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The Ceramic History of Santa Rosa, Chiapas, Mexico

by

DONALD L. BROCKINGTON

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BRIGHAM YOUNG UNIVERSITY
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J. ALDEN MASON

EDITOR

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Frontispiece. "Doña Rosa," Human Effigy Vessel
Red-slipped vessel from Burial 8.

PREFACE

This report is based on excavations conducted from February through May, 1958. Assisted by my wife, Lolita, I was assigned responsibility for studying sherd materials from thirty stratigraphic units and mound fill, exclusive of Mound B which was allotted to Sr. Agustín Delgado along with the architectural remains, lithic artifacts, burials, figurines, etc. His report, *Excavations at Santa Rosa, Chiapas, Mexico,* was published in 1965 as Paper No. 17 in this series. The ceramic study has been long delayed, with effects both adverse and beneficial.

When I began to study excavation results, it became apparent that the stratigraphic evidence was poor and the ceramics complex. There were many close parallels with the Chiapa de Corzo sequence and, from the middle of Santa Rosa Phase 3 onward, many differences. It was decided that an independent study was preferable to one merely appended to the then incompletely defined Chiapa sequence. An attribute analysis approach seemed best because of the stratigraphy and ceramic complexity. Several descriptive systems were tried and finally a code developed. For several months we worked writing coded descriptions on small cards, one for each sherd. When this tedious chore was done, the cards were sorted and re-sorted. Charts and tables were prepared and tentative type descriptions formed from them. Representative sherd samples were selected and the remainder discarded. By August, 1959, about two-thirds of the study was in manuscript form, and data thought necessary for the rest were on paper. A brief summary was prepared for the Eighth Mesa Redonda of the Sociedad Mexicana de Antropología (Brockington, 1961). With the report in such advanced form we left for the University of Wisconsin where I began doctoral studies.

With the requirements of graduate study and some involvement in Wisconsin archeology, the Santa Rosa report was delayed. In 1963 I assumed a position at San Diego State College. The demands of teaching and completing a dissertation further delayed any effective return to the Santa Rosa report until fall, 1965. As I read the completed parts and checked over notes and data, it became obvious that the report was not all it could have been. Experience and knowledge gained during the intervening years have made me painfully aware of shortcomings but also have improved parts of the final version.

I am grateful to Mr. Gareth Lowe and Dr. J. Alden Mason for their patience and for having considerably improved the study by their comments and suggestions. Mr. Bruce Warren has been most helpful in relating the Santa Rosa sequence to that of Chiapa de Corzo. Ing. Eduardo Martínez served as topographer and made our maps. Sr. Tránsito Gómez of Chiapa de Corzo was our excellent field foreman. Sr. Ramiro Jiménez prepared most of the drawings. Miss Yumiko Tsuneyoshi typed and retyped the manuscript.

Sra. Delina Robelo and her son, Sr. Alberto Robelo, of Comitán made our stay at Finca Santa Rosa pleasant. We are much indebted to them for their gracious hospitality in somewhat difficult circumstances.

A special debt is owed to my wife Lolita who not only was field co-worker and laboratory assistant during the months of study and tedious description but always has given encouragement. The study is dedicated to her.

Donald L. Brockington
San Diego State College
San Diego, California

November, 1966

INTRODUCTION

THE BACKGROUND

This report defines the ceramic sequence found at Finca Santa Rosa, relates it to other sequences, and discusses settlement patterns and mound-building sequences at Santa Rosa. The materials used consist of sherd lots and sixteen vessels collected by the N.W.A.F. expedition of 1958. A general report with background information and a study of the architecture has been prepared by Agustín Delgado (1965) which includes a map of the region.

The site Santa Rosa, reported by the Federal Guardian of the Comitán archeological district, was first investigated and described by Gareth W. Lowe (1959:49, 52). Brief investigations in 1956 under his direction suggested that further excavations would be worthwhile since Santa Rosa, one of the largest sites on the upper Grijalva River, yielded ceramics apparently typical of many Preclassic sites found between La Angostura Canyon and the Guatemalan border, and since the materials indicated a long site-occupancy with intensive development during the late Preclassic.

Santa Rosa consists of over forty earthen mounds located on the left or south side of the Grijalva River at its confluence with the smaller Aguacate River (Fig. 46). The site extends south about seven hundred meters from its northern boundary and westward to the Aguacate River. Small mounds and house outlines are found southward along the Aguacate for several kilometers, but this extension apparently pertains to Phase 1, earlier than the majority of remains found in the center of the site itself, and was not deliberately investigated.

The site is located on the second terrace above the present river level. The first terrace is flat, free of stones, and has a soil layer at least two meters thick. The second terrace, irregular in surface and depth, rises gradually to the south for four kilometers to become low hills. The northern edge of the site is marked by a ravine that rises slightly on its other side to the first terrace. The ravine, probably an old river bed, curves to form the eastern boundary of the site. There is a small lagoon, dry most of the year, along the southeast edge of the center. Several small ravines cut the edges of the site and drain into the large ravine.

Twenty-eight mounds, clustering along a general east-west line, form the central area. However, to the south and west other isolated mounds of varying sizes are to be found; the map of the site (Fig. 1) does not include all of these outlying structures. Within the main site area, briefly, a large platform approximately fifty by sixty meters and seven meters high occupies the center of the zone. A series of smaller mounds cluster about it, except to the south. Three hundred meters to the east are two large mounds, eleven and nine meters high. A hundred and fifty meters to the south is a group of three mounds and to the west several smaller ones, as well as one fourteen meters high. Other than three or possibly four irregular courts and the general east-west alignment of structures, no order can be discerned in mound placement. Outlying structures have no apparent relationship to the central zone.

The mounds are of earth, with irregular stones on their surfaces. Occasional remains of stone walls can be seen on their tops. Investigations within mounds revealed use of shaped stone blocks, stucco, paint, etc.—none of which were to be seen on the surface—and river stones.

EXCAVATIONS

Seventeen trenches were dug to investigate mounds, and twenty-nine pits for the stratigraphy. The pits were located at regular intervals in a quadrant system in an attempt to obtain a representative sample of ceramic materials and to study settlement patterns. A line was run east to west through the main axis of the site and a stake placed every hundred meters. Other lines were run north and south from each of these points and stakes placed at the one- and two-hundred meter points, except when such fell in ravines or

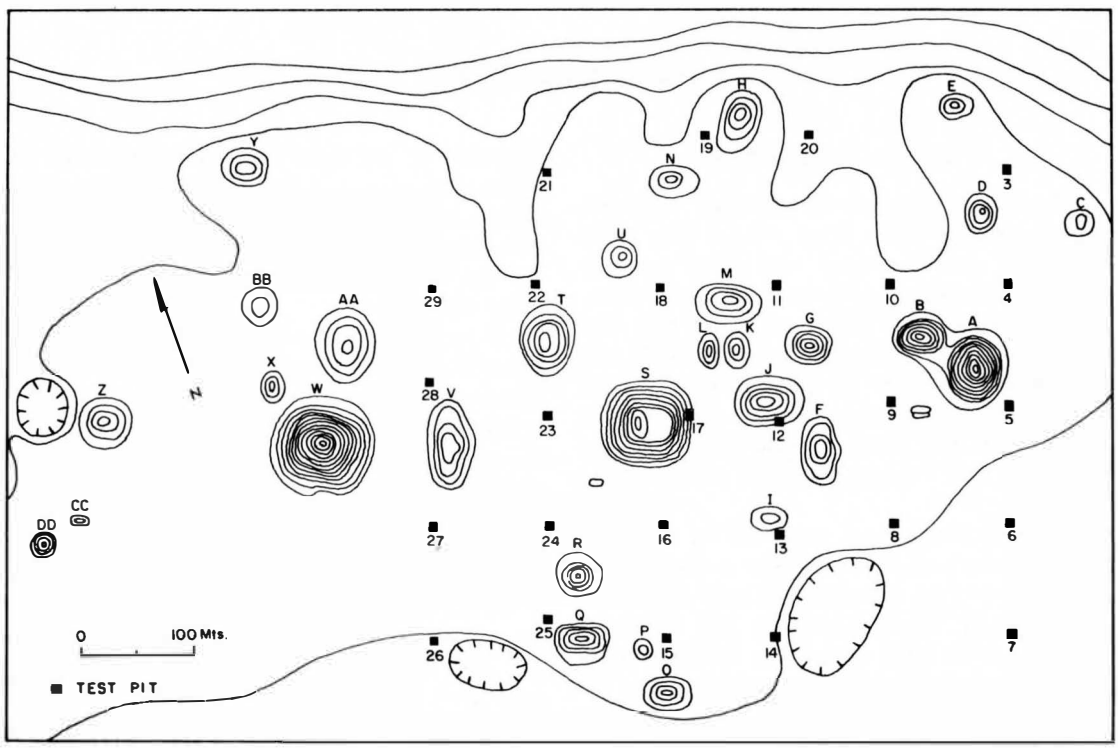

Figure 1. Plan of Santa Rosa Archeological zone
Showing mounds and locations of stratigraphic pits; for location of mound trenches, see Delgado, 1965, Figure 2.

the lagoon. When a stake would have been placed on a mound, it was moved to the nearest level area. Each stake served as the southeast corner of a pit measuring two by two meters. The grid of pits covered the central part of the site. Pits 19 and 20 were relocated to test better the northern limits of occupation. Trench K-2, originally intended to investigate the north wall of Mound K, was enlarged when it revealed remains of the earliest known occupation at Santa Rosa. Twenty-five of the stratigraphic pits were dug under the supervision of Lolita Brockington, while I controlled the remaining four, and Trench K-2.

All pits were dug in levels of 25 centimeters. Soil conditions were uniform throughout the site with no significant stratification being noted. There is a layer of topsoil some 25 and 35 centimeters thick, under which is a hard, slightly sandy brown soil that became increasingly coarse and red until a sterile level of reddish clay mixed with coarse gravel was reached. All pits were continued into this sterile level. See Figure 2 for a view of a typical pit profile.

METHODOLOGY

Approximately 6,000 sherds, ten percent of the total collection from stratigraphic pits, were used in the ceramic study. Rim sherds, basal-angle sherds, and those bearing decorative elements were used, plain body sherds being discarded. Attributes used include vessel or sherd form, paste and inclusions, decorative elements, and types. Types were defined on the bases of slip, polish, and painting, or, in other words, primary surface treatment. With one exception, only brief descriptive names have been assigned; for example, Polished Blackish Brown, or Orange Slipped.

Each sherd used in the study was represented on a card 1½ by 2½ inches in size, on which a series of notations was placed, using a simple code system. Thus each card could be sorted or arranged according to a single attribute or attribute combinations without repeatedly handling the sherds themselves.

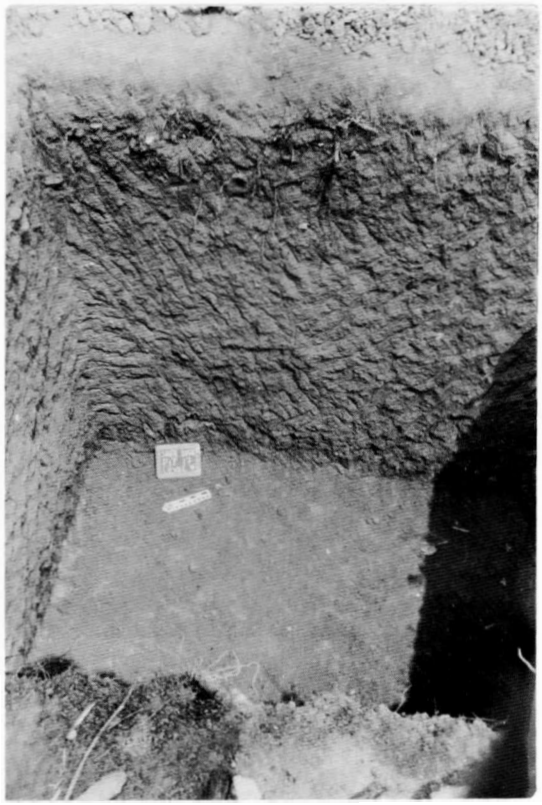

Figure 2. Pit 17
Showing the stratigraphy of a typical pit.

In the upper right corner of each card is a number, for example 21-3, which indicates that the sherd is from Pit 21, Level 3. In the card center is a number followed by a letter. The number represents one of thirteen form and feature divisions, and the letter the particular subdivision or category of it. In the lower left corner are two lines of notations. The lower one indicates the surface color, for example Polished Black. If no color was added to the original paste surface, the line was left blank. The upper line may carry the following notation: RBr-c-d. *RBr* is the code designation to indicate that the paste is reddish-brown in color, the small *c* indicates that paste texture is coarse, and the final *d* that the sherd had a thick, unoxidized core, that is, over 20% of the total sherd thickness. If it were thin, less than 20%, *t* would have been written there. If the sherd was completely oxidized with no black core, the space would have been left blank. The back of each card was used for any special notation.

In the form study, vessel forms were divided into 13 divisions which include tecomates, ollas, tumblers, straight-wall bowls, concave-wall bowls, convex-wall bowls, and compound-silhouette bowls. Special divisions were made for the basal angles, handles, supports, figurines, and for one noteworthy characteristic of Santa Rosa ceramics, wide everted rims. A final division includes special features. The 13 large divisions were further subdivided into over 300 categories. Some were united to form 201 categories. All divisions with their categories then were tabulated on a chart with paste variations of each noted. The top of the chart was divided into all levels of all stratigraphic pits. The final chart was some 50 feet long. It carried a detailed tabulation of every form, type, paste, and texture, and their stratigraphic occurrences. Information was extracted from this huge chart to present studies of selected characteristics. This chart remains in the Foundation files.

The system of abbreviations was used to note information on the small cards and charts and is used throughout this study. The following describes this simple and largely self-explanatory system. Black is indicated by *Bl*, brown by *Br*, blackish brown by *BlBr*, red by *R*, orange by *O*, reddish brown by *RBr*, white by *W*, flat white by *flatW*, muddy white by *mudW*, creamy white by *CrW*, cream by *Cr*, and ocher by *Oc*. Code notations for other attributes include *l* to indicate light, as used to describe light brown with *lBr*, while *d* before a color notation indicates dark, as with *dBr* for dark brown. As a final notation on a card, *d* indicates a thick core with more than 20% unoxidized core, and *t* less than 20% unoxidized core. Polishing is noted as *pol*, slip as *sl*, coarse paste texture as *c*, fine texture as *f*, and paint as *pt*. If no paste texture is given, it is medium.

Anna Shepard examined a sample of the Santa Rosa sherds with a binocular microscope and described the paste inclusions to me. Sherds described by her then served as standards for my analyses, using a ten-power hand lens. If there are errors in the description, the fault is mine.

Although I have already published a six-phase chronology for Santa Rosa (Brocking-

ton, 1961:85-90), definition of the sequence was made difficult for several reasons. First, we do not have a neat, clear-cut stratigraphy. Second, the cultural layers are of irregular depth for a given phase in different parts of the site. We found one pit with thirteen levels, the upper eleven of Phase 4 and the lowest two containing mixed remains of Phases 1, 2, and 3. In another pit with only five levels Phase 4 was present in the upper level with Phases 3 and 2 below and Phase 1 not represented. One may observe the major trends in almost any pit but never does a single pit yield the complete sequence. Therefore, it has been necessary to illustrate phase differences by using several pits. It has not been possible to combine pits since each may be of different depth and of different cultural content for the same level depth. As noted below, Phase 3 is suggested to be two phases on seriational evidence although the distinction could not be supported by stratigraphic evidence. Later excavations by the author at Laguna Francesa up river from Santa Rosa gave stratigraphic demonstration of the suggested division.

The defined phases, their approximate chronological limits, and equivalents in the Chiapa de Corzo sequence are given in Table 1. Lowe (1962a:195) and Warren (personal communication) are the sources for absolute dates used. Phase 3 probably will prove divisible into two parts, 3a and 3b, each of about the same duration.

The ceramic sequence is discussed mainly in terms of types which are defined and described as to their pastes, tempers, vessel forms, and so forth. However, I conceive of ceramics as being dynamic in time and space, as are other aspects of culture. Some aspects may be relatively static, but change is the rule. It therefore is erroneous to describe a type without noting the variation within it. Likewise, we find that independent analyses of pastes, vessel forms, and decorative attributes are also informative and add further dimensions to the final conclusions. For these reasons this study is divided into sections devoted to types, vessel forms, pastes, and definition of cultural phases or stratigraphy before the comparative study and conclusions.

Design attributes and techniques are described using the terminology proposed by Robert Smith (1955) with the addition of some not noted by him. The new terms are presented and defined in the Code Catalog (pp. 25-35) or are self-explanatory.

TABLE 1. APPROXIMATE CORRELATION OF SANTA ROSA AND CHIAPA DE CORZO PHASES

Santa Rosa Phases	*Estimated Beginning Dates*	*Chiapa de Corzo Phases*	
1	800 BC	Dili	II
2	600	Escalera	III
3	500	Francesa-Guanacaste	IV-V
4	50 BC	Horcones-Istmo	VI-VII
5	AD 200 possible hiatus	Istmo-Jiquipilas	VII-VIII
6	800-1000 hiatus	Paredon-Ruiz	X-B, XI-A
7	AD 1521-1850	Villaflores or Zapotal	XIII or XIV

THE CERAMICS

The types have been divided into three groups: polished, slipped but unpolished (referred to as "slipped types"), and unslipped types. The polished types, most diagnostic of all, constitute 42.6% of the total. The slipped types contribute 16.8% and the unslipped types 40.8%. The unslipped types represent two groups, those that never were slipped, and those which were, with or without polishing, but have been eroded.

Some types are equated with Chiapa de Corzo historical types proposed by Bruce Warren (report in progress).

POLISHED TYPES

San Jacinto Black: San Jacinto Variety (*pol Bl*) —14.113% (Figs. 3-7)

Paste:	RBr	61%	*Texture*:	Coarse	27%
	Br	18%		Medium	71%
	Bl	10%		Fine	2%
	Others	11%			

Inclusions: Only volcanic ash was found in 21 sherds examined.

Description: The black slip is rather thick. It is evidently not carbonaceous, as root marks are but occasionally present. The slip may have been added and then polished during a late, leather-hard stage, for it often has been removed, causing a somewhat mottled effect. The slip is pure black and has no brown tones even under strong light.

Forms: This type includes Vases E and G; Divergent Straight-wall Bowls G and K; Concave Bowls I and P; Convex Bowl Y; Compound-silhouette Vessel N; Bases A, D, E, and M; Handle A; Wide Everted Rims B, O, P, and R; and Special Feature BB. (See the Form Study for descriptions of these form codes and all subsequent ones, pp. 25-32.)

Decoration: *Pol Bl* exhibits the greatest variety of design attributes and techniques and is more often decorated than any other type. Only the most frequent or distinctive are discussed here. Bowls and vases frequently have one or two lines incised around the exterior rim. A horizontal band of triangles, usually enclosed by incised lines, is most common with the triangles being filled with hachure, cross-hachure or punctation. Horizontal bands of chevrons are frequent. Plano-relief excision techniques were used in three cases to form apparent glyphs or symbols (Fig. 7, *p, q, r*). Incisions and removed area may be filled with red pigment. Bowl and olla forms sometimes bear anthropomorphic or zoomorphic features such as a molded "Fat god" face, projecting frog or bird heads with laterally projecting lugs representing limbs or wings (Figs. 3, *c;* 7, *j, m*). Vertical fluting, while rare, is known at Santa Rosa only in *pol Bl*.

The superior surfaces of the wide-everted rims always are decorated, almost without exception. The decoration may be one or two lines, one incised around the external rim and another around the interior rim. In the latter case, the line may be so deep as to have seriously weakened the everted rim so that it broke from the body. Between the two lines there may be a great variety of designs including triangles, chevrons, scrolls, crescents enclosing a smaller crescent or dot, cross-hatched bands, and various combinations of the others. Triangles always are filled with hachure, cross-hachure or punctation. See Figure 7. The exterior margin of the rim may have protuberances or be molded to represent bird or frog heads, limbs, wings, or tails (Figs. 3; 7, *j, n*).

Comments: It dominates the main period of activity at Santa Rosa and is typical of the extreme upper Grijalva River area. I gave the name "Santa Rosa Polished Black ware" to this type (1961:88) before it was called to my attention that the name had been applied elsewhere. Warren (ceramic report in progress) proposes naming *pol Bl* vessels and sherds found at Chiapa de Corzo San Jacinto Black: San Jacinto Variety, in the San Jacinto Slipped Group. His names are used herein because the *pol Bl* of Santa Rosa is identical with that of Chiapa de Corzo. His approach to type definition differs from ours, emphasizing other attributes. Further, his typology is based mainly on study of cache vessels while that of Santa Rosa is based on sherds from stratigraphic pits, which accounts for differences in our definitions.

