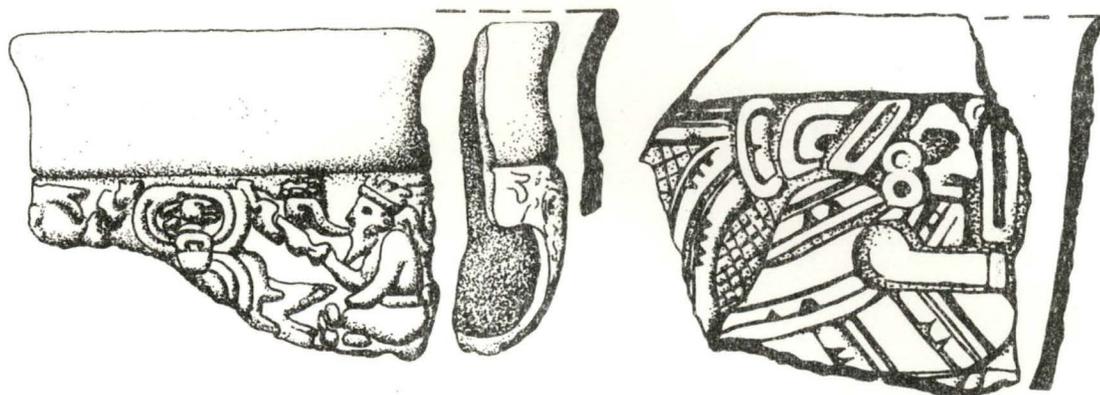
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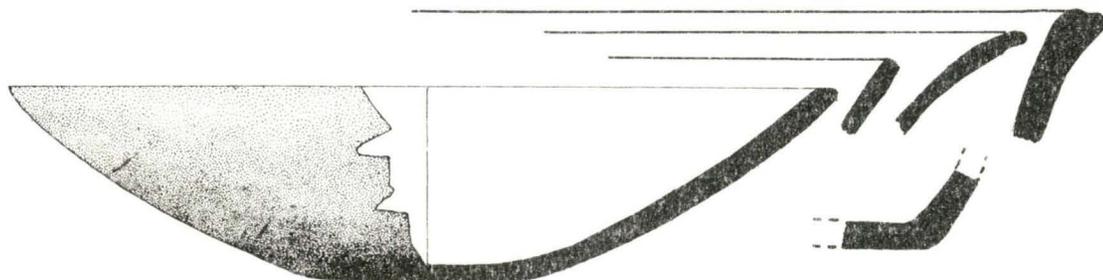


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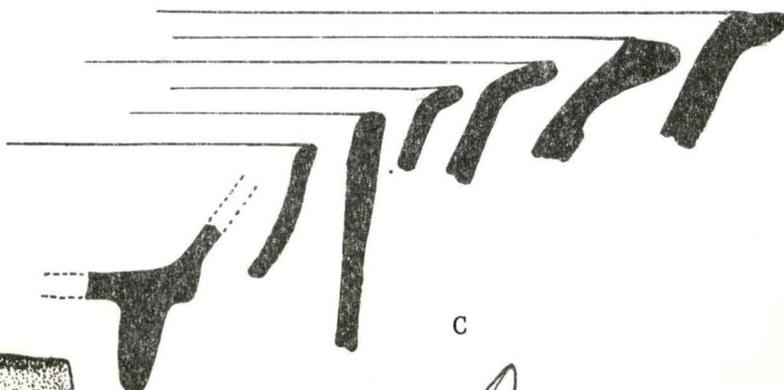
Plate VIII. Huamelula Fine Ware form profiles (continued). A, Type Pamo Fine Buff, Variety Talun Carved; B, Type Pamo Fine White, Variety Lana Slipped-red; C, Type Pamo Fine White, Variety Lunda Slipless.



A



B



C