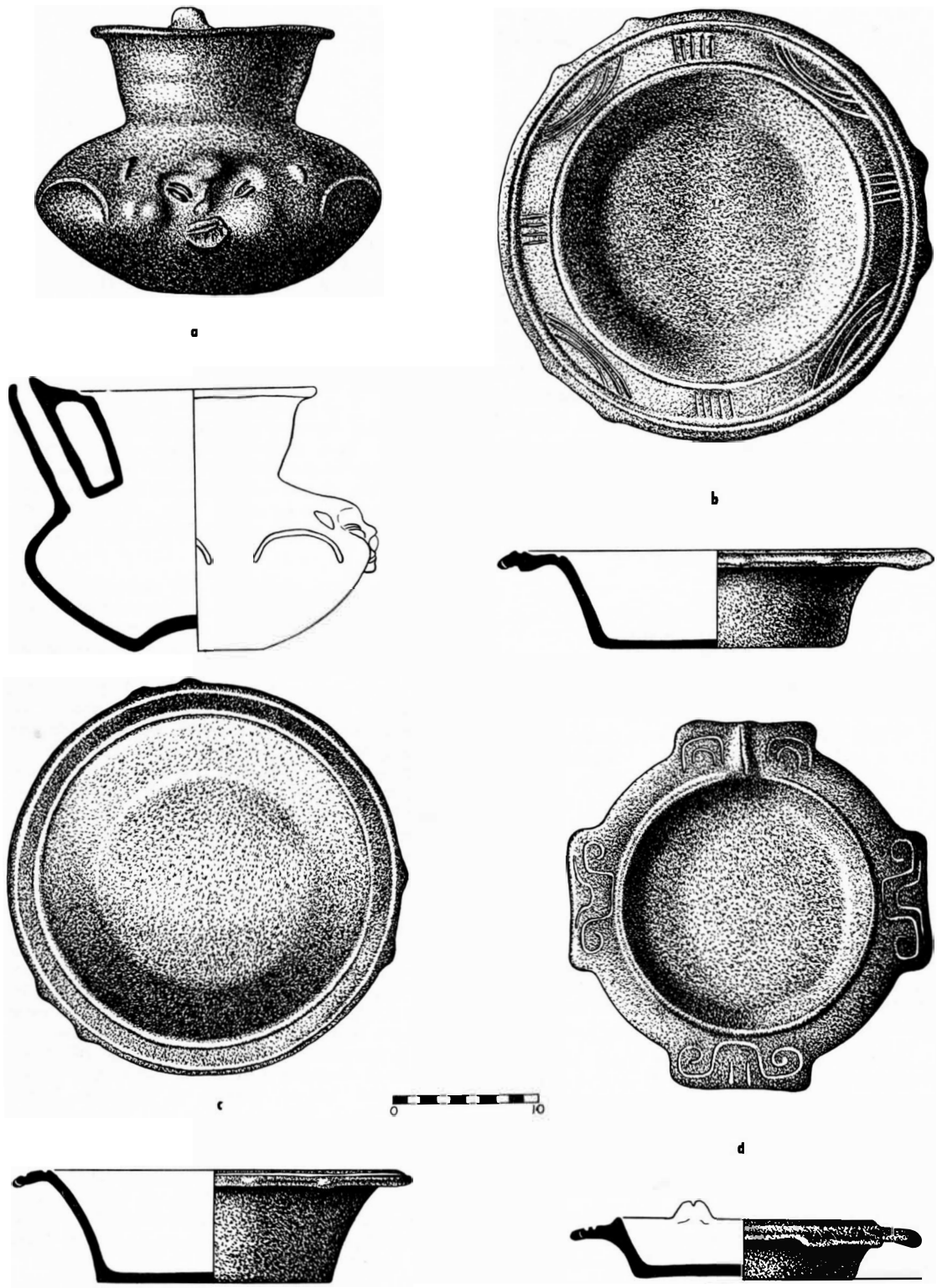

Figure 3. Vessels of San Jacinto Black, San Jacinto Variety
Pol Bl vessels. *a, c, d* from Cache 10. *b* from Cache 11.

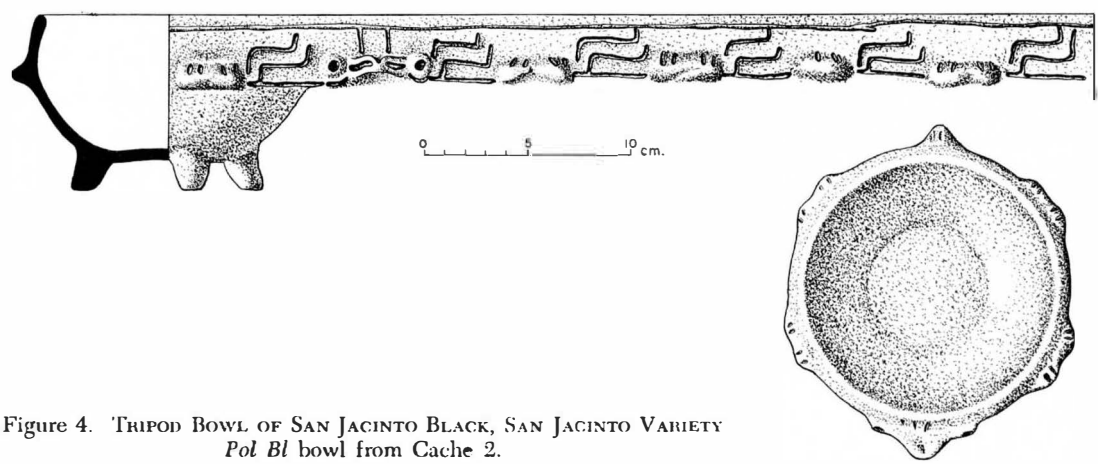

Figure 4. Tripod Bowl of San Jacinto Black, San Jacinto Variety
Pol Bl bowl from Cache 2.

Figure 5. Potsherds of San Jacinto Black, San Jacinto Variety

Pol Bl has been noted in N.W.A.F. collections from the following sites along the Grijalva River: Santa Rosa, Santa Cruz (Burrero), Santa María, Guanacaste, Finca Amatal, San Luis, Finca El Salvador, Laguna Francesa, Laguna Francesa (Ojo de Agua), Poblasón, San Jacinto (Potrero del Mango), Laguna Dolores, Laguna Dolores (Bebería de Esperanza), San Pedrano, Junchavín, Santa Inez, and Chiapa de Corzo (see Lowe, 1959b for location of these sites). Robert Adams and Pat Culbert found one sherd of *pol Bl* at Cerro San Nicolás near Amatenango in the eastern Chiapas highlands. The clustering of *pol Bl* between the Guatemalan border and La Angostura Canyon will be discussed below (p. 69).

Polished Blackish Brown (*pol BlBr*)—2.688%

Paste:	Br	42%	*Texture*:	Coarse	11%
	RBr	16%		Medium	69%
	Bl	13%		Fine	20%
	lBr	13%			
	Gr	11%			
	Others	5%			

Inclusions: Very fine volcanic dust in the two sherds examined.

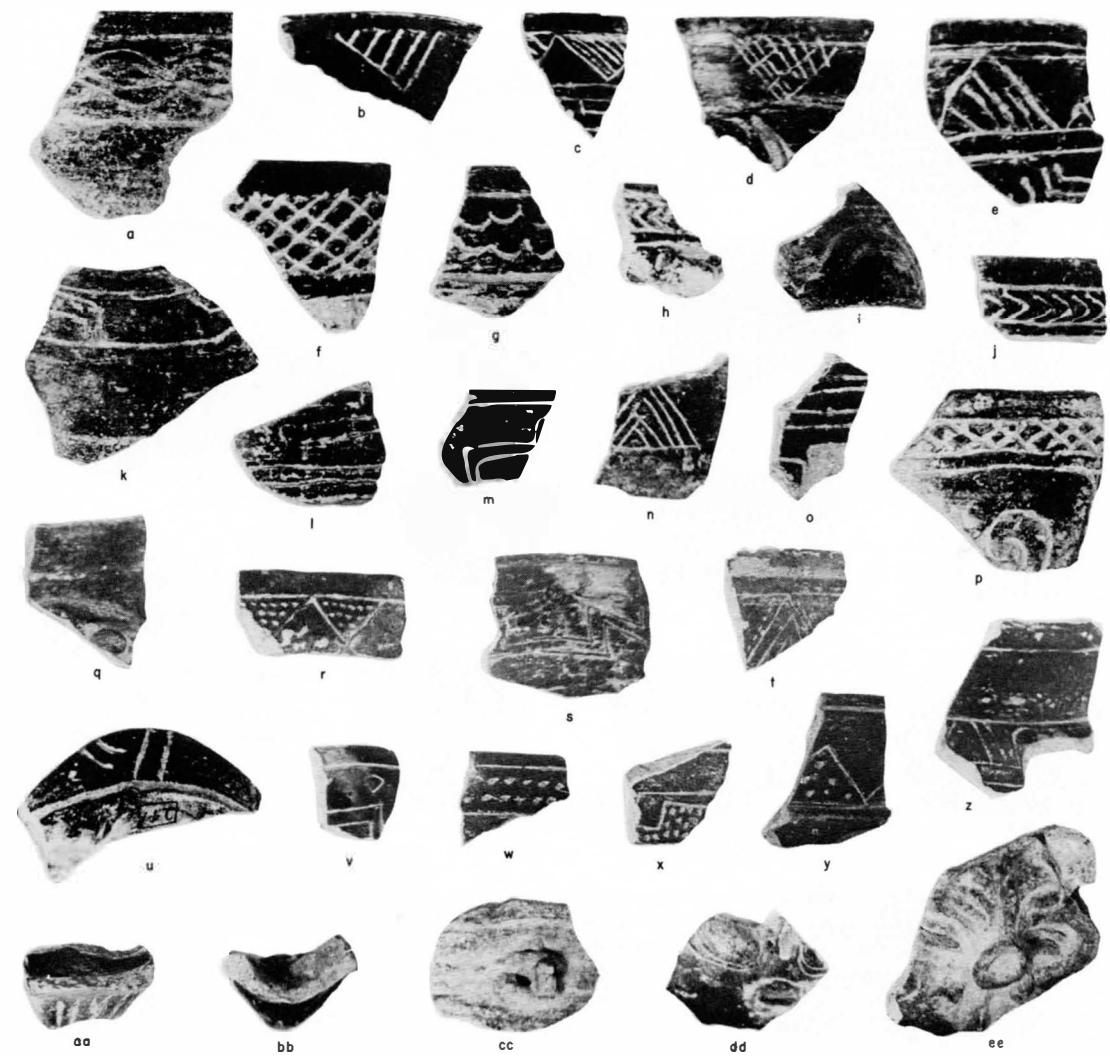

Figure 6. Potsherds of San Jacinto Black, San Jacinto Variety

Description: This type is of a dark cordovan brown. The slip is medium to fairly thin and is not highly polished in most cases.

Forms: These include Tecomate F; Vase G; Convex Bowls A and Y; Compound-silhouette Vessel B; Bases A, E, K, and M; Wide Everted Rim B; and Special Features V and BB.

Decoration: Only incised designs were noted. Bands of triangles filled with hachure or cross-hachure are most common although single lines around the exterior rim or base, rectangles, and punctated area are known.

Comments: *Pol BlBr* is easily confused with *pol Bl* until one examines both together. While *pol BlBr* has a brownish aspect, especially so when under strong light, *pol Bl* is true black. The distinction is further supported by differences in forms, decoration, paste, and stratigraphic occurrences.

Some of the Santa Rosa *pol BlBr* is equated with Libertad Slipped Group, Libertad Black-Brown of Chiapa de Corzo where it is predominantly of the Francesa phase, although a single vessel was with an Escalera phase cache and some were with Guanacaste phase caches.

False Polished Black *(fal pol Bl)*—.185%

Paste:	Br	63%	*Texture*:	Coarse	9%
	Bl	18%		Medium	91%
	Others	18%			

Inclusions: None examined.

Description: It is similar in appearance to *pol Bl* but differs slightly in color and also in surface feel. Most diagnostic, it lacks the peculiar luster found on *pol Bl*.

Forms: They include Tecomate E, Olla A, Vase G, Concave Bowls D and I, Convex Bowls K and Y, and Wide Everted Rim A.

Comments: With such a small sample it is difficult to describe or define this type adequately, but, since it may be an early form of the important *pol Bl*, it is of special interest.

Anyone not aware of the differences between the two polished black types easily might fail to detect such. However, their forms, designs, and relative stratigraphic positions are different.

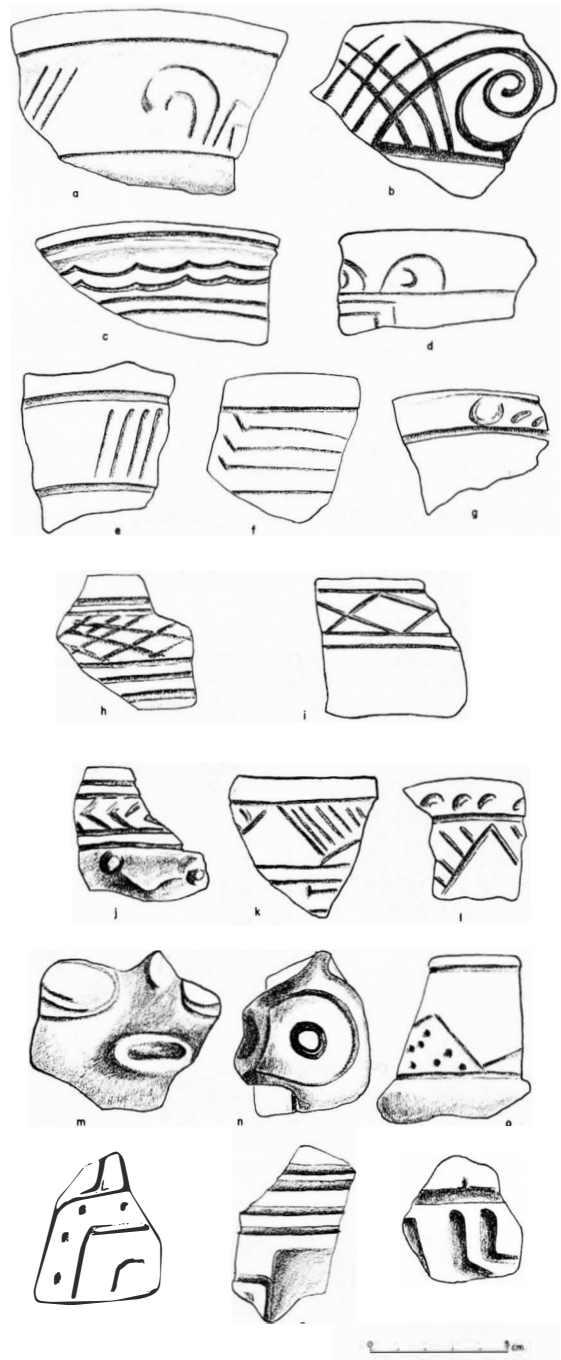

Figure 7. Decorative Attributes of San Jacinto Black, San Jacinto Variety

Polished Reddish Brown (*pol RBr*)—8.652% (Figs. 8, 10).

Paste:	RBr	21%	*Texture*:	Coarse	10%
	Br	25%		Medium	69%
	lBr	35%		Fine	21%
	Cr	6%			
	Others	13%			

Inclusions: Sixty-four sherds were examined with volcanic ash noted in 46, coarse volcanic dust in 3, volcanic dust in 6, sand with quartz particles in 2, and calcite in 7.

Description: The slip is soft, thick, and may be highly polished. Seldom does it have a soapy feeling to its surface, but more often is slick or smooth when intact or slightly rough when worn. The color varies from reddish orange to brownish red. There are occasional firing clouds but more commonly the color is unblemished.

About one-half of the sherds are incompletely oxidized with most of these being of the light brown and cream-colored pastes.

Forms: Forms include Tecomate C; Olla C; Vases A and G; Divergent Straight-wall Bowls A, B, and K; Concave Bowls A, B, D, E, F and P; Convex Bowls A, B, M, Y, and CC; Compound-silhouette Vessels C and P; Bases A, E, and M; Handle H; Wide Everted Rims A, B, D, E, G, H, I, L, M, and O; and Special Feature BB.

Decoration: It is usually found on the superior surfaces of wide everted rims. Most of these are incised designs with the incision often having been done during the late leather-hard stage, giving a scratched appearance. The most common designs are multiple lines or grooves running around the rim (Fig. 8, *a-d*), a series of lines making "U" or "Z" designs, one inside the other (Fig. 10, *a, c*), and crescents going from the rim center toward the outer margins; other designs are rare. Bowls seldom are decorated, with only wide single or double lines around the exterior rim being at all frequent.

Comments: This probably is a development of Polished Orange and undoubtedly overlaps with it considerably. That is, we can think of there having existed a continuum beginning with Polished Orange and continuing through *pol RBr* and into Polished Red.

The variety of inclusions would suggest a considerable time expanse for the *pol RBr* tradition. The emphasis upon the volcanic ash inclusions is similar to *pol Bl*. The many form variations also suggest that the type persisted long. There are variations in time but the known Santa Rosa stratigraphy does not permit subdividing the type

Pol RBr has a considerable areal distribution throughout the entire Central Depression of Chiapas and Mesoamerica south of the Isthmus of Tehuantepec.

It belongs within the Mundet Slipped Group found at Chiapa de Corzo in Escalera through Horcones phases.

Polished Orange (*pol O*)—8.115% (Figs. 9-11).

Paste:	RBr	10%	*Texture*:	Coarse	7%
	Br	12%		Medium	53%
	lBr	45%		Fine	40%
	Cr	19%			
	O	9%			
	Others	5%			

Inclusions: Thirty-nine sherds were examined, with volcanic ash being noted in 19, volcanic ash with muscovite in 2, medium volcanic ash in 2, volcanic dust in 12, sand in 1, and calcite in 2.

Description: When *pol O* has survived intact, it has a fairly high polish that has almost a soapy feeling. The color is a bright orange to a reddish orange. The slip is fairly thick and sometimes crazed.

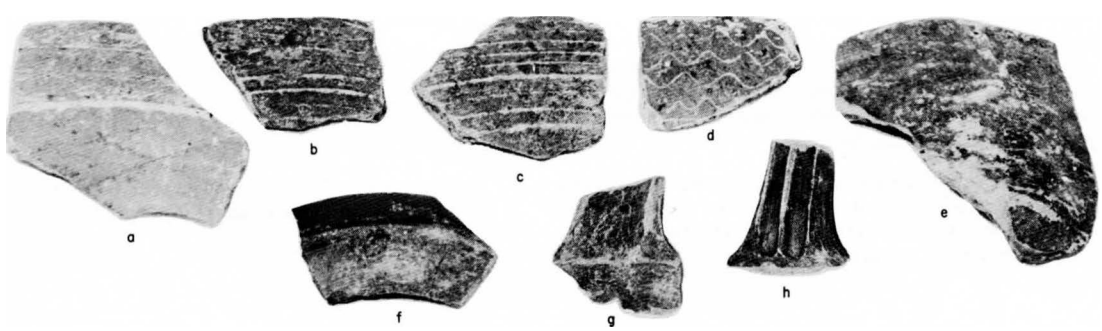

Figure 8. Potsherds of Polished Reddish Brown

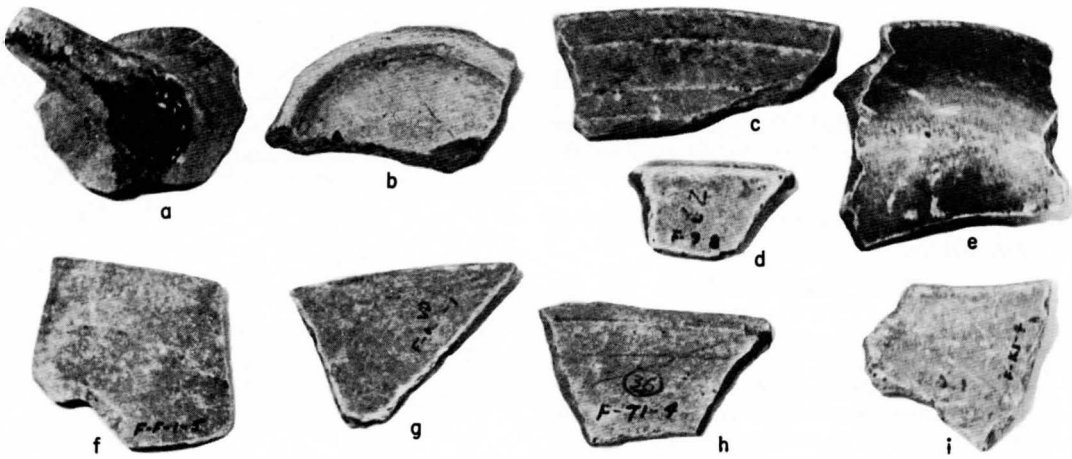

Figure 9. Polished Orange Potsherds

It may have a mottled effect, the result of a resist technique and/or firing. Firing clouds sometimes may have so changed the appearance of the slip as to cause its being placed in brown or reddish-brown types.

Forms: The most common forms include Tecomate C; Olla N; Vases A, E, and G; Divergent Straight-Wall Bowls A, B, E, and K; Concave Bowls A, B, E, G, and P; Convex Bowls A, B, C, D, E, G, M, P, CC, and FF; Compound-silhouette Vessels A, C, F, G, I, and P; Bases A, B, E, and H; Handle H; Wide Everted Rims A, D, E, G, H, L, M, and R; Vessel Support D; and Special Features K, Q, R, and BB.

This type has the greatest number of form variations yet noted.

Decoration: *Pol O* is seldom decorated. The most frequent design is single or double lines incised around a bowl rim while hachure or cross-hachure is rare. Wide everted rims may have one or a series of parallel incised lines going around the rim (Fig. 10, *f*); incised "Z" designs are rare (Fig. 10, *a*, *c*). Some external margins are modeled into zoomorphic effigies (Fig. 10, *g*, *h*). Small everted rims may have one or two incised lines circling the vessel with series of straight lines going outward to the margin. Appliqué buttons, crescent or "S" bits are found on outer margins of small everted rims or bowl rims (Fig. 10, *d*).

Comments: As mentioned previously, there exists a strong similarity between *pol O* and *pol RBr*. *Pol O* also was made over a considerable period of time, but probably in varying quantities.

Pol O may have developed out of the Flat White, as will be discussed later.

Most *pol O* fits within the Nicapa Slipped Group of Chiapa de Corzo Escalera and early Fran-

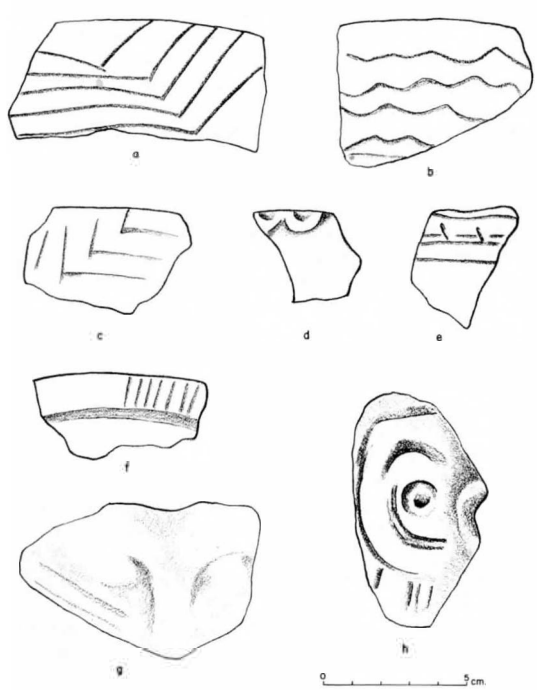

Figure 10. Decorative Attributes of Polished Reddish Brown and Polished Orange
a-c: Pol RBr; *d-h*: Pol O.

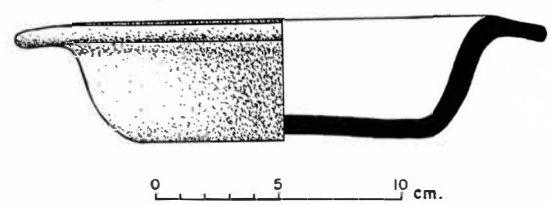

Figure 11. Polished Orange Plate with Wide Everted Rim
Plate from Cache 8, Mound W.

cesa phases. Specifically, the Nicapa Orange-resist: Nicapa Variety (crystal ash) and Quartz Variety and Enguti Variety (crystal ash) are comparable to much *pol O*.

As with *pol RBr, pol O* is part of a ceramic tradition widespread over Mesoamerica south of the Isthmus of Tehuantepec.

Polished Orange—B (*pol Ob*)—approximately 2% (Fig. 12)

Paste: Uncertain (approximately Cr 40%, lBr 40%, and RBr 20%).

Texture: Uncertain (probably 100% fine texture).

Inclusions: Twenty-six sherds examined, with 24 examples of sparse scattered opaline, one with fine scattered mica and sparse opaline, and one with volcanic dust particles.

Description: See Comments.

Forms: See Comments.

Decoration: *Pol Ob* designs are practically identical with those of *pol Bl* except that no glyphic elements are known and that the *pol Ob* designs more often are not enclosed within two parallel lines. Only incised designs are known. See Figure 12.

Comments: One of the most difficult problems concerning the ceramics of Santa Rosa is that dealing with some materials from Levels 3 and 4 of Pit 26. As previously explained, advancing lines of pits were dug at intervals of one hundred meters. Pit 26 was the most southerly of the last line and therefore at the most extreme point investigated. From this pit, so unfortunately peripheral in the investigation, came a type of ceramic not found elsewhere in stratigraphic investigations. It is referred to as Polished Orange—B. While comparison with other sites and a discussion of stratigraphic and time placement of a type properly belongs to a later section of this report, it is felt that such must be done here.

In appearance this type is similar to two others, *pol O* and *pol Bl,* but with respect to different characteristics. The paste is fine, generally cream, light brown or reddish brown in color, and always incompletely oxidized with a very thick dark core. These factors suggest a relationship with *pol O* as does the slip which is a polished orange in the cases of the only five sherds which still have bits of the slip remaining; the sherds are badly eroded. On the other hand, the designs on *pol Ob* as well as its vessel forms indicate very close relations with *pol Bl* tradition. Stylistically *pol Ob* would fit very well between *pol O* and *pol Bl* and it is not at all impossible that it belongs there.

However, levels below those containing *pol Ob* materials had typical examples of *pol Bl.* This could be an example of an inverted stratigraphy but, since the pit is located on level ground, it does not seem likely. To complicate matters further, several similar sherds of polished light Brown and *pol O* were found in mound fills. Leaning upon the stratigraphy, *pol Ob* was tentatively placed in a post-*pol Bl* period. Two later findings supported this placement.

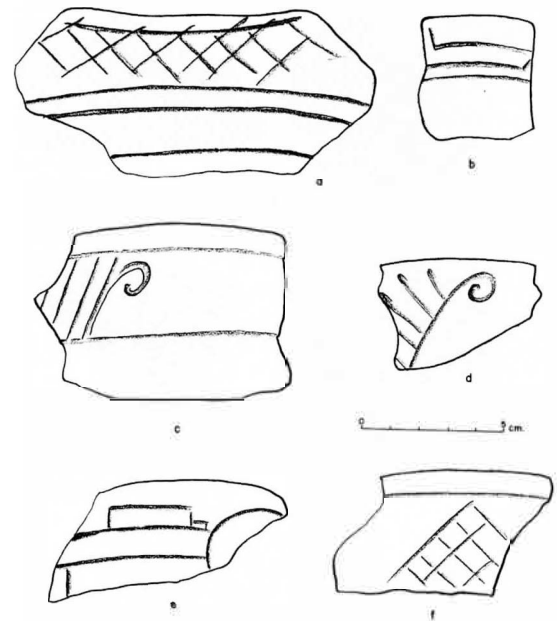

Figure 12. Decorative Attributes of Polished Orange - B

First, a sherd apparently identical with *pol Ob* was with a small deposit of Istmo phase sherds at Chiapa de Corzo. Since we know that *pol Bl* of Santa Rosa had associations with Horcones phase, this favored a later placement of *pol Ob*. Second, Anna Shepard examined materials from Santa Rosa and other sites investigated by members of the Foundation. She found sparse opaline particles in *pol Ob* sherds, confirmed suspicions that they were all very similar, and upon request repeated the examination, judging the Chiapa de Corzo sherd to be identical in this respect with the Santa Rosa *pol Ob*. When the problem was explained to her, she gave additional information concerning the opaline particles. It seems that certain plants accumulate these particles and leave them upon decaying. The plants tend to grow in swampy areas with fine muds. Therefore, when the ancient potters selected fine clays from past or present swamp areas, they frequently selected such clays as contained the opaline particles. Volcanic dust particles could also be natural to the same fine clay sources.

The important point is that both opaline particles and volcanic dust may accompany fine clays and that the consistent presence of one or the other depends upon the selection of clays. The purpose dictating the selection of the materials is the fineness of the clays.

It could be argued that the makers of *pol Ob* as well as those of the similar *pol O* and polished light Brown all searched out fine-textured clay sources, thus accounting for certain similarities. Our evidences indicate that only the makers of *pol Ob* were dedicated exclusively to these sources of clay. Also, with a single exception, all of the *pol Ob* sherds seem to have been from a single source. An examina-

tion of the one sherd considered to be *pol Ob* that contained the volcanic dust inclusions showed that it bore designs completely differ nt from any of the sherds containing the opaline particles. The eroded sherd is probably not *pol Ob*, therefore, but a representative of the earlier *pol O* or polished light brown types.

Bruce Warren states that Miss Shepard had found a high occurrence of opaline particles in sherds of the Chiapa de Corzo Istmo and Jiquipilas phases. Fredrick Peterson (p rsonal communication) said that the same was found in certain ceramics from El Mirador. near Cintalapa. Chiapas, and that he would assign these to a period equivalent to the above Chiapa de Corzo phases.

Therefore, the evidences from Santa Rosa, Chiapa de Corzo, and El Mirador would suggest that the potters of the Central Depression of Chiapas searched out sources of fine clays during a period equivalent to the Istmo and Jiquipilas phases. and that these clays often contained opaline particles. The Santa Rosa *pol Ob* materials must therefore correspond to a post-*pol Bl* period, comparable to those of Chiapa de Corzo phases, until additional information either confirms or disturbs this position.

Pol Ob materials have been found at the following sites visited by members of the Foundation: Santa Rosa. Paso de la Vega, Colonia Niños Héroes, Finca El Salvador, Chejel, Laguna Francesa, and Chiapa de Corzo. Of these sites. it is notable that the second, third, and fifth have no *pol Bl* and are very dominantly or completely Late Classic in time and/or culture. Since the *pol Bl* tradition must have died out during or before the Early Classic, this again suggests that *pol Ob* is transitional and, most important. that it may partly bridge the numerous Protoclassic and Late Classic remains from the upper Grijalva area.

Since only five of these sherds actually bear remains of slip, and since our definition of types is based primarily upon slip, it is impossible to adequately define *pol Ob*.

Polished Red (*pol R*)—.352%

Paste:		*Texture*:	
RBr	38%	Coarse	4%
Br	19%	Medium	87%
lBr	38%	Fine	9%
Others	4%		

Pol R may be placed in the Mundet Slipped Group, Mundet Red: Polished Variety of Chiapa de Corzo Francesa and Guanacaste phases.

Inclusions: None examined.

Description: The slip is rather hard. generally without firing clouds and almost crimson in color. It blends with some of the extremes of *pol RBr* colors. but its definite redness sets it apart. It is always well polished and cannot be confused with the maroon types which always contain specular hematite inclusions and are more of a burgundy color.

Forms: The most important form is Convex Bowl A; there is a scattering of others, each poorly represented.

Comments: Too few examples occur to make definitive statements. However, it appears as though there is considerable variation in forms with some seventeen actually known. No decoration was noted on *pol R*.

Polished Brown (*pol Br*)—2.923%
(Figs. 13, 14)

Paste:		*Texture*:	
RBr	27%	Coarse	9%
Br	38%	Medium	65%
lBr	23%	Fine	26%
Others	12%		

Inclusions: Of the three sherds examined, one contained volcanic dust. one fine silty paste with opaline inclusions and volcanic dust, and one was spongy in texture with ferrous particles. Shepard suggested that the spongy character may be due to having had now-dissolved calcite particles in the clay.

Description: The slip is rather soft, frequently eroded, and has a medium polish. It varies in color from medium to dark brown.

Forms: The most frequent include Tecomates C and H; Vase A; Concave Bowl I; Convex Bowls G, Q, Y. AA, and JJ; Compound-silhouette Vessels B and C; Bases A and E; Wide-everted Rim A and Special Feature V.

Decoration: Only incised and punctate techniques are known. Areas set off by straight or curving lines may be filled with punctation. Scrolls and sets of opposing scrolls are rare but occur on wide everted rims. Also on everted rims are sets of rectangles with smaller ones stacked on the larger, forming pyramids. Bowls may have triangles filled with hachure. cross-hachure, or punctation. Several bowl sherds bear incised representations of bird figures similar to that illustrated by Lowe (1959: 91a) from Paso de la Vega.

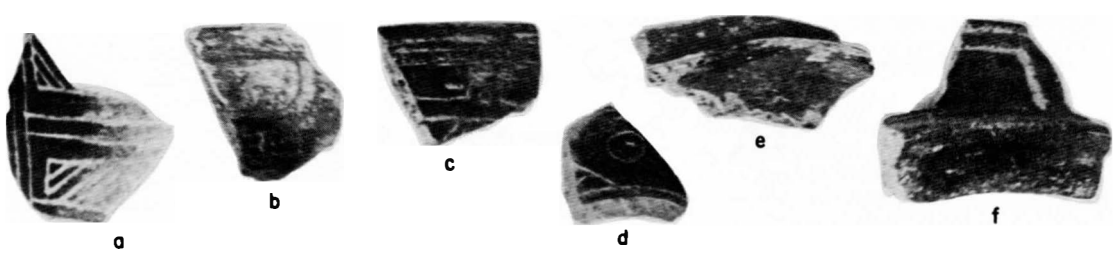

Figure 13. Polished Brown Potsherds

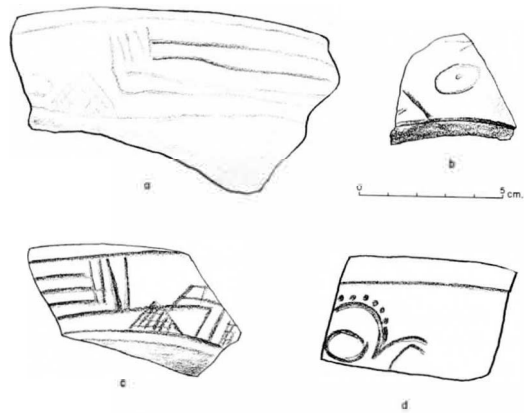

Figure 14. Decorative Attributes of Polished Brown

Comments: It is possible that some examples are misfired sherds of other types, especially *pol RBr*. There also is a considerable variety of forms for so few sherds.

Pol Br may be equated with the Vincente Slipped Group, Vincente Brown of Chiapa Francesa phase.

Polished Light Brown (*pol lBr*)—.436%

Paste:			*Texture*:	
RBr	23%		Coarse	19%
Br	62%		Medium	74%
lBr	15%		Fine	7%

Inclusions: Of 5 sherds examined, 4 contained volcanic dust and one volcanic dust with sparse opal particles.

Description: The slip is medium in thickness, medium or highly polished, and light brown to almost yellowish brown in color.

Forms: The most common include Convex Bowl A and Wide Everted Rim A, although other forms are known.

Comments: Again, with so few examples it is difficult to define this type adequately. The similarity between *pol lBr* and *pol RBr* has been discussed previously.

Polished Gray and Polished Light Gray (*pol Gr* and *pol lGr*)—.309% and .154%

Paste:			*Texture*:	
Br	66%		Medium	79%
Others	33%		Fine	21%
and Br	33%		and Medium	100%
lBr	33%			
Other	33%			

Inclusions: None examined.

Description: Both slips are fairly thick although occasionally a thin one was noted. Both are hard with medium polishes.

Forms: Important forms for *pol Gr* include Wide-everted Rims A, B, and O. Too few examples of *pol lGr* are known for discussing vessel form.

Comments: These have been described together because they probably are related. It is also possible that both are misfired examples of the polished Creamy White which, when having firing clouds, may assume a grayish color.

Polished Creamy White (*pol CrW*)—1.226%
(Figs. 15, 16)

Paste:			*Texture*:	
RBr	35%		Coarse	15%
Br	40%		Medium	74%
lBr	20%		Fine	10%
Others	5%			

Inclusions: One sherd containing volcanic ash examined. Ten others were examined with a ten-power hand lens, finding volcanic ash in 3 and volcanic ash with sand and quartz in 7.

Description: The slip is thick and soft, and only slightly polished in most cases. Because of firing clouds it may have a gray or blue aspect but usually has an off-of-creamy appearance.

Forms: The most frequent forms include Vase A; Divergent Straight-wall Bowl A; Compound-silhouette Vessel C; Bases A, B, and E; and Wide-everted Rims A, B, and O.

Decoration: Pre-slip incision is the only technique noted. Decoration is known only from superior surfaces and margins of wide everted rims. Margins may be notched or have protuberances (Fig. 15, bottom row; 38, *l*). Superior surfaces may have one or two lines circling the rim with crescents swooping toward the margins and occasional punctations or

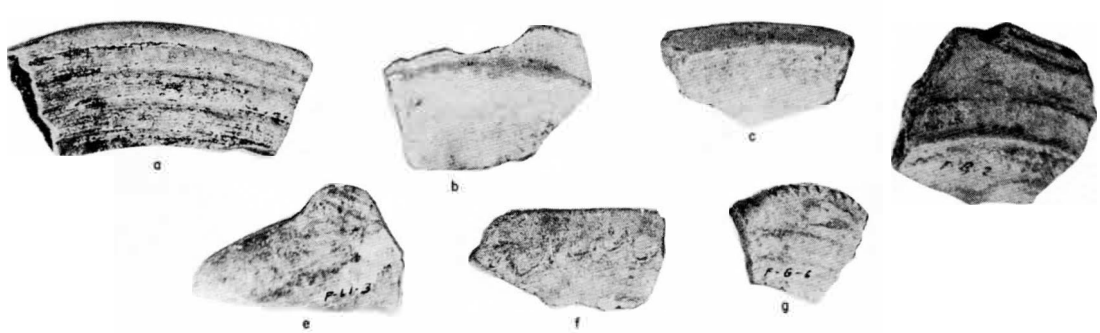

Figure 15. Polished Creamy White Potsherds

short straight lines within the crescents (Fig. 15, top row).

Comments: This type probably is related to the Creamy White Slipped discussed below, as well as previously mentioned associations. Both polished and unpolished versions eventually may be demonstrated to be horizon markers in southern Mesoamerica.

The type apparently corresponds to Culbert's Teopisca White of Sak phase in the Chiapas Highlands (1965: 51, 52).

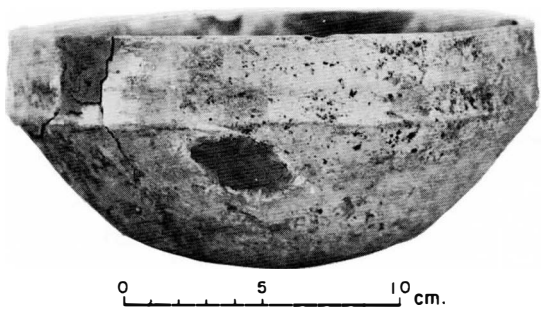

Figure 16. POLISHED CREAMY WHITE BOWL From Cache 10, Mound W.

Polished White, Polished Muddy White, and Polished Flat White (*pol W*, *pol MudW* and *pol FlatW*)—.336%, .067% and .050%

Paste:	Br	60%	*Texture*:	Coarse	60%
	RBr	10%		Medium	30%
	lBr	10%		Fine	10%
	Others	20%			
and	RBr	50%			
	Others	50%			
and	Br	66%			
	Others	33%			

Inclusions: None examined.

Description: *Pol W* has a clear, perfectly white slip while the *pol MudW* has a slightly muddy aspect. *Pol FlatW* has a chalky color. All are well-polished thick slips.

Forms: *Pol W* forms include Convex Bowl A, Base A, and Wide-everted Rims A, E, and O.

Pol MudW forms include Concave Bowl P, Convex Bowls A and M, and Wide-everted Rim A.

Pol FlatW forms are Convex Bowl A and Wide-everted Rims E and O.

Comments: The three have been placed together because of similarities in slip color. All may be accidental or occasional variations of one.

Polished Maroon and Polished Maroon Bichrome (*pol Mar*)—.309% (Figs. 17, 18)

Paste:	Br	39%	*Texture*:	Coarse	11%
	lBr	27%		Medium	79%
	RBr	22%		Fine	10%
	Others	12%			

Inclusions: Volcanic ash was found in 2 sherds. examined 10 additional sherds with a ten-power hand lens and found volcanic ash with pumice in 2, volcanic ash in 5, fine volcanic ash and sand quartz in 2, and calcite in 1.

Description: The definitive color, maroon, always has specular hematite inclusions, as confirmed by Shepard. Usually it is on the exterior above the vessel shoulder but continues over the lip and inside for about a centimeter. The interior is almost always white as is the exterior below the shoulder. The white frequently is discolored by firing clouds. On small sherds white may not appear. However, it is almost certain that the whole vessels were maroon and white bichrome. The vessels generally are poorly polished.

Forms: Included are Vase G, Convex Bowl A, Compound-silhouette Vessels E, G, and P, and possibly Wide-everted Rim A.

Decoration: Incision or "scratching" in the late leather-hard stage is the only technique observed and is found only in the maroon-painted areas, never the white. Only two design attributes are known. A single horizontal line may circle the vessel and from it may go up a stepped or "lightning" line, single or as two parallel lines (Fig. 18). The design once

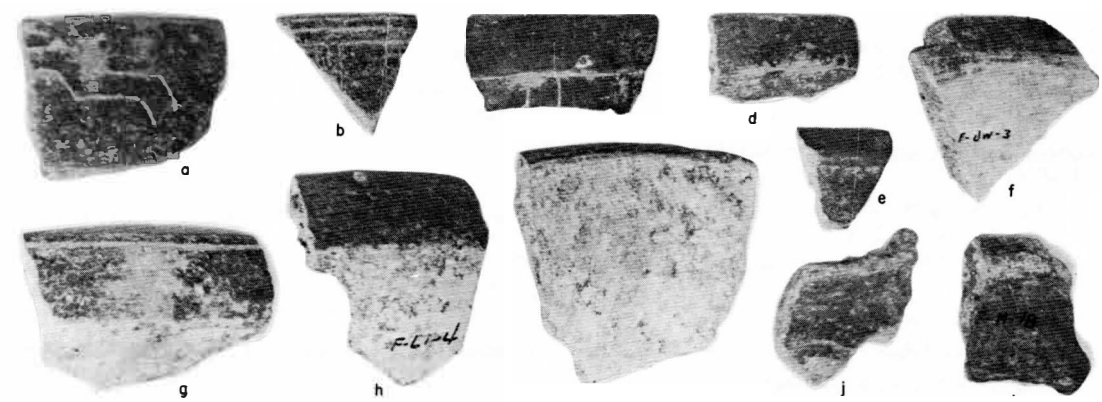

Figure 17. POLISHED MAROON POTSHERDS

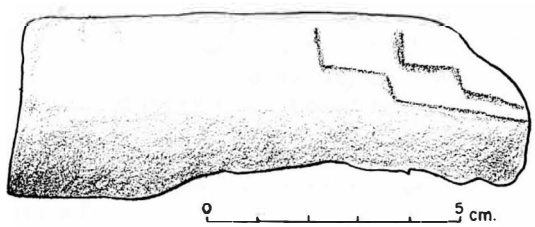

Figure 18. Decorative Attributes of Polished Maroon Potsherds

occurred on the superior surface of a wide everted rim.

Comments: These two, probably a single type, are quite similar to Maroon and Maroon Bichrome Slipped.

While *pol Mar* is in low percentage in the stratigraphic units, it is much more common in mound materials. It is distinctive and eventually may serve as a horizon marker in southern Mesoamerica.

Much of *pol Mar* and *Sl Mar* may be placed within the Vista Slipped Group, Vista Red: Broadline Variety associated for the most part with Chiapa Guanacaste phase.

Polished Bichrome (*pol Bichr*)—.533%

Paste: Variable; see Table 2.

Texture: Variable.

Inclusions: None examined.

Forms: See Comments.

Description: See Comments.

Comments: There are 31 sherds in this group and of these 29 are different from any other. Rather than continue defining such small groups, all have been grouped here. The most numerous bichrome, *pol Mar*, is not included.

The variations are so considerable that each sherd is described individually. The description given below in Table 2 is self-explanatory. Most color differences are contrasts between those found on interiors and exteriors. The second group consists of those that have one color placed over another. The last group contains those having two colors beside each other or in addition to the other. There is one sherd of each except for the first and second which have two each.

Unusual Polished, and Polished Polychrome— .084% and .067%.

Paste: See Table 3.

Texture: See Table 3.

Inclusions: The last entry in Table 3 contains volcanic ash.

Description: See Table 3.

Forms: See Table 3.

Comments: As with *pol Bichr*, these have been described in Table 3 below. There is one sherd of each, except the first which has two.

Table 2. Polished Bichrome Sherds, Excluding Polished Maroon Bichrome

Description		*Form Code (Using Division Number)*	*Paste*
Interior	*Exterior*		
pol dBr	pol BrO	7-P	RBr
pol O	pol Bl	3-G	lBr
RBr	pol BrO	5-K	RBr - c
pol lBr	R	7-H	lBr
pol O	pol lBr	6-A	lBr
pol O	pol lBr	6-CC	lBr
pol lBr	pol O	2-L	lBr
fal pol Bl	pol Gr	4-B	Gr
pol O	pol Br	4-G	RBr
pol Bl	pol RBr	8-A	RBr - c
pol RBr on pol Gr	pol lGr	8-B	Gr
pol RBr	pol Bl	8-K	RBr
pol RBr	pol Bl	8-M	RBr
Bl	pol RBr	10-G	O
pol RBr	pol O	13-BB	RBr - f
pol O	pol R	6-A	lBr
pol CrW	pol RBr	6-A	RBr
pol RBr	pol BlBr	6-P	RBr
pol O	pol Bl	6-R	Br
pol CrW	pol R	6-Y	RBr
pol dBr	pol R	6-CC	lBr
pol Gr	pol W	5-G	Br - f
pol RBr over pol lBr		3-A	RBr
pol O over pol lBr		3-A	lBr
pol Yellow over CrW		7-B	Br
Fugitive R over pol dBr		5-J	Br - c
pol Bl and O		3-G	Cr - f
pol O and pol Br		4-F	RBr
pol lBr with O rim		6-D	Br

Polished Incised-Glyph-Band (*pol Glyph*)—.016% (Fig. 19)

Paste: lBr

Texture: Medium

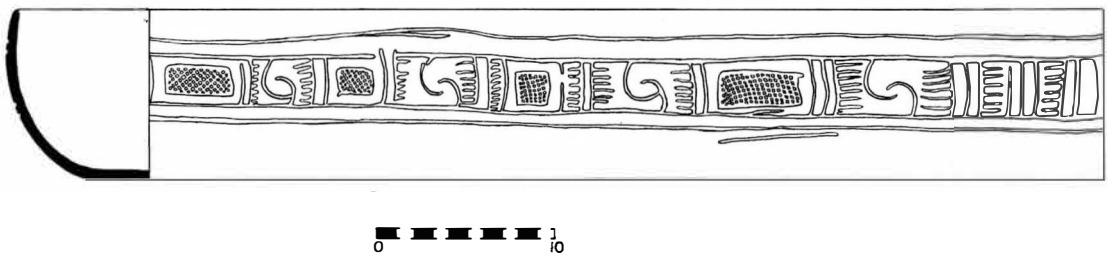

Figure 19. Polished Bowl with Incised Glyph Band
From Burial 8, Mound T.

Inclusions: Volcanic ash

Description: The single example found with Burial 8 bears a lightly polished thin dark orange slip.

Form: Convex Bowl A.

Decoration: Band of incised repeating glyphic elements with cross-hatched rectangular cartouche element alternating with interlocking spirals element.

Comments: As noted by Delgado (1965:40), the form and decoration are rather similar to Monte Albán III-A pieces described by Ignacio Bernal (1949, Lam. 1). Bernal was shown this vessel and agreed to the suggested similarity and, further, pointed out that the Santa Rosa vessel has a shallow line incised around the outer margin of the base on the vessel exterior, a feature frequently found on Monte Albán III-A convex bowls (personal communication).

Table 3. Unusual Polished and Polished Polychrome Sherds

Description	*Form Code (Using Division Numbers)*	*Paste*
pol BrO	6-A	lBr - t
pol BrO	8-A	lBr
pol Yellow Br	13-V	lBr
pol Yellow Br	13-BB	lBr - f
Inside: pol O; Outside: R and Bl	9-F	
Inside: pol Gr; Outside: pol RBr and Br	13-BB	RBr - f
Inside: pol CrW; Lip: pol BrO; Outside: pol CrW with dBr stripes	5-S	RBr
Inside: Yellow O with O stripes; Outside: pol R	7-Q	RBr - f

SLIPPED BUT UNPOLISHED TYPES

As previously noted, this group will be referred to as *slipped types*. Slipped types are the smallest group from the stratigraphic units but study of mound materials indicates that they are more common there. This probably is due to the fact that unpolished sherds may tend to erode easily. Mounds have better drainage than pits and so sherds from there have been better preserved.

It is possible that some sherds included in this group are not truly slipped. That is to say, the potters may have dampened their hands while smoothing the vessel, thereby dissolving surface particles and leaving a coat of fine materials resembling a slip. This applies especially to vessels that have slip or false slip of the same color as the paste. Other examples may have more a wash than a slip.

Reddish Brown Slipped (*Sl RBr*)—4.586%.

Paste:		*Texture*:	
RBr	58%	Coarse	46%
Br	28%	Medium	52%
lBr	11%	Fine	2%
Others	3%		

Description: Slip color varies from a dark reddish brown to a reddish orange. There are two color groups, those that occur on reddish brown pastes and those on other pastes. Generally the slips on the reddish brown pastes have lower chromatic values.

Forms: The most frequent forms include Tecomates A, C, D, and E; Ollas C, D, F, G, H, J, K, and L; Vase A; Divergent Straight-wall Bowls A and B; Concave Bowls A and E; Convex Bowls A, G, K, and CC; Bases B, E, and M; Wide Everted Rim A; and Special Features A, F, R, AA, and BB.

Comments: The frequent occurrence of tecomate and olla forms is notable.

Dark Brown Slip (*Sl dBr*)—1.613%

Paste:		*Texture*:	
lBr	49%	Coarse	19%
Br	23%	Medium	78%
RBr	18%	Fine	3%
Others	10%		

Description: The color is a dark brown, almost black. The slip is soft and frequently badly eroded with only traces remaining.

Forms: The most frequent include Divergent Straight-wall Bowl M; Concave Bowls D and P; Convex Bowls A, J, M, Y, and CC; Bases B and K; Handle A; Wide Everted Rims A and B; Vessel Support A; and Special Features F, K, O, and X.

Comments: There seem to have been two occurrences, those with light-colored pastes being considerably later in time than those with dark pastes.

Brown Slip (*Sl Br*)—1.966%

Paste:	Br	48%	*Texture*:	Coarse	33%
	RBr	26%		Medium	65%
	lBr	26%		Fine	2%
	Others	6%			

Description: The slip is brown, soft, and frequently badly eroded.

Forms: The most frequent forms include Tecomates A, C, D, and E; Ollas J, K, and L; Vase A; Divergent Straight-wall Bowls A, B, and F; Concave Bowls A, E, and M; Convex Bowls B and D; Bases A, B, E, and M; Wide Everted Rim A; and Special Feature F.

Comments: There seem to be several parallels between this type and *Sl RBr*.

Light Brown Slip (*Sl lBr*)—.823%

Paste:	Br	52%	*Texture*:	Coarse	28%
	lBr	26%		Medium	68%
	RBr	18%		Fine	4%
	Others	4%			

Description: Slip color is light brown, quite soft and frequently eroded.

Forms: They include Ollas F, G, and K; Concave Bowl A; Convex Bowls A and C; Bases A and E; Wide Everted Rim A; Vessel Support A; and Special Features F and H.

Orange Slip (*Sl O*)—.924%

Paste:	Br	53%	*Texture*:	Coarse	38%
	lBr	24%		Medium	60%
	RBr	18%		Fine	2%
	Others	5%			

Description: The slip usually is thin, similar to a wash.

Forms: They include Ollas F and I; Divergent Straight-wall Bowl A; Concave Bowls A and D; Convex Bowls A, B, C, D, and M; Base E; and Special Feature F.

Comments: Some examples may be painted, not slipped.

Creamy-White Slip (*Sl CrW*)—3.192%

Paste:	RBr	40%	*Texture*:	Coarse	36%
	Br	38%		Medium	62%
	lBr	15%		Fine	2%
	Others	7%			

Description: The slip is thick, soft, often eroded, and creamy white in color. Occasionally it is thin.

Forms: They include Ollas F, I, J, and N; Vases A and B; Divergent Straight-wall Bowls A, B, and C; Concave Bowl A; Convex Bowls A, C, G, and CC; Compound-silhouette Vessel A; Bases A and E; and Wide Everted Rims A, B, L, and O.

Decoration: See the decorative techniques and attributes discussed above for *pol CrW*.

Comments: This type probably is closely related to *pol CrW*, paralleling it in almost every respect except polishing. Sherds with the thin slip may pertain to an earlier period than the thick-slipped examples.

Flat White Slip (*Sl FlatW*)—.823%

Paste:	RBr	28%	*Texture*:	Coarse	36%
	Br	47%		Medium	62%
	Gr	14%		Fine	2%
	Others	11%			

Description: The slip is thin and soft with a chalky white color and feeling. It is very often badly eroded with only traces remaining.

Forms: These include Vases A and B; Concave Bowls B, F, and I; Convex Bowl C; Compound-silhouette Vessel P; Base A; and Wide Everted Rim A.

Decoration: Techniques include incision and area excision. There may be one or two lines incised around the interior rim with some examples of the lower line breaking upwards to join the upper. The exteriors of bowls may have incised curvilinear elements, especially an "S" design or with ticks of vertical lines. Areas adjacent to incised lines may be cut away, forming rectangles.

Comments: Since the slip is so often eroded, it is likely that numerous examples of the unslipped types originally were of this type. There seems to be both an early and a late occurrence.

Most of the *Sl FlatW* belongs within the Vergel Slipped Group, Vergel White-to-Buff: Vergel Variety (red paste), and Tonala Recessed: Red-paste Variety, all of Dili phase at Chiapa de Corzo.

Gray Slip (*Sl Gr*)—.403%

Paste:	RBr	16%	*Texture*:	Coarse	25%
	Br	54%		Medium	75%
	lBr	12%			
	Gr	12%			
	Others	6%			

Description: The slip is light to dark gray in color and is thin, soft, and frequently eroded.

Forms: They include Vase A, Convex Bowl T, Bases A and E, and Wide Everted Rim A.

Comments: Some may be misfired examples of various white wares.

Red Slipped (*Sl R*)—.336%

Paste:	RBr	15%	*Texture*:	Coarse	15%
	dBr	5%		Medium	80%
	Br	40%		Fine	5%
	lBr	40%			

Description: The slip is frequently of an orange-red color but generally a crimson red. It is usually thin and often eroded.

Forms: Forms include Convex Bowl A and a scattering of others, mostly tecomates and ollas.

Comments: Some examples may be washed, not truly slipped.

Black Slipped (*Sl Bl*)—.319%

Paste:		*Texture*:	
RBr	21%	Coarse	10%
Br	31%	Medium	85%
Cr	16%	Fine	5%
Bl	16%		
Others	16%		

Description: This has a thin, frequently eroded slip.

Forms: The forms include Vases B and D and a few others.

Muddy White Slipped (*Sl MudW*)—.218%
(Fig. 20)

Paste:		*Texture*:	
RBr	31%	Coarse	38%
Br	23%	Medium	55%
lBr	46%	Fine	7%

Description: The slip is thin, frequently eroded, and muddy white.

Forms: They include Convex Bowl C, Wide Everted Rim A, and a few others.

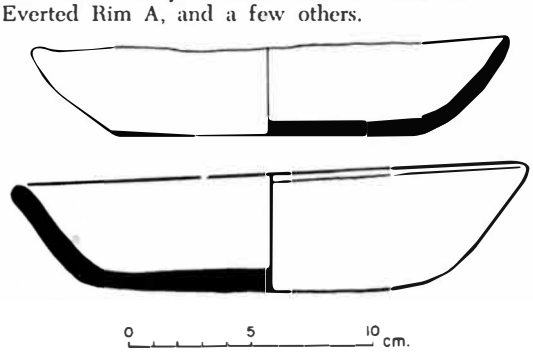

Figure 20. Slipped Muddy-White Bowls
From Cache 5, Mound S.

White Slipped (*Sl W*)—.084%
(Fig. 21)

Paste:		*Texture*:	
RBr	20%	Coarse	20%
Br	60%	Medium	80%
Gr	20%		

Description: This has a soft, clear white slip.

Forms: The forms include Tecomate A and a scattering of others.

Comments: This may be a variation of *Sl FlatW*.

Blackish Brown Slipped (*Sl BlBr*)—.067%

Paste:		*Texture*:	
Br	50%	Coarse	25%
lBr	50%	Medium	75%

Description: This has a thin but hard slip, blackish brown in color.

Forms: Too few to define adequately.

Comments: This may be an unpolished version of *pol BlBr*.

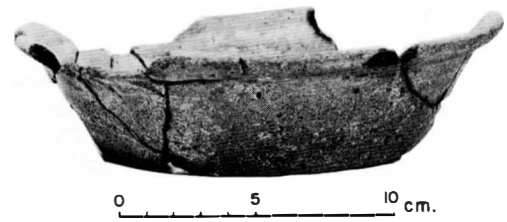

Figure 21. Slipped White Bowl
From Cache 7, Mound V.

Red-Lip (*RLip*)—.067%

Paste:		*Texture*:	
Br	25%	Medium	100%
lBr	75%		

Description: This has a bright red painted lip that may extend about one centimeter on each side of the rim with the remainder of the vessel unslipped and unpolished.

Forms: Forms include Convex Bowls A and G and a few sherds from olla forms.

Comments: While this grouping is not slipped, it has been placed here to avoid excessive classes.

Other Slipped Sherds—.100%

Paste:		*Texture*:	
RBr	67%	Coarse	16%
Br	16%	Medium	67%
lBr	16%	Fine	16%

Comments: This group of six sherds includes different variations of painted lines or unique slips or washes.

Polychrome Slipped Sherds —.033%

Comments: Of the two sherds, one has black, red, and orange on the exterior and orange on the interior. The form is a Convex Bowl F and paste is brown, medium textured. The second sherd has white on the exterior above the shoulder and brown below with the interior being reddish-brown. The form is a Compound-silhouette Vessel K. and paste is reddish-brown, medium textured.

Maroon and Maroon Bichrome Slipped (*Sl Mar*)—.688%

Paste:		*Texture*:	
RBr	39%	Coarse	19%
Br	26%	Medium	74%
lBr	31%	Fine	7%
Others	4%		

Description: These sherds always bear maroon with specular hematite inclusions. Many sherds have only maroon while most of the remainder have a white slip, but maroon may occur in conjunction with orange, light brown, or dark brown.

Forms: The forms include Divergent Straight-wall Bowl A; Convex Bowls A, H, M, and S; Compound-silhouette Vessels A, D, E, and P; Base A; Handle C; Wide Everted Rim B; Vessel Support G; and Special Features G and BB.

Decoration: See the discussion of *pol Mar* decoration above.

Comments: Part of *Sl Mar* may be unpolished versions of *pol Mar*. There are no examples of com-

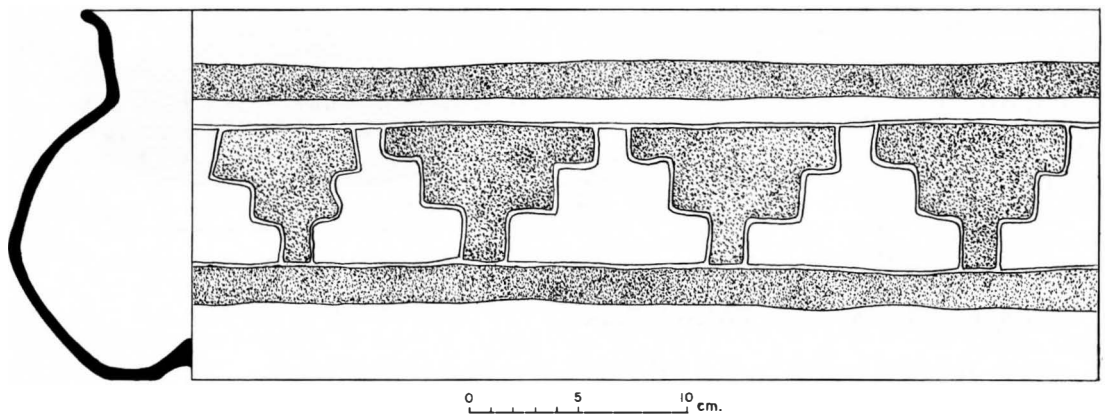

Figure 22. PAINTED BICHROME OLLA
From Burial 8, Mound T.

binations with white in upper levels for *Sl Mar.* A fuller discussion is provided below in the section dealing with stratigraphy definition.

TABLE 4. BICHROME SLIPPED SHERDS

Description	*Form Code (Using Division Numbers)*	*Paste*
dBr with R rim	6-CC	Br
dBr with R rim	8-F	Br - c
dBr exterior with R rim	8-F	Br
CrW with RBr rim	5-A	RBr
lBr with exterior lip O	6-A	lBr
Exterior and lip RBr; interior lBr	3-C	Br
dBr on MudW	13-L	Cr
dBr on MudW	4-C	lBr
dBr on MudW	3-A	Br - c
dBr on MudW	1-C	Br - c
dBr on W	10-A	Br - c
Br on MudW	10-A	lBr - c
Br on MudW	2-J	lBr
Br on CrW	7-D	lBr - c
dBr on RBr	11-A	lBr
Bl on RBr	5-A	lBr
Bl on RBr	5-P	lBr
Bl on RBr	6-A	Br
Bl on FlatW	8-C	Br
R on CrW	6-G	lBr
R on RBr	1-G	RBr - c
R pt. on CrW	3-G	RBr
W interior; O exterior	2-H	Br
lBr interior; R exterior	10-A	lBr
Bl interior; Br exterior	7-D	Br - c
O on CrW	10-A	RBr
O splotches on W	1-A	lBr
O splotches on lBr	10-A	Br

Bichrome Slipped Sherds (*Sl Bichr*)—.504%

Paste:		*Texture*:	
RBr	13%	Coarse	27%
Br	43%	Medium	73%
lBr	40%		
Others	4%		

Table 4 contains a description of this varied group. There is one example of each except for the last two which have two examples.

Painted Bichrome (*pt Bichr*)—.016% (Fig. 22)
Paste: lBr
Texture: Medium
Inclusions: Coarse volcanic ash
Description: The single example, found with

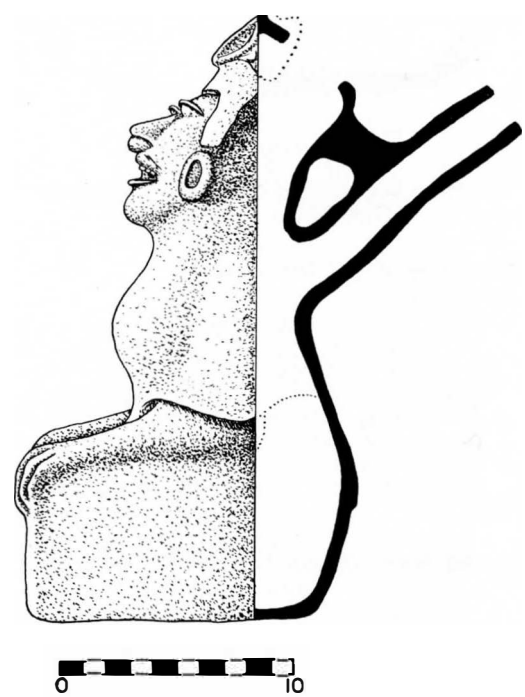

Figure 23. RED-SLIPPED HUMAN EFFIGY VESSEL
From Burial 8, Mound T.

Burial 8, has a smoothed unslipped surface painted with a band of "step" designs and solid bands above and below. The paint is dark red.

Form: Olla Form M.

Decoration: Dark red painted "step" design with red bands above and below. Painted areas are outlined by incised lines.

Comments: Vaguely similar decorative techniques are associated with Brainerd's Incised Dichrome (1958, Fig. 64) which he apparently assigns to his early Regional tage or, in our terms, Early Classic (*ibid.*, 90).

Red-Slipped Anthropomorphic (*Sl R Anthro*)—.016% (Frontispiece; Figs. 23, 24).

Paste: Ochre
Texture: Medium
Inclusions: Coarse volcanic ash
Description: See Comments.
Form: See Comments.
Decoration: See Comments.

Comments: This vessel, the finest found at Santa Rosa, accompanied Burial 8 along with two other vessels (Delgado, 1965:39-40). It is unique at Santa Rosa as are the other vessels.

Delgado's description says:

> ". . . Anthropomorphic effigy vessel. 26 cm. high with bridged pouring spout and an orifice in the [back of the] head. Yellow clay with a dull red finish with fire clouds. It represents a seated woman with hands on hips and wearing a *quexquemitl* and a skirt. The face is mold made with appliqué nose ring, discoidal ear ornaments, and a large forehead rosette; the body is modeled . . ." (*ibid.*, 40).

To this description we add that while the figure's posterior is realistically modeled, the legs and lap are represented as a rectangular box, a frequent attribute of Monte Albán anthropomorphic figures.

As Delgado notes, the figure has a ". . . general aspect of Teotihuacan III . . ." (*ibid.*). It also bears considerable resemblance to Early Classic Monte Albán pieces, specifically Boos' "Deity with the Headdress Composed of a Horizontal Band," which is characterized by a ". . . horizontal band across forehead of feminine figure . . . a wreath or circle composed of overlapping feathers with a jade ornament . . . in the center . . ." (Boos, 1966:442). He assigns the figure to Monte Albán III-A or Early Classic.

Bernal examined the Santa Rosa piece and,

Figure 24. RED-SLIPPED EFFIGY VESSEL OF A WOMAN
From Burial 8, Mound T.

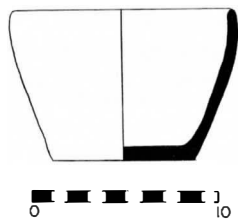

Figure 25. Unslipped Reddish Brown Deep Bowl From Pit 13.

while agreeing that it has a definite Monte Albán aspect, sees no close resemblances. He pointed out that the nose ring never occurs at Monte Albán (personal communication).

We have a superb example of prehispanic sculpture that apparently represents a distinct but successful and confident integration of several known regional styles. Such an integration may have been the product of a yet unknown cultural center.

Figure 26. Unslipped Reddish Brown Bowl From Cache 1, Trench 2, Mound F.

UNSLIPPED SHERDS

Unslipped sherds constitute 40.832% of all from stratigraphic units. It is not possible to break this group into finer units with the characteristics used for previous groups.

Table 5 lists pastes and textures together with their percentages of the total collection of studied sherds. Included may be sherds that have lost their slip through soil conditions, erosion, washing, etc. It is not possible to separate them. The glazed sherd, colonial or modern, is added to the chart for simple convenience.

Table 5. Unslipped Sherds

Paste and Texture	*Percentage*		
RBr-c	5.275	R-c	.185
RBr	4.519	R	.369
RBr-f	.558	R-f	.067
dBr-c	.084	Gr-c	.554
dBr	.134	Gr	1.361
Br-c	7.325	Gr-f	.336
Br	6.636	lGr-c	.033
Br-f	.151	lGr	.117
lBr-c	1.629	Bl-c	.302
lBr	6.922	Bl	.302
lBr-f	2.154	Bl-f	.134
Cr-c	.134	O-c	.100
Cr	.252	O	.016
Cr-f	1.133	Green Glaze	.016
		TOTAL	40.832

Examples of unslipped vessels are shown in Figures 25-28.

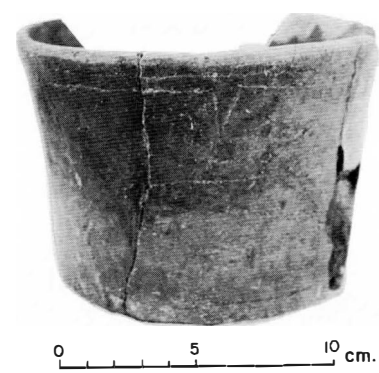

Figure 27. Unslipped Polished Brown Bowl From Cache 4, Trench 2, Mound K.

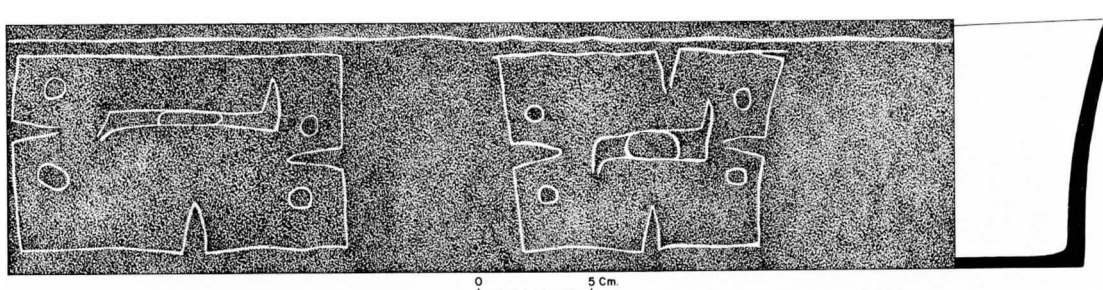

Figure 28. Incised Design on Unslipped Polished Brown Bowl From Cache 4, Trench 2, Mound K.

PASTES AND INCLUSIONS

Pastes and inclusions, given as part of the type descriptions, also may be viewed independently. Table 6 summarizes associations between inclusions and some types, with the horizontal arrangement of types following the sequence of their stratigraphic appearance; later ones are on the left and earlier on the right. The reader will note a trend with sand inclusions being earliest, followed by calcite, volcanic pumice, and sparse opaline. Within the pumice group is another trend from fine to coarse particles.

The inclusion sequence gives support to associations of types with cultural phases. *Sl RBr* and *Sl FlatW*, both thought to be associated with Phase 1, are unique in having only sand inclusions. *Pol O* and *pol RBr*, considered partly contemporaneous variations of a single tradition beginning in Phase 2 and lasting at least through Phase 3, have the same kinds of inclusions but an X^2 test of their distribution indicates that a hypothesis of no difference could be rejected at the 10% level of significance; the similarity probably is not complete. *Pol Bl* and *pol CrW* are identical in having only medium volcanic ash temper. *Pol Mar*, which is stratigraphically associated with *pol CrW*, shows a variation of inclusions most like that of *pol RBr*. *Pol Ob* clearly is set apart from other types.

One table was prepared to give the numbers of instances and percentages of each paste and texture variation within each type grouping. A second table gives the same information but with percentages computed in relation to the total collection. These tables are on file.

In brief summary, coarse and medium reddish-brown, coarse and medium brown, and medium light-brown pastes have a wide distribution occurring in nearly all types although in varying intensity. Variations may divide types that are similar in other respects. For example, it was noted above that *pol Bl* and *pol CrW* have the same temper. However, of the *pol Bl* sherds, 47% have reddish brown paste, 11% medium brown, 2% light brown, 3% gray, and 6% black paste (all of medium texture) while the percentages for the same pastes and texture for *pol CrW* are 26%, 30%, 15%, 0%, and 0%. *Pol O* and *pol RBr* which contain the same inclusions but in different frequencies, have about the same pastes, but, again, in different frequencies. *Pol Mar* and *pol CrW*, while differing in regard to inclusions, have almost the same frequencies of the same pastes. *Pol CrW* and *Sl CrW*, probably varieties of a single type, as

TABLE 6. INCLUSION OCCURRENCES WITHIN SOME TYPES

	Pol Ob	Pol Bl	Pol Crw	Pol Mar	Pol BlBr	Pol RBr	Pol Br	Pol lBr	Pol O	Sl RBr	Sl FlatW
Sparse opaline	24						1				
Volcanic ash, coarse				2							
Volcanic ash, medium		21	11	7		46			23		
Volcanic dust & fine	1			2	2	9	1	4	12		
Calcite				1		7			2		
Sand (w/quartz)						2			1	6	9
Fine scaly mica	1										
Ferrous particles w/spongy paste							1				
Not I. D.									1		
TOTAL	26	21	11	12	2	63	3	4	39	6	9

noted above, have the same pastes in almost the same frequencies. On the other hand, *pol RBr* and *Sl RBr* have similar pastes but in differing frequencies and different stratigraphic occurrences.

In summary, the relationships between types and pastes, textures, and inclusions are extremely complex, a fact that cannot be ignored, but it is not possible to explore all at this time.

VESSEL FORM STUDY

Vessel forms have been grouped into thirteen major form divisions. Within each are from eight to thirty-six categories, defined primarily as form attributes although decorative attributes sometimes are used. Each division is indicated in the code system by a number, and categories by capital letters. For example, 1-B refers to a certain variety of tecomate and 2-B to an olla variety. The Form Code consists of illustrations and brief written description. The illustrations, mostly sherd profiles, are of specific sherds but represent generalizations, for within each category there may be considerable variation.

The Code is largely self-explanatory but needs a few comments. Tecomate and olla forms have been separated but it is not always possible to make a clear distinction between them. A tecomate has a globular body, restricted orifice, and no neck, while the olla, otherwise generally identical, has a neck. The two forms blend morphologically, as some tecomates have slight rises at the rim and some ollas have very low necks. A sherd has been described as tecomate if the rise is not greater than the wall thickness immediately below the rim. In function, an olla lends itself to pouring liquids while the tecomate does not.

THE FORM CODE

1 **Tecomates** (Fig. 29).

- A Large, probably over 20 cms. high, and plain.
- B Probably less than 20 cms. high, with thin walls and plain.
- C Large with a single line incised around the exterior rim.
- D Large, always with a raked, rasped, or brushed area in band around the exterior rim. Within the band may be a line of gouged spots or lunate arcs.
- E Large, with band of gouged spots or arcs in band below exterior rim but without rasping or raking.

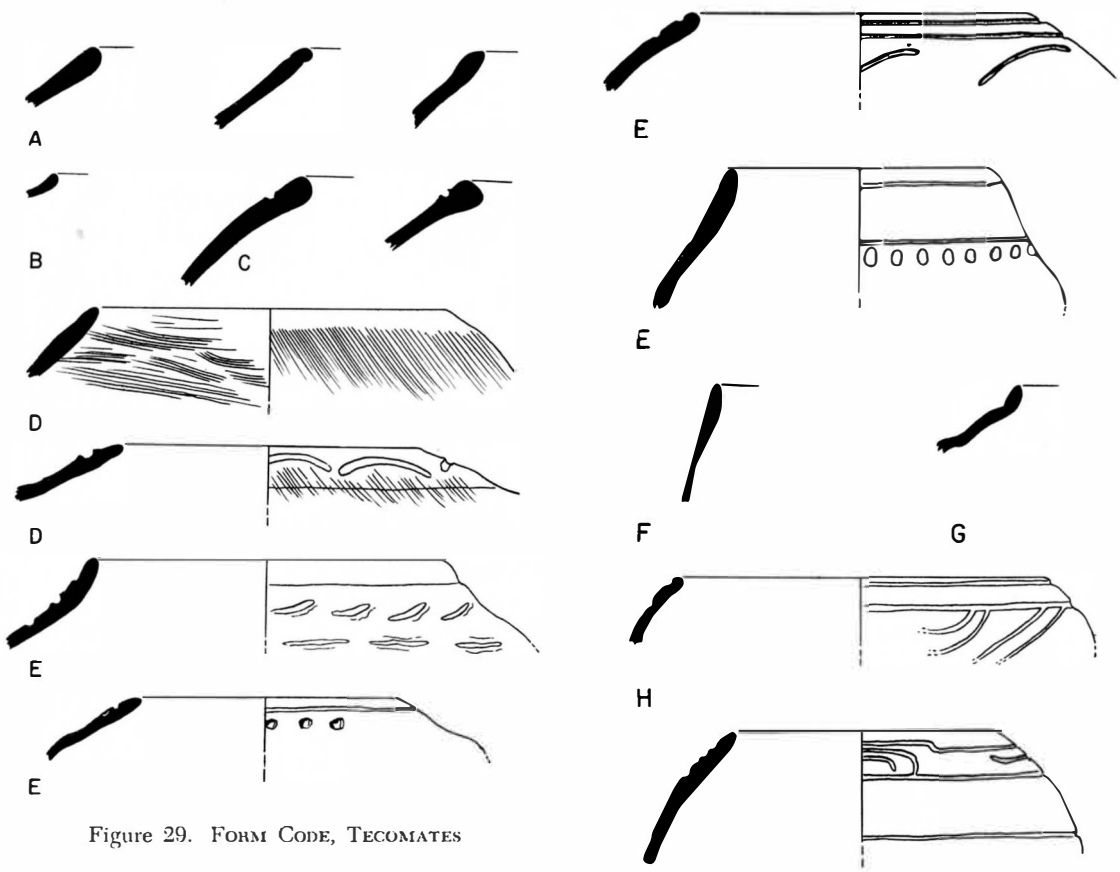

Figure 29. Form Code, Tecomates

F Plain wide-mouth form.
G Plain with slightly raised rim or very low neck.
H Small with incised design in band around the exterior.

2 **Ollas** (Fig. 30).
A Small, with vague, short neck.
B Short, straight neck.
C Short, straight, and slightly divergent neck.
D Evenly curving divergent neck with rounded lip.
E Evenly curving divergent neck with thinned lip.
F Slightly curving divergent neck with rounded lip.
G Slightly curving divergent neck with thinned lip.
H Slightly curving divergent neck with lip flattened.
I Slightly curving divergent neck. There is a depression around the lip interior as though maker ran his finger around it, pressing. This feature hereafter will be called "finger-thinning."
J Straight, divergent neck with lip varying.
K Straight neck diverging at angle as much as 45°. The lip usually is pointed or thinned.
L Divergent neck with compound profile.
M Straight, slightly divergent neck with small everted rim or labial flange.
N Curved divergent neck with slightly rolled lip.

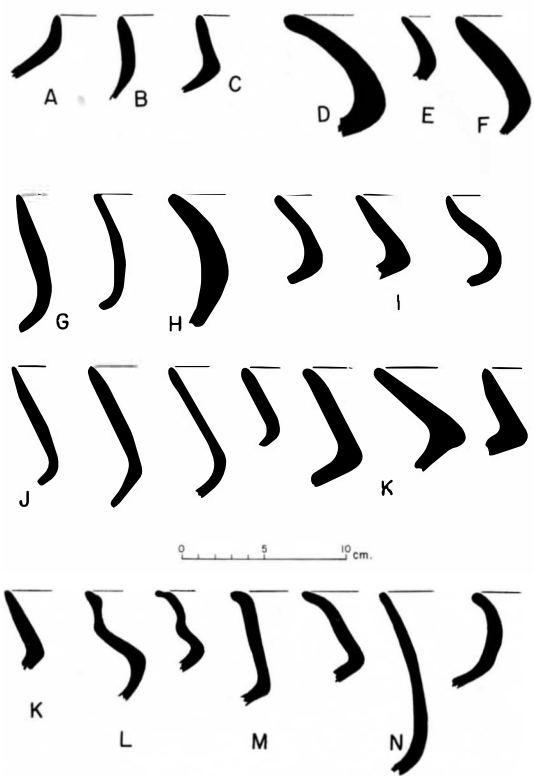

Figure 30. Form Code, Ollas

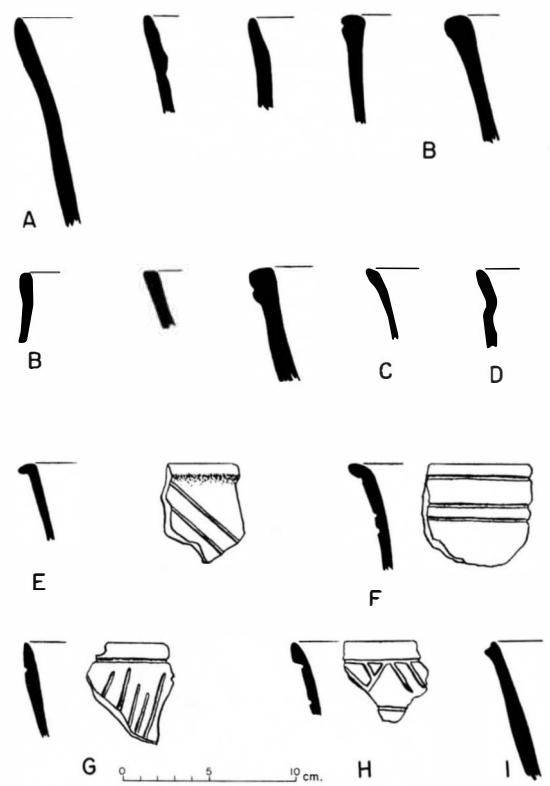

Figure 31. Form Code, Vases

3 **Vases** (Fig. 31).
A Straight or slightly concave erect walls, occasionally having simple incised line or design on exterior.
B Straight or slightly concave erect walls with flat or slightly rounded reinforced rim.
C Slightly concave erect wall with shallow line around interior of lip.
D Slightly convex erect wall with finger groove around exterior.
E Slightly convex erect wall with small everted rim; exterior may bear incision.
F Straight, somewhat divergent walls; always has incised line around exterior rim and may have other incision. The rim may be everted.
G Straight, somewhat divergent walls and simple rim with incised lin around exterior and often with exterior incision.
H Straight, erect walls with reinforced rim that may be pointed. Exterior incision is common.
I Straight wall with small labial flange.

4 **Divergent Straight-Wall Bowls (Fig. 32).**

- A Simple rounded lip.
- B Rounded reinforced rim.
- C Wide, shallow horizontal finger grooves around exterior.
- D Flattened rim.
- E Flattened rim with two horizontal lines incised around exterior.
- F Rounded rim with one line incised around exterior.
- G Slightly thinned and rolled rim; may have line incised below roll on interior and/or exterior.
- H Round rim with interior incised line.
- I Round rim with two incised lines around interior.
- J Slightly pointed rim with two lines incised around interior.
- K Everted or slightly everted rim that may have "button" appliqué on it.
- L Reinforced rim, often internally everted.
- M Straight, convex or concave-wall bowls with pseudo-glyph band around exterior. All examples appear to have been mold-made.

5 **Concave Bowls (Fig. 33).**

- A Slightly reinforced upper wall with rounded lip.
- B Reinforced, rounded rim.

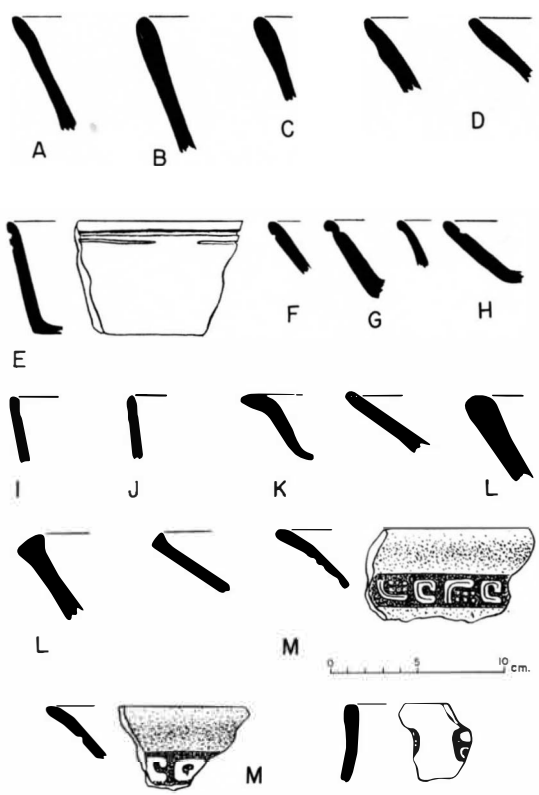

Figure 32. Form Code, Divergent, Straight Wall Bowls

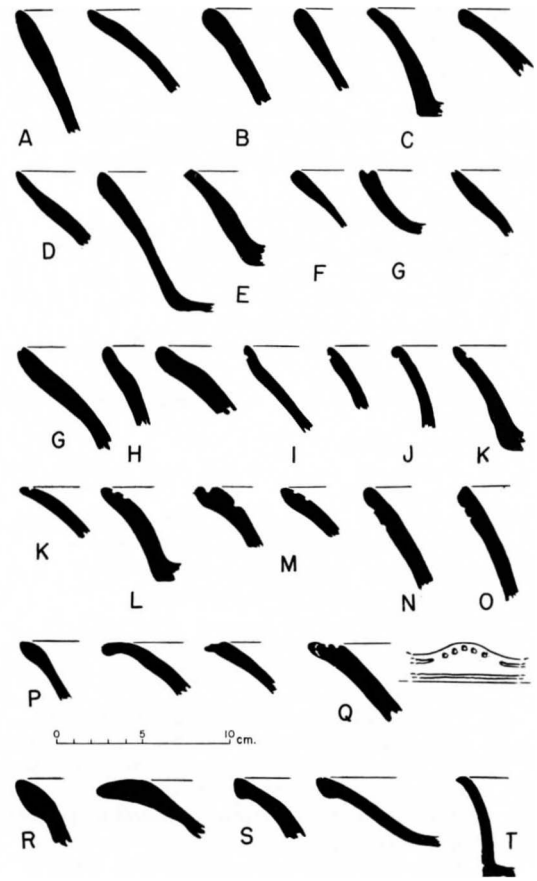

Figure 33. Form Code, Concave Bowls

- C Rounded rim with slight ridge on exterior.
- D Pointed rim.
- E Flattened rim with interior and exterior ridges.
- F Reinforced rim with interior and exterior ridges.
- G Concave or convex bowl with single line incised around rim.
- H Finger groove around interior rim.
- I Single line incised around exterior rim; may bear other incision on exterior.
- J Rolled rim with line incised around exterior below roll.
- K Line incised around interior lip.
- L Exterior lip has sharp ridge, interior is rounded; two lines incised around interior rim.
- M Exterior lip is rounded, interior has sharp ridge; two lines incised around interior rim.
- N Rounded rim with two wide lines incised around exterior.
- O Exterior lip is rounded, interior has sharp ridge; two lines incised around exterior rim.
- P Nubbin or slightly everted rim.

Q Slightly everted rim with one or two incised lines running around it and often with moldings on external edge.
R Thick, slightly everted rim.
S Externally reinforced pointed rim.
T Slightly everted rim with interior lip rounded; two lines incised around exterior base.

6 **Convex Bowls** (Fig. 34).

A Bowl with rounded rim.
B Very shallow bowl with rounded rim.
C Slightly reinforced rounded rim.
D Low bowl with tapered rim.
E Sharp ridge on interior lip and rounded exterior.
F Rounded rim with sharp ridges exterior and interior.
G Flattened rim.
H Reinforced flattened rim with exterior and interior ridges.
I Reinforced flattened rim with rounded lips.
J Wide reinforcement of exterior rim.
K Smoothed ridge below exterior rim.
L Raised exterior band below rim.
M Pointed rim.
N Pointed rim thinned on exterior surface.
O Heavily reinforced rim with sharp ridge on interior.
P Finger-thinned around interior below lip.
Q The maker apparently ran his finger around the interior rim leaving a slight depression and causing the rim area to flare outwards. The attribute is hereafter referred to as "finger-widening."
R Externally reinforced and pointed rim.
S Small external labial flange.
T Small shoulder flange.
U Shoulder flange.
V Rounded rim with shallow finger-impressed groove around the exterior rim.
W Slightly reinforced and rolled rim with incised rim or finger-impressed groove around the exterior rim.
X One or two parallel lines incised around interior below lip.
Y One line incised around exterior rim and with exterior incised or excised design.
Z (Not illustrated, see Figure 35, Form 7- for design attribute.) Bowl with band of double triangles with hachure and cross-hachure on exterior.
AA Bowl with zoned punctate design on exterior.
BB Nubbin everted rim, sometimes with appliqué button.
CC Small everted rim.
DD Small reinforced everted rim, with or without lines incised on it.
EE Small everted rim with two lines incised around it.
FF Plain medium everted rim.
GG Down-angled wide everted rim.
HH Simple or complicated wide everted rim.
II Very shallow bowl or comal.
JJ Bowl with appliqué around exterior rim.

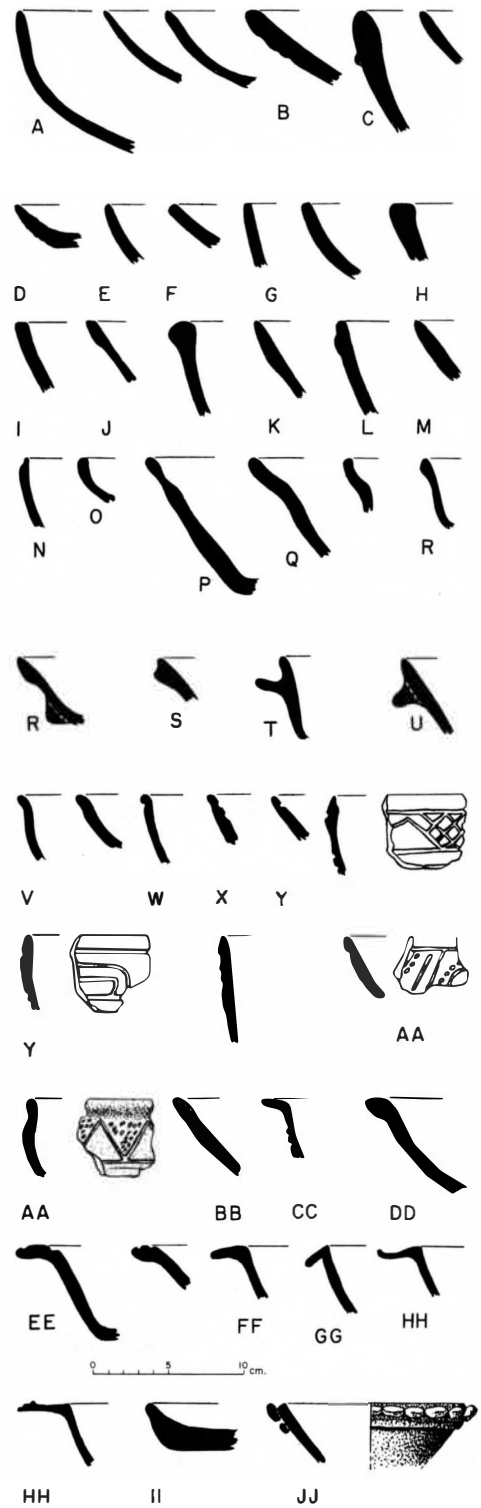

Figure 34. Form Code, Convex Bowls

7 **Compound-Silhouette Vessels** (Fig. 35).

A Outflaring concave bowl with basal angle.

B Nearly erect but concave bowl with basal angle or ridge.

C Erect concave bowl with basal angle or ridge.

D Restricted-orifice bowl with high shoulder; shoulder angle is sharp.

E Restricted-orifice bowl with high shoulder; shoulder angle is rounded.

F Open bowl with high shoulder.

G Restricted-orifice high-shoulder bowl with abrupt shoulder angle.

H Restricted-orifice bowl with evenly curving shoulder.

I Erect vessel with compound curve near rim.

J (Not illustrated) Low bowl with long, heavy, reinforcement extending from rim over 2 cms. down wall.

K Erect, compound-silhouette vessel with strong basal angle.

L Erect vessel with basal ridge.

M Bowl with compound curved out-flaring walls.

N Bowl with moldings delimiting design area and basal break.

O (Not illustrated) Flat base, high-shoulder vessel similar to tecomate.

P High-shoulder vessel with erect upper wall and lower wall almost horizontal.

Q Restricted orifice vessel. similar to 7-O.

R "Mushroom effigy" vessel. Also see 13-U.

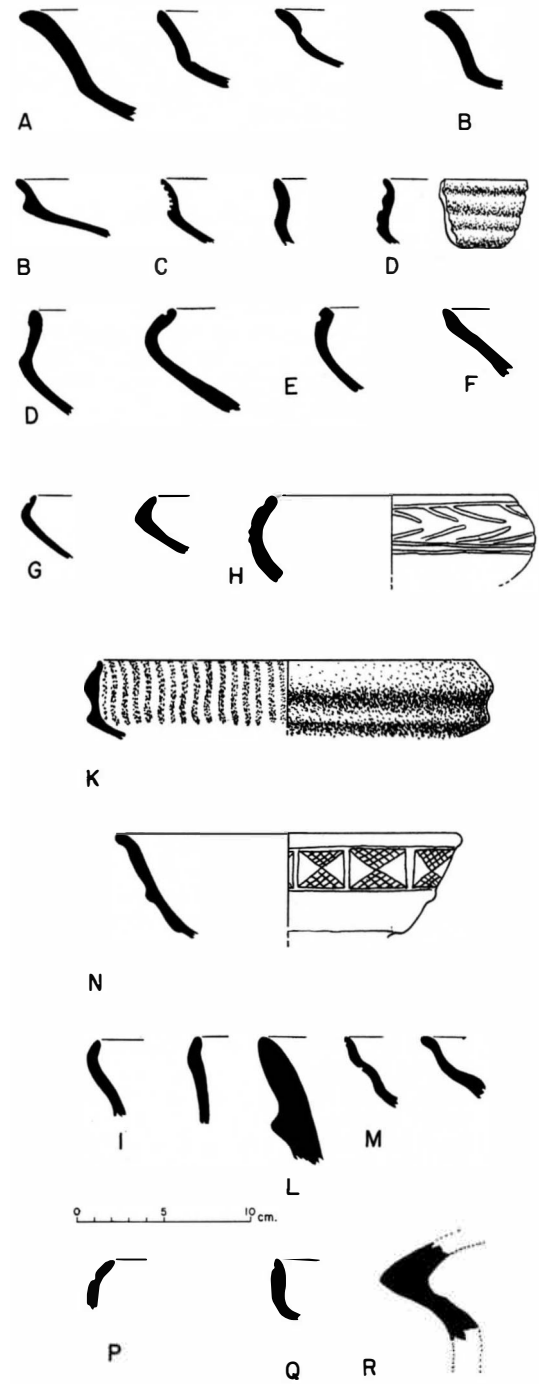

Figure 35. FORM CODE COMPOUND SILHOUETTE VESSELS

8 **Bases** (Fig. 36).

- A Flat base with convex wall and curving basal angle.
- B Flat base with convex wall and sharp basal angle.
- C Thick flat base with divergent convex wall and sharp basal angle.
- D Flat base with nearly erect slight convex wall and one or two lines incised around exterior wall at base.
- E Flat base with straight, slightly divergent wall and sharp basal angle.
- F Flat base with straight, slightly divergent wall and sharp basal angle; curvilinear excised or incised design on exterior.
- G Flat base with erect or nearly erect walls and laterally projecting basal ridge or flange.
- H Flat base with slightly divergent concave wall and sharp basal angle.
- I (Not illustrated) Convex base with convex wall.
- J (Not illustrated) Convex base with straight divergent wall.
- K Concave or "dimpled" base with convex wall.
- L (Not illustrated) Concave base with divergent straight wall.
- M Concave base, wall form unknown.

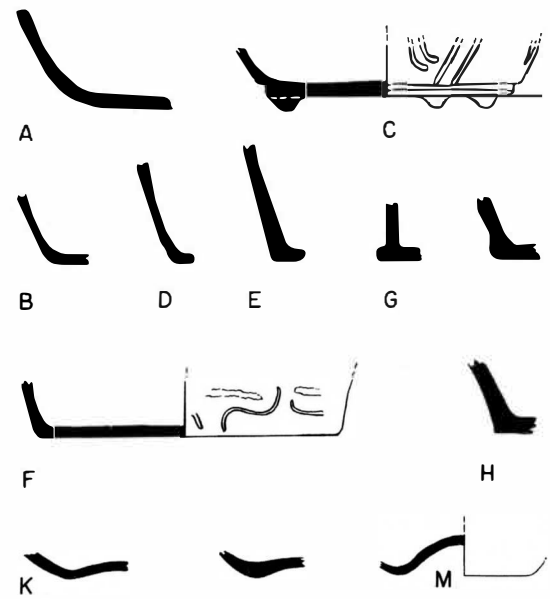

Figure 36. Form Code, Bases

9 **Handles** (Fig. 37).

- A Flat strap handle, always vertical when direction is discernible.
- B Round loop handle, always vertical when direction is discernible.
- C Very flat strap handle, vertical only.
- D Flat strap handle with raised strip running lengthwise along superior surface. Forms 9-D and H apparently are handles that originated at the vessel rim looping over across the vessel orifice to the opposite rim, as with basket handles.
- E Solid triangular lug, horizontal and projecting laterally.
- F Perforated triangular lug, horizontal and projecting laterally.
- G Strap handle formed from two or five individual straps.
- H Strap handle with one or two grooves running lengthwi e along superior surface. See Form D.
- I Flat lug projecting downwards. Since there is no wear on distal portion, this probably is not a support.

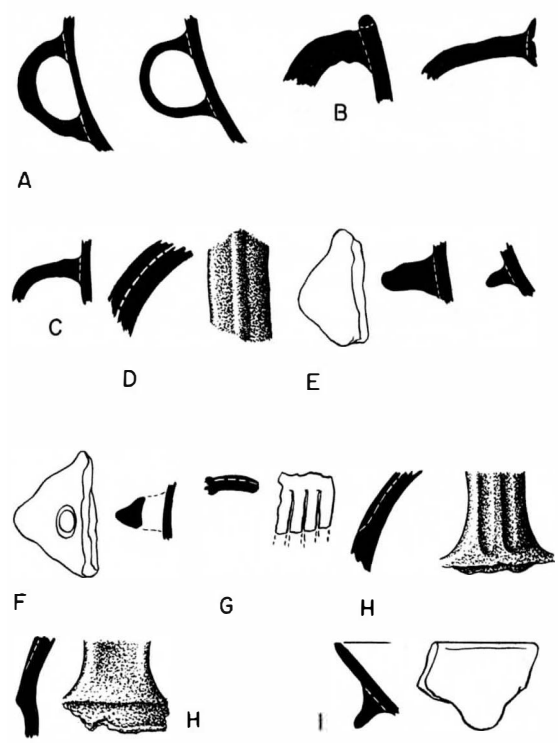

Figure 37. Form Code, Handles

10 **Wide Everted Rims** (Figs. 38, 39).

- A Plain.
- B Simple incised lines of varying patterns, exclusive of those mentioned below.
- C More horizontal version of Form 10-B.
- D Medium width with everted rim with multiple grooves around superior surface.
- E Wide or very wide (up to 10 cms.).

F Series of scratched wavy lines on superior surface, after slipping.

G Series of parallel lines incised around superior surface, usually after slipping.

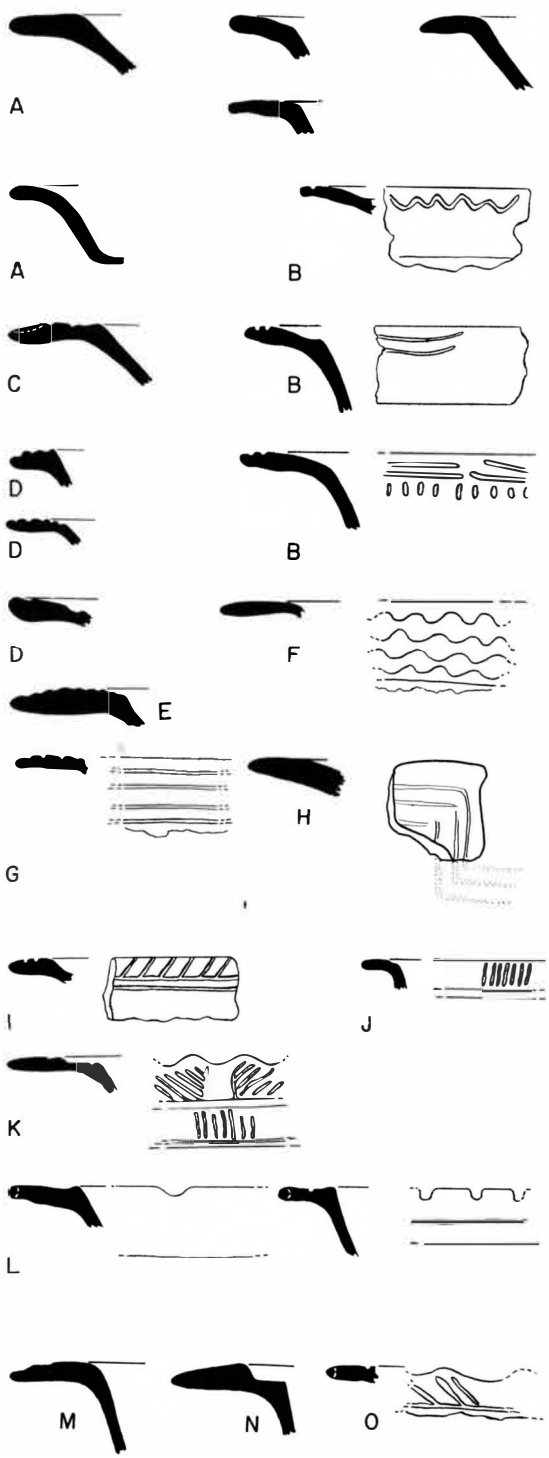

Figure 38. Form Code, Wide Everted Rims

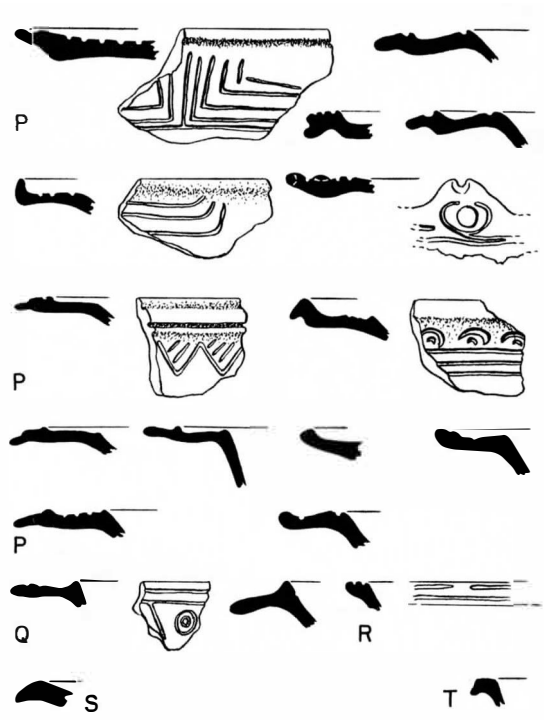

Figure 39. Form Code, Wide Everted Rims

H Incised "Z" design, usually before slipping.

I Medium-width rim with incised diagonal lines going outward to rim margin from lines around the rim.

J Medium-width rim with groups of incised lines between rim and lines around the rim.

K Moldings in continuous series around exterior margin of everted rim with series of incised lines going outward into moldings.

L Exterior margin of rim notched, with or without incised lines.

M Plain everted rim with outer margin tapered by means of a series of steps.

N Plain everted rim thickened around interior and evenly tapering toward exterior.

O Medium or wide-everted rim with widely spaced moldings around exterior margin with incised lines leading into the moldings.

P Elaborate treatment of everted rims, especially the exterior margin, with many variations and often with incised designs.

Q Interior rim projecting higher than everted rim.

R Medium everted rim with two lines incised around superior surface (See 6-EE).

S Small or medium down-curving everted rim.

T Small or medium everted rim that angles downward at outer margin.

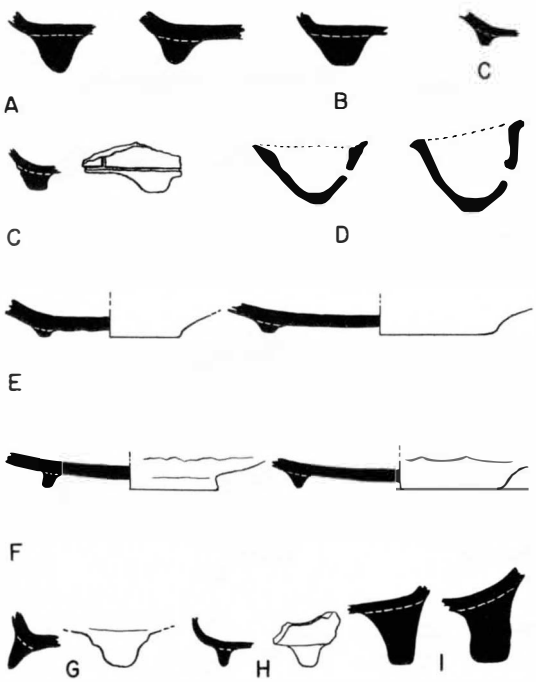

Figure 40. Form Code, Vessel Supports

11 **Vessel Supports** (Fig. 40).
- A Small conical solid supports, about 2 cms. high.
- B Truncated conical solid supports, about 2 cms. high.
- C Short solid cylindrical supports, about 1.5 cms. high.
- D Hollow mammiform supports, sometimes swollen.
- E Ring bases, always associated with convex bowl form.
- F Ring base, vessel form unknown.
- G Solid slab support with notches or "steps" on outer edges.
- H Rectangular solid slab support.
- I Solid "peg" support.

12 **Figurines.** All have been described by Delgado (1965).

13 **Other Ceramic Attributes and Objects** (Fig. 41, illustrated as noted only).
- A Sherd disk, square or rectangular with rounded corners.
- B Sherd disk, roughly circular.
- C Pierced sherd disk, roughly circular.
- D Pierced unworked sherd.
- E Spindle whorl (Fig. 41, *e*).
- F Fillet band, finger- or stick-impressed around vessel body (Fig. 41, *f*).
- G Fillet band, finger- or stick-impressed around basal angle or shoulder break of vessel (Fig. 41, *g*).
- H Band around vessel exterior with groove running along band.
- I Plain band around vessel exterior.
- J Other worked sherds.
- K Sherds bearing groups of small brushed lines, probably from Tecomate Form D vessels.
- L Sherds bearing irregular scratch lines.
- M External bosses produced by pressing the vessel interior.
- N Exterior brasero spikes (Fig. 41, *n*).
- O Solid incense-burner supports, probably from vessel interior (Fig. 41, *o*).
- P Solid incense-burner supports, going inward from vessel rim (Fig 41, *p*),
- Q Probably tall annular stands from incense burners.
- R (Category discontinued).
- S Supported spouts.
- T Intertwined and twisted strands.
- U Sherds with small lunate impressions on one surface, as though the maker jabbed his fingernails repeatedly into the surface with his hand partly clenched. These sherds probably are from mushroom effigy vessels (Fig. 41,*u*).
- V Body sherds with zoned punctate decoration.
- W Sherds with textile impressions.
- X Body sherds with even vertical flutings.
- Y Colander sherds (Fig. 41, *y*).
- Z Modern glazed sherds.
- AA Problematic ceramic objects.
- BB Miscellaneous engraved, incised or otherwise marked body sherds.
- CC Plain body sherds.
- DD Unsupported spouts (Fig. 41, *dd*).

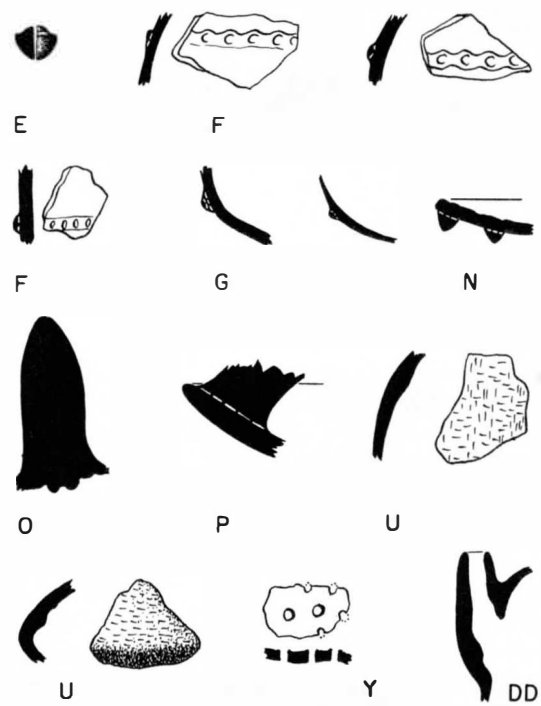

Figure 41. Form Code, Other Ceramic Attributes and Objects

DISCUSSION

The following discussion summarizes the most salient associations of forms with types and pastes.

Division 1, Tecomate forms, may be classified in three groups. The first, Forms D and E, differ from the others with regard to decoration. Polishing is rare. About half are slipped but unpolished, and half unslipped. Pastes are mostly limited to reddish brown and brown of coarse or medium textures; no fine-texture sherds were found. The second group includes Forms A, B, C, and perhaps F. These are all simple forms without decoration or with only a single incised line around the exterior rim. Polishing is rare. The pastes vary more than those of the first group, being mostly reddish brown or brown, but also light brown. The third group consists of G and H. Form G may be regarded as a step toward the olla form; that is, having a raised lip, it is a departure from the strictly tecomate concept and function. The thin walls and higher percentage of polishing as well as the complicated designs separate Form H from other forms. Paste variations are about like those of the second group.

Division 2, Ollas, seldom are polished. Slipped but unpolished types show much variation, as do pastes. The great majority of paste textures are coarse or medium, with fine-texture pastes being rare. Ollas are more often unslipped than are tecomate forms.

Most vases, Division 3, are polished, with slipped but unpolished examples being less frequent than unslipped. Pastes include brown, reddish brown, and light brown, in order of frequency, with paste texture varying by forms.

In Division 4, Divergent Straight-wall Bowls, the polished sherds dominate with the unslipped ones second and the slipped but unpolished a poor third. Forms 4-G and K are important in *pol Bl* but the latter is most frequent in *pol O*. All examples of the button appliqué of Form K are from *pol O*. Light brown paste is most common, with brown second and reddish brown third. Light brown medium-texture paste is more frequent than fine which in turn dominates coarse. Among the brown pastes, coarse and medium textures are of equal frequency with fine pastes being almost unknown. The same holds for reddish brown paste. A difference between Division 4 and the previous ones is that here *pol O* becomes frequent as does light brown paste, especially that of fine texture.

In Division 5, Concave Bowls, unslipped forms are more numerous than polished, while slipped but unpolished are least common.

Among polished wares it should be noted that *pol Bl* is frequent in Concave Bowls I, J, and P. In general, the definitive attributes of these forms are similar to those of Divergent Straight-wall Bowls G and K and Vase G, in all of which *pol Bl* is frequent. However, *pol O* and *pol RBr* are more common than *pol Bl* in Division 5, Concave Bowls. Brown paste is most frequent, followed by light brown and reddish brown. In brown pastes the medium and coarse-texture clays are of about equal importance while in the reddish brown pastes coarse texture dominates. Among light brown pastes the medium texture was preferred although fine texture was most common in Concave Bowl A, a form that has the highest percentage of *pol O*.

In Division 6, Convex Bowls, polished sherds are more numerous than others, although the unslipped ones are common, especially among the more general forms such as Concave Bowl A, B, and C. Again, the unslipped but unpolished sherds have the lowest representation. Only Form Y has any frequency in *pol Bl*. This form has the same attributes mentioned as associated with *pol Bl* in Concave Bowls. In other words, the same attributes accompany *pol Bl* regardless of the specific form involved. In *pol O*, Convex Bowls A and CC appear important, while for *pol RBr*, Convex Bowls A, B, Y, and CC occur with frequency. *Pol RBr* again shares forms with *pol Bl* and *pol O*.

Attention is called to Convex Bowls HH and II. The first includes the few examples of definite vessel forms associated with Wide Everted Rim P and the second is the only example of a form similar to the comal.

Brown and light brown pastes were preferred, with reddish brown following. Medium-texture cream-colored paste is common in Convex Bowl CC, a form that is usually *pol O*. Among reddish brown pastes, medium texture was preferred to coarse; the same holds for brown pastes. With light brown pastes, a fine-texture clay was preferred to a medium, and coarse pastes are infrequent.

In Division 7, Compound-silhouette Vessels, most are polished, with slipped but unpolished examples being rare and unslipped examples common. The majority of unslipped examples are from Forms A through D.

Forms A, B, and C are variants on a basic theme. Among these *pol O* is most frequent in Form A, *pol RBr* and *pol Br* in Form B, and *pol O*, *pol Rbr*, and *pol Br* in C. Forms D, N, and to a lesser extent G, often are of *pol Bl*.

The solitary sherd of Form K, *Polished polychrome*, must represent a trade piece. Also of special interest are sherds of Form R, mushroom effigy vessels. In each case an exterior surface on one side of an angle is roughened, as is the case of comparable whole vessels with this peculiar profile. The roughening itself reminds one of cord-roughening or may be impressions made with the fingernails of a half-closed hand.

Regarding pastes, light brown was preferred, followed by brown and reddish brown. Fine paste is most frequent in the light brown, and then medium pastes. In the brown pastes, medium and coarse textures occur in about equal proportions. Fine paste is well represented in the reddish brown pastes although both medium and coarse textures are more common, in that order.

Two factors determine categories of Division 8, Vessel Bases. First, the form of the base itself was considered, and second, the profile of the wall attached to it. The ring base has been placed among Supports, Division 9.

Obviously, Division 8 should cross all others and the paste and type distributions should reflect the general situation. Such is not the case. Unslipped sherds are most common, followed by the polished and, finally, the slipped but unpolished sherds. The high number of unslipped examples is probably due to polished ones having been eroded through use. That is, the vessels may have been rubbed against rough surfaces, thereby removing the slip. Also, the slip may not have covered the base.

Brown, light brown, and reddish brown pastes are most common in that order. Medium-texture pastes were preferred in all cases, and then coarse, except in the light brown paste where fine is more frequent than coarse.

The form-type relationships do not seem to be very clear. Bases A, B, C, D, E, G, K, and M are often of *pol Bl*. However, Bases A, B, E, and H also are commonly *pol O*, and Forms A, B, C, E, and M of *pol RBr*. Bases A, B, and E are frequently of *pol Br* and *pol CrW*.

In Division 9, Handles, most are unslipped, with polished, and, finally, slipped but unpolished wares being least frequent. Forms E, F, and G are never polished and seldom slipped; these may form a separate group among handles. Form A is the only form made of *pol Bl*, but it also occurs in *pol RBr* and *pol Br* as well as in the unslipped wares and slipped but unpolished wares. Handle H is the only form occurring in *pol O* but has equal representation in *pol RBr*. Pastes include brown and reddish brown with some light brown. Coarse-texture clays were mainly used for the brown paste, and medium for the reddish brown. There are not enough of the light brown paste examples to be confident, but coarse texture has a high occurrence.

Division 10, Wide Everted Rim, contains some of the most remarkable ceramic attributes found at Santa Rosa. The largest grouping is that of polished types, with unslipped second, and slipped but unpolished kinds a very poor third. The majority of unslipped examples are simple Forms A, B, and C, and P, a complicated form. One might expect simpler forms to be unslipped since they may represent ruder household pottery, but the Form P occurrence deserves comment. Most of unslipped examples are *pol Ob* sherds that probably have their slip destroyed. When the slipped but unpolished sherds are in low num-

ber, it probably is significant that there is a fair occurrence of *Sl CrW*, a type surely related to its polished counterpart.

There is definite association between some forms and *pol Bl*, *pol RBr*, and *pol O*. The elaborate wide everted-rim forms, O, P, and R, are dominated by *pol Bl*, while Forms A and F are most commonly of *pol RBr*, although other wares also have these forms. Forms D and E are small and large versions of basically the same form. About half of the former are of *pol O* and half of *pol RBr*, while the wider Form E clearly is dominated by *pol RBr*. Generally speaking, *pol O* and *pol RBr* follow the same pattern, although the latter is often more numerous and exhibits a greater variety of forms. With the exception of *pol CrW*, other polished types are not important. *Pol CrW* has the same forms as its related unpolished but slipped types.

Pastes vary tremendously, generally according to the specific form involved. As usual, reddish brown, brown, and light brown pastes are most common but not necessarily always in that order. Medium textures were preferred although others frequently occur, especially the fine texture in light brown and coarse in the reddish brown.

Division 11, Supports, is important but poorly represented. Certain kinds of supports are fairly diagnostic of various temporal periods and ceramic complexes and it is felt that more examples would be helpful in better defining ceramic phases. Perhaps one of the most notable facts relating to supports is that so few were found at Santa Rosa.

Most supports are unslipped with some found of polished types and few being slipped but unpolished, a situation paralleling that of Division 9, Handles. Forms A, B, C, and D have *pol Bl* as their most frequent types. *Pol O* has only Forms D and F, and *pol RBr* has B, E, and F. The *Sl dBr* is frequent in Form A and occurs in others.

Supports E and F are of special significance to this study. The latter, ring base with a vessel body of unknown form, probably belongs with the former, ring base with convex vessel body, as the bases are always the same and there is no other candidate for body forms. It should be noted that these forms always occur in *pol O*, *pol RBr*, or polished Orange-brown when slipped and polished, except for the single example of *Sl dBr*, which might support a theory that these are imitations of a similar ware and of similar forms. It is suggested that the ring bases found at Santa Rosa were at least similar to those often associated with Thin Orange ware of Classic times, especially the common bowl of that ware. Note that the slip generally accompanying the ring base is of orange color, possibly in imitation of Thin Orange ware, although pastes and tempers are not at all comparable.

The mammiform supports, Form D, are diagnostic but they are rare at Santa Rosa; very few examples of the swollen type occur. The pastes are mainly brown and light brown, but reddish brown occurs also. Pastes are most often medium in texture.

Division 12, Figurines, has been relegated to a separate study.

It is not possible to discuss Division 13, Special Ceramic Features and Objects, as a unit, for it is not such. The Form Code explains each variation and the distribution of individual elements are discussed in the following study.

THE CERAMIC SEQUENCE

The ceramic stratigraphy and definition of phases are based mostly upon study of materials recovered from the thirty stratigraphic units (pp. 1, 2). Mound materials were of little assistance and are discussed later; offerings were rare and therefore almost useless for defining phases.

Of the thirty units, not all yielded adequate information. In order to reconstruct the ceramic sequence adequately, seven most satisfactory units have been chosen for close analysis. Together these produced a seriated sequence based upon stratigraphy. The units are Pits 13, 17, 18, 25, 26, 29, and Trench K-2. The sequences from other units are not as clear as those from the studied ones, but always support our conclusions in one way or another.

Two charts (Tables 7 and 8) have been prepared to indicate the stratigraphy of forms and types respectively. They show the number of studied sherds found in each level of the seven analyzed units. A third chart giving the occurrences of paste variations is in the N.W.A.F. files.

The main reasons for the uncertainty of the Santa Rosa sequence are sherd "drift," and shallow stratigraphy. "Drift" refers to the vertical movement of materials from their true or original positional occurrence and is due to factors such as prehistoric building, digging, churning, etc., animal burrowing, tree falls, and tree burning or decay. The rather shallow stratigraphy is shown by the fact that the seven pits used for this study average only 1.65 meters in depth. Within this depth is the record of approximately two thousand years, which compresses the data and sometimes blurs distinctions. Also, some attributes apparently persisted for long periods.

Six prehispanic phases (see Table 1) have been defined for the ceramic sequence (Brockington, 1961:85-90) and a seventh added for the Colonial or Modern period. The appearance of *pol Bl* serves as a starting point for phase definition since it not only is a very distinctive type but its appearance signals the abrupt decline of earlier types. *Pol Bl* is taken to be indicative of Phase 4. Remains of Phase 5, stratigraphically above *pol Bl*, are rather similar and so must follow Phase 4, since Phase 6 materials, also stratigraphically above the Phase 4 *pol Bl*, show few affinities with it and so most likely follow Phase 5. Remains of Phases 5 and 6 have not been found in convincing relative association. Phase 7 with its cattle bones, glazed pottery and tiles, must be Colonial or more recent and therefore follow Phase 6.

Phases 1, 2, and 3 are below the point where Phase 4 begins. Phase 3, with its possible two subphases, is found below Phase 4 in a clear stratigraphy in several pits. Also, Mounds G and W contain exclusively pre-Phase 4 materials.

Phase 2 is difficult to define but is best seen in Level 5 of Pit 29. Trench 1 in Mound V yielded a purely pre-Phase 3 collection. Phase 1 is represented in the bottom level of Trench K-2.

Thus, seven distinct phases are indicated by the ceramics of Santa Rosa. There is a general continuity from one period to another, although each has its diagnostic characteristics. Phase 7 has no discernible cultural association with earlier remains, other than a common location.

PHASE 1

Phase 1 is best represented in Levels 3 and 4 of Trench K-2, although these levels have been contaminated by later materials.

Pastes are predominantly reddish brown and brown in color but with gray and light brown occurring. Coarse textures dominate the reddish brown pastes while coarse and medium textures occur in about equal percentages in the brown and light brown pastes. All gray pastes are of medium texture.

The types are dominantly slipped but unpolished. Generally one finds most vessels with a thin coat of fine clay of the same color as the paste. It is notable that in almost every case something was done to alter the surface.

Other slips, all unpolished, include creamy white, flat white, gray, red, black, and bichrome. Slips are thin, almost washes. The *Sl CrW* of this phase is not to be confused

TABLE 7. FORM STRATIGRAPHIC STUDY

FORM		PIT 13					PIT 17							PIT 18							PIT 25										PIT 26								PIT 29					TR. K-2			
CODE		1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3	4
1	A						1		2	1	1			1											1																1	1	4	1	1	5	5
	B																																										1				
	C							1	3	3	4	5		2				2	2						2						1		1	2			1			2		1	10	10	1	9	6
	D																								1																	1		3	9	5
	E				1				2	3		3	2	2				1																						2			3	3	2	7	3
	F																											3																		
	G																								1				1					1										1	1			1
	H			1	1																																									
2	A								1									1					1							1											1		2					
	B																												1			1										1	1				
	C			1	1	2				1			1												1							1										1		1		1	
	D																	1			1				2								1	1			1					1					
	E																	1														1												1				
	F			1	4		1		1	1							1	1				1		6		2					2	1	2		1		1	3	2	4	1			3
	G								1					2										3	2						2		2							1		1			
	H			1			1							1						1	2			1								1										1			3
	I											1												2	1							1								1					
	J				2	3	3								1	1					1			2						1	1		1	2			1	1		3	3	1	1	1	
	K			1			2				1	2				1				1				1		1					1					4					6	2			
	L						1						2		1											2		4					1		1							3				
	M			1		1														2											1	1	1	1							2				
	N																															4								2	1	3				
3	A					5	4						2		1			4							1	3								1						1	2	1	8			2	2
	B						1		1	1		1													2										1						3			4	4
	C													1												1																				
	D																									1																	4				
	E			6	11						1	1								3				2								4	3	3		1		1	1	1					
	F										1													1																					
	G			15	6	2	2							1		3			1		1	2		5		2				1	20	4	2				2	2		1					
	H						1								1									1								1													
	I					1	1																									1								1					
4	A				4	5	5					2												1									2	1		1			4	3	9	1			
	B				3	3				1		1			1									1	1							1		1			1			1					
	C				2																							1		1									1	1					
	D					1	1																											1					2						
	E																							2																						
	F			1									1																													1		2		

TABLE 7. FORM STRATIGRAPHIC STUDY (continued)

FORM		PIT 13					PIT 17							PIT 18						PIT 25										PIT 26							PIT 29					TR. K-2			
CODE		1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3	4
	G											1																												1					1		
	H											1						1																												1
	I																																	1							1	1			1
	J																																											1		
	K											1	2		1	2			9															1	1			1	1	4	3	9				
	L					1													1						1																				
	M								3	1																																				
5	A			3	6	1	1		1	3	2	1	1	1	1		1	2	4				1			1	3	5	2			2	1	7	4	1	3	1	3	1	4	2	4	2	1	1	
	B				1				1					1				1				1				1	1		1											1	2		2				2
	C																							1	1																		2			
	D			1		1			3	1		2		1											1	2					1			1					2			1	1			
	E			2	2	1	2				1			2				1						1	6								1	2			1	1			4	2	1	1	
	F									1																																			
	G				2		1		1			1																		1		1		1					1		1		1	1	
	H											1																												1						
	I			2	2		2					3		1																		2		1						1				1	2
	J																																												
	K													1						1					1																				2
	L							1	1			1		1																										1		3				
	M																																						1				1		1
	N																																									1	1	1	
	O													1																																
	P						1	2	2	2			1	1				1	3					1		2								1					1	1		1	3	3	1	1	
	Q																									1																			
	R													1																													1			
	S																														1														
	T																														1														
6	A			6	3	4	3		1	3					2	2	2	2	1		2					5	3	1	3			2	2	2	2	3	1		2	4	6	2	10	3	1		1
	B			2		1																					5	1		3		2	1	1	1				2	2	2	2	4	1			
	C			1	1	1	2																				2					1	2	1		1	1		1	1	2	1	2		1		1
	D															1	1	1					1			1	6	1	1				6	2		1					4	1	1	1			
	E																					2					1			1						1				3		2	1				
	F																									1	1		1				1														
	G				1		4						1	1						1			1		3			1				1	7	1				1		2	1	3	1			2
	H						1													1						1					1										1				
	I										1																																	1	1	
	J								3	5																																			1	
	K					1	1		1																		2															1			

TABLE 7. FORM STRATIGRAPHIC STUDY (continued)

FORM		PIT 13					PIT 17							PIT 18					PIT 25										PIT 26				PIT 29					TR. K-2			
CODE	1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3	4
L																																													
M			1	2			2	2	1		1	1	1													1							1	1				2				1		1	
N					1																																							
O														1	1											2																		1
P		1								1	1	1										2																						
Q				2												1														1	2				1									
R																																1		1				1						
S		1			2					1	1											1							1			9		2										
T										1																							1										
U								1																		1																	
V							1																	1		1																	
W																												1						1			2		1		1		
X									1		1															1															1	2	
Y			5	5	2	1			1					2	1					1		1	1	2	5				1	1	1	3	2			3	2	2	2	2	1			
Z			2																																								
AA					1					1																1														1			
BB				2					1		1	2																															
CC			1	1			1	1	3	1	1					3		3			1	2	1		5	1	1	1		1	1	3	1		1		2	4	3	4	13	1			
DD										1									1																			1		1		3				
EE													1																					1							1		1	1
FF								1			3																	1			1									1				
GG																														1														
HH										1																																		
II																																												
JJ								2	1																																			
7 A				1														2						1	3	1		1					1			1		3					
B						2											1					1			1	1	1				1						1	2					
C					3	3																																1	2				
D		1				2			1									1				1			3	2					6	1				1	1	1				
E					1	6			1					1												1					1	1										
F																										2		2									1		1				
G			1	2																																							
H																												1												1			
I		1												1								1										1											
J																												1							1			1					
K																																		1									
L									1																																		
M										1																																		

TABLE 7. FORM STRATIGRAPHIC STUDY (continued)

FORM		PIT 13					PIT 17							PIT 18					PIT 25										PIT 26								PIT 29					TR. K-2			
CODE	1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3	4
	N			1	1																			1																				
	P		1	1		6											1							2	3								2								2	4				
	R																																						1						
8	A		3	8	5	4		1		2	2		1	1	1								1	3	2	2	1					8	6	2	1	1	1		4	3	2	6	2		10	3
	B			1														1					1	1	1				1	1	4							3	2		1	7		5	1
	C		1														1							2									2	1								1			
	D		3	1						1				1										1									1	1	3		1				1				1
	E	2	3	11	6	9				2	1		1						1		1			8					1	1	3	2	2					2	6		9		2	2
	F																																									2	1	
	G																								2																	1			
	H												1				1							2								2							1		1				
	I																														1										1			
	J																							1							1													
	K			1		2			1		1						2								1	1	1					3	1			1				1		2	1		
	L			2																																								
	M		2	1	1	1		1		1	2	2						1						1	2		1			2	3	2	3	1			1	3	2	2	4	4			
9	A		1				1	1	1									1						2						2	2	3							1			2			
	B																																												
	C																																												
	D					1																																		1			2		
	E								1	1																															1		1		
	F																																								2				
	G																																							1		2			
	H					1																																						
	I							1																																					
10	A	2	1	10	22	7				5	2		1		3	6	1					1	1	2	11	12	3	4		3	4	4	6	3	1		4	5	3	2	4				
	B		1	7	1	1			3	3	2						1						1	5	7					9	5	2					2	3		8	1		2	
	C																													14	1							1	1						
	D		1	2	1	2		1		1	1													2	1							1							2		1	1			
	E					3					8	1			1		2							3	5	2							3	1			2	1		6	1	1		
	G				1	4			2																						1													
	H										3	1									1			1		1				1	1		2									2		
	I								1	2																																1		
	K				2																																	1						
	L			1	11							1					1							2						1			1								2			
	M									1																																			
	N							1																																					
	O		1	6	6	4			1			1					1				2	2		4	8	1				1	4	4		3	1				3	1	2				

TABLE 7. FORM STRATIGRAPHIC STUDY (continued)

FORM		PIT 13						PIT 17							PIT 18					PIT 25											PIT 26								PIT 29					TR. K-2			
CODE		1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3	4
	P		4	11	7				1	3						1					1		5	7	6	14						36	17	2					1	5	6	1					
	Q				2				1																	3							1	1					1			1				
	R				3					1	1												1			1							1								1	1	2				
	S																															2														
11	A			1				3	3		1																																			
	B							1																							3														
	C							1																																					
	D																																1												
	E			2																				1							1														
	F						1																	1		1																		
	G								1																		1																		
	H															1																														
13	A				1																																						1	1
	B																		1																										
	C																								1																				
	D				1		1																	1								1			1				1				3			
	E																								1																				
	F			1			1		3																							4				2		1		1	3			1	6
	G								1	2				1																	2														
	H																																												3
	I			1																																								
	J															1																														
	K								1	1																																	1			
	L								2																																			1			
	O					1								1																													1	2			
	R																		1																										1		
	T																															1														
	U																							1																	1	1				
	V					2											1							3																						
	AA																				2			2		4	1					1								5	4	3	1	4				
	BB		2	9	20	18			1	3		5			3	5	6	1			1		9	3	14	15	15	1	2	2	1	2	47	25	16	3	1	2	3	11	19	5	15				

with the later variety which is very thick and on totally different forms with different pastes and inclusions. The flat white slip is the most diagnostic attribute of Phase 1. The examples from pits have only traces of the slip, due to the fact that it is soft and easily eroded. The more numerous recognized examples from mounds are probably due to superior drainage and consequent better conservation.

The bichrome mentioned above is not a true one but consists of orange splotches on white, usually flat white. The splotches are firing clouds and, while they may be accidental, they tend to occur on Tecomate Form C, a possibly transitional form; it is not impossible that the *pol O* of Phase 2 is a development from this splotched ware.

Temper or inclusions are of sand containing quartz. The quartz may have been deliberately added, since it usually is not rounded or waterworn but has sharp edges, and therefore was recently pulverized before adding to the pastes.

The most common forms include tecomates with single lines around the outside rims, rasping in a band and with or without dot or lunate arc gouging, bands of dot and/or lunate arc gouging, plain forms, complicated line designs, and plain forms with slightly raised lips (Forms A, C, D, E, G, H). Ollas, while not numerous, have divergent and slightly curved necks. The lip may be bolstered and flattened (Ollas F, H). Vases may have thickened or reinforced rims with rounded or flattened lips, and always with ridges inside and/or outside, single lines incised around the outside rim, and occasional simple abstract designs are found on the outside (Forms A, B).

Bowls, regardless of form, tend to have flat and/or reinforced rims, one or two lines around the inside or outside of the rim, and only occasionally with rounded or slightly pointed lips (Divergent Straight-wall Bowls F-J; Concave Bowls B, I, K, L; Convex Bowls I, J, X). Vessel bases are flat.

Handles are of the isosceles triangle lug, either solid or perforated. The multi-strand strap handle surely pertains to this phase (Forms E, F, G).

Special Features A, B, F, and H include square or rectangular disks, possibly circular disks, a raised band or fillet around a tecomate or olla with a groove running around the center of the strip or with finger or stick impressions on it. All of the latter seem to have been placed at shoulder breaks. All variations are difficult to deal with in central Chiapas as they begin at this very early time and continue until the present; they cannot be considered diagnostic by themselves.

General Phase 1 characteristics include one or two lines around the inside and outside of rims, double-line-break bolstered rims, flattening of the lip with ridges inside and/or outside, and bands of rasping and/or gouging on tecomate forms. Tecomates are the most common form but bowls and ollas occur. All bases are flat. There are no supports. Triangular-shaped lugs are present as probably are multi-strand strap handles. *Sl FlatW* is the most characteristic type.

Design techniques include incising, gouging, rasping, and excising, all pre-firing. Design elements include bands of rasping, gouged dots, lunate forms, "S" designs, and the two incised lines inside a bowl and occasionally on slightly everted rims with the lower line sometimes breaking to join the upper. Curvilinear incising and excising also occur in motifs which seem sophisticated for this early period.

PHASE 2

Phase 2 is best represented in the bottom levels of Pits 25, 26, and 29.

Pastes include all previous ones but with the additions of cream, orange, and black. The black probably includes incompletely fired examples of the others. There is a sharp distinction between the general texture quality of this phase and that of the previous one, with medium textures dominating over coarse in every paste, and with fine textures becoming frequent, especially in light brown and cream pastes. The change to fine textures is related to the appearance of *pol O*. Inclusions also change abruptly, with volcanic dust and ash (the latter of fine or medium size) or calcareous particles occurring. Inclusions of the previous phase may carry over somewhat.

Polished and unslipped types become frequent while the slipped but unpolished ones diminish. *Pol O* dominates this phase but *pol RBr, pol BlBr,* and *pol Br* become increasing-

TABLE 8. TYPE STRATIGRAPHIC STUDY

	PIT 13						PIT 17							PIT 18					PIT 25										PIT 26								PIT 29					TR. K-2			
TYPES	1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3	4
Pol. Bl	4	49	78				1	3	7	2			1	5	2				1	3	1	16	11	19	40	1				1	4	16	19	19	6			5	20	25	4		1			
Pol. BlBr		1	1	7	20				1	1	1					1	4								2	8	3	3	1				1		2	1	3			2	3	15		1			
Pol.																																														
Fal. Bl					1					3							1								1	1										1										
Pol. O		2	2	16	14			1	2	9	5	2			1	4	5		2		5	1	1	13	15	9	9	3			16	2	7	2	1	1		1	3	8	64	9	3	4	
Pol. RBr	2	2	6	7	13		6	5	7	18	3	2		4	4	10	2			1		1	1	2	19	20	4	6		1	2	4	3	6			2	1	4	6	18	7	2		3
Pol. Br			8	13	2			1		4	2				1	1								4	12	3	2	3	2		2	1	1				1	2	4	3	1				
Pol. R	1					1	1																																	1		1		
Pol. CrW			1		5						1			1		1								6	5	2			1			1		1			1	3		3				
Pol. lBr	1	1				1										1								2	6	1							1			1			1					
Pol. Gr				2	2				1											1		1			2		1											1						
Pol. lGr					3																				2	2														2				
Pol. W			1		2					1	2																							1				1						1
Pol.																																													
MudW																																									1	1			
Pol.																																													
FlatW																																													
Pol. Mar			1		3					2																																			
Pol.																										3														2				
Bichr.							1	1		2	2					1			1							1		2						1								2			
Unusual																																													
Pol. Wares										1														1	1															1				1
Pol.																																													
Polychr.																								1																		1			
Sl RBr		1	1	7	4		1	3	7	3	1	4			1	1					1		1	5	2		5		3	10		1	1	1	1	2	4	6	6	18	3	1	25	21
Sl dBr						2	28	17										1												1		1									11	3	1	
Sl Br		1					2	4	2	1	2						1			1							1			1		2							3	1	1	18	9	20	11
Sl lBr			1	2			2		1	1												1		1	4				3						1				1	3			1	3	5
Sl O		2	1		3				1													1		7	2		3			4					1			1	13					
Sl CrW		4	11	45					1			2	1									1		16	4								3	1		1		9	5	6				11
Sl FlatW										1		4												2		1						1							1	1	5		1	8	7
Sl Gr									1															1							3								1	1	2			3	1
Sl R				1																	2				1														1	1		1		1
Sl Bl				1	2			1																1	1															2			3	1
Sl MudW										1														1																					
Sl W			1		1																													1										

TABLE 8. TYPE STRATIGRAPHIC STUDY (continued)

Unslipped	PIT 13						PIT 17							PIT 18						PIT 25										PIT 26								PIT 29					TR. K-2			
Sherds	1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3	4
Sl BlBr						2		1																																			1			
Sl Rlip																																														1
Sl Others						1																																		1					
Sl Mar				1					1	1										1				1	4					2	1		1						1	2					
Sl Bichr.			1	1				2	6				1							1				2	1																		1			3
Sl Polychr.																																											1			
RBr - c			1	3	3		3	5	5	4	5		4		1	2	6	7						10	1					3	7	25	3	1					3	5	2	6	2	1	3	
RBr			9	7	2			2	2	2	1		2	3		1		1		2	4	9	1	6	2	1				6	11	5	1		3		4	9	11	2	6	2	1		
RBr - f						1			1		1				1						2	1		2				1		2	12	2		1	1			1	1						
dBr - c				1																												1									1				
dBr				1		1																									1													
dBr - f																																													
Br - c			7	3	2	2	1	4	1		2		5		1	2		5			2	1	1	3	2	2	1			3	9	15	6	1	1	1	10	9	11	1	14	3			
Br		1	2	13	7	9		1	2	3	4	2			2		1	2		1	1	4	2	19	16	3			3	6	7	5	13	5		5	10	14	25	4	12	5	1	1	
Br - f		1	5																			1											1							1					
lBr - c			3												1		1	1			1			1						2	3							1	1	2			3		
lBr		1	2	4	11	3		3	4	2	1	2		4	2	2	4	3			2	3		1	1	1			1	1	3	10	8	4	1		3	7	6	4	16	4	1	1	
lBr - f														1	1	3		3										7	31	36	1						1	2			1	1			
Cr - c																															2											2	1			
Cr		1	1																					1										2								1			
Cr - f		1							1						1			5								1					83						1	1		1				
O - c								1	1																																			
O																																													
O - f																																													
R - c																																									1				
R																								1	1					1			1					1							
R - f																				1				1	1																				
Gr - c								1																								3									3	1			
Gr		1	6	1						1				1	1	2	1							1	2					1	1	4		1	1		1	1	1	1	3		4		
Gr - f					1												1	1																				1	1						
Bl - c				1									1		1		2																					1							
Bl				2													1														1		1							1	1				
Bl - f																															1														
Others																																													

ly frequent toward the end. These last types seldom or never occur as typically Phase 2 forms. Other types that occur during Phase 2 include *Sl O, Sl RBr, Sl CrW* (of the early wash variety), *Sl Gr, Sl Bl,* and perhaps some *Sl FlatW*. Unslipped sherds become common, but as olla and tecomate forms; eroded examples of other types and forms may account for all others.

The tecomate is now predominantly of Form C, with a single line incised around the outside rim. Olla forms include those from Phase 1 as well as others with divergent bodies and necks diverging at forty-five-degree angles, compound necks with one or two curves, and possibly others with everted rims or lip flanges (Ollas F, J, K, L, M, N). The tumbler form has straight but slightly outwardly inclined walls with one line incised around the exterior lip, Form G.

Phase 2 bowls (Divergent Straight-wall Bowls A, K; Concave Bowls A, B, E, L, P; Convex Bowls A, B, C, G, Y, CC, DD) include those with straight and inclined walls with slightly everted rims, sometimes with button appliqué. There are concave examples with rounded or flattened reinforced lips or rims, others with two lines around the inside rim (rare), and some with nubbin or slightly everted rims. Convex bowls include plain ones that are fairly deep or shallow and others with thickened and rounded or flattened lips, sometimes with one line around the outside and generally undecorated otherwise. Other convex bowls have slightly everted rims that may be reinforced with single or double incised lines around the rims.

Compound-silhouette vessels in Phase 2 are of Forms A, B, C, and P. The first three are concave vessels with a marked basal break and rounded bottom, and the latter has a convex wall and a high shoulder which may belong to the final part of the phase or even to Phase 3.

Vessel base with straight walls may belong here or early in Phase 3. Forms are A, E, L, and M. Handle forms include F and G, both holdovers from Phase 1. It is suspected that both vanish early in Phase 2.

Special Features seem to include F, O, and V. The first surely belongs here, but the last two, solid incense-burner supports (rim or internal) and zoned punctate decoration, more likely are associated with the beginning of Phase 3.

Despite the carry-overs from Phase 1, and the beginning of Phase 3 indicated within this period, Phase 2 has its own clear identity. The tecomate has become simpler, the olla has more variety, the Phase 1 characteristic of two lines around the inside lip has become much less important while that of the one line around the outside continues. Everted rims begin to be frequent and only during Phase 2 does one encounter the distinctive button appliqué. The total variety of forms has increased considerably. *Pol O* is the most distinctive type. Decorative techniques are evidently limited to incising (pre- and post-slip) and punctation with a sharp-pointed instrument, although the latter may more properly belong to the following phase. Note that the appliqué dot, lunate, or "S" button designs follow the gouged designs of Phase 1.

PHASE 3

Phase 3 is best represented in Levels 4, 5, and 6 of Pit 13; Levels 5, 6, and 7 of Pit 17; Levels 7, 8 and 9 of Pit 24; Levels 6 and 7 of Pit 26; Levels 4 and 5 of Pit 29, and perhaps in Level 2 of Trench K-2. Level 5 of Pit 13, Levels 8 and 9 of Pit 25, and Level 4 of Pit 29 demonstrate the postulated second half of Phase 3.

The most common pastes are brown, light brown, reddish brown, cream, black, and gray. Reddish brown pastes increase in importance during the last half of the phase, possibly in anticipation of the following phase. Also, light brown and cream pastes become progressively less important, another anticipation of Phase 4. Textures are medium for the most part, with coarse of second frequency. There are indications of an increase in fine pastes, especially of reddish brown fine, and this is associated with the second half of the phase when there probably was considerable experimentation with ceramics.

Tempers or inclusions are volcanic ash, volcanic dust, and calcite, in that order of importance.

Types show much variation. The exemplary one is *pol RBr* which is surely a development from *pol O*. However, *pol BlBr, pol Br, pol O, pol W, pol CrW, pol Mar, Sl Mar, Sl*

W, Sl CrW, Sl O, pol Bichr, and *pol Polychr* all appear in varying degrees of importance. The variety becomes more pronounced during the last half of the phase. Unslipped ceramics do not seem to have been important.

Forms also show much variation. The tecomate seems to vanish although a few small, decorated pieces may belong here (Form H). Olla forms include B, C, D, F, G, I, J, M, and possibly N. They may have short necks, either erect or divergent. Necks may be curved or slightly curved with rounded or thinned lips or "finger-thinned," or straight with a variety of lips. Ollas with everted lips or labial flanges also occur.

Vase forms include A and possibly D and I. They have slightly concave or straight walls, a slightly everted lip, or a straight wall with or without a labial flange. The form was not important during Phase 3.

Bowl forms are quite varied. Divergent Straight-wall Bowls A, D, and C; Concave Bowls A, B, E, and P; and Convex Bowls A, C, D, F, G, K, S, Y, AA, and BB all occur. The straight-wall bowls have inclined walls with rounded lips, sometimes slightly reinforced or with wide finger grooves around the outside. The Concave bowls may be slightly reinforced at the rim, with rounded lips, with flattened lips with ridges inside and/or outside, and with slightly everted rims. The variations immediately recall those of the previous phase. Convex bowls may be simple, plain, with rounded lips and walls thickened toward the bottom, or have flattened lips and ridges inside and/or outside and a slight smooth thickening below the rim. There also are incipient or actual labial flanges, slightly everted lips, and patterns of zoned punctate or incising on the exteriors.

Compound-silhouette forms include A, B, C, D, E, F, and P. Actually, these are variations of two forms, those with concave walls, a sharp basal angle and rounded bottoms, and a high-shoulder vessel with fairly straight walls. On the latter the wall above the shoulder angles inward and below it cuts sharply inward.

Vessel bases include A, E, G, K, L, and M. While there is variation, the majority are concave with convex or straight walls, or flat with convex or straight walls. The basal ridge or flange of Form G is always horizontal, never down-angled.

The only possible handle form is H, a rounded one with length-wise grooves, either straight or diagonal. No supports are known from stratigraphic units. See the discussion of Mound G for a probable Phase 3 support form.

The Wide Everted Rim forms include A, B, D, E, G, H, K, L, O, and possibly Q and R. By Phase 3 the form has become common and generally dominates this and the following two phases. Included here are rims that are flat or curved, plain or decorated. Multiple grooves, scratched parallel lines, "Z" designs connecting the inside and outside of the rims, outer rim elaborations, and knobs and notches are all known. There may be a few complicated, wide, everted rims here although more likely they pertain to Phase 4.

In general, Phase 3 begins with the simpler wide everted rims and those bearing multiple grooves or scratched parallel lines and the "Z" design. The notches, knobs, and "piecrust" rims belong to the last part of the phase, but the earlier varieties probably continue to some extent. Excavations by the author in 1958 in the Huerta area of Finca Laguna Francesa, approximately twelve kilometers upstream from Santa Rosa, yielded what appeared to be a late Phase 3 deposit. None of the wide-everted-rim variations assigned here to early Phase 3 were found, only those of the last part of Phase 3, and in upper levels of pits was the *pol Bl* of Santa Rosa Phase 4.

There is a tendency for the rim treatment to change as regards all decorations or alterations. During the first part of the phase the rim is treated as a unit. That is, it is plain or with designs evenly filling the surface or unifying it. Later the decoration is directed toward the outer extremity of the everted rim. For example, the knobs and notches are changes of the outer area. Likewise, curved lines swoop toward the outside in some of the knobs, and on other varieties there are triangles filled with hachure or cross-hachure, generally pointing outward. This outward movement is carried to a climax during Phase 4 when the elaborations of the outer edge become extreme.

Special Features definitely assignable to Phase 3 include O and V although others

must occur. Incense burners are found and have solid supports rising either from the interior center or from the interior rim.

Several points should be noted particularly in the description of Phase 3 ceramics. First, there are definite carry-overs from Phase 2, and Phase 4 is anticipated. Second, there are many variations. It is believed that Phase 3 is capable of subdivision, although the present knowledge of the Santa Rosa stratigraphy does not fully justify this. Roughly, the advent of *pol CrW, Sl CrW, pol Mar,* and perhaps *Sl Mar* suggest the division.

Decorative techniques include painting, incising (pre- and post-slip), scratching (post-slip), punctation with a sharp instrument, molding, jabbing, and perhaps gouging. Decorative elements include lines (single, double, and multiple), crescents, "Z" designs, "U" designs, dots, scrolls, multiple step, triangles (single, double, and series), hachure, cross-hachure, chevrons, "bird" design, curvilinear designs, molding of animals or birds, and the incised petate or mat design.

PHASE 4

Phase 4 is represented in Levels 3 and 4 of Pit 13; Levels 3, 4, and 5 of Pit 17; Levels 2 and 3 of Pit 18; Levels 4, 5, 6, and 7 of Pit 25; Levels 3, 4, 5, and 6 of Pit 26; Levels 2, 3, and 4 of Pit 29; and Level 1 of Trench K-2.

In order of importance, the main pastes are reddish brown, brown, light brown, and black, with the black probably including incompletely oxidized examples of the reddish brown. Medium-texture pastes apparently are the most important although there seems to be a change in the frequency of the reddish brown coarse. It is most common at the beginning of Phase 4 but promptly yields to the medium texture. Light brown paste is not important and becomes less so during the last of the phase, as does the fine texture.

Temper seems to be exclusively of coarse volcanic ash, at least in *pol Bl* which dominates the phase.

Types and forms associated with late Phase 3 probably last over into this phase, as indicated by the Huerta area excavations, but soon die out. To a remarkable extent, *pol Bl* seems to dominate and most other polished types vanish or diminish considerably.

Pol Bl appears to have been anticipated by two others, *pol BlBr* and *false pol Bl.* The first is earliest and may not be directly related to *pol Bl,* while the second, although poorly represented, may be a transition between *pol BlBr* and *pol Bl.* An alternative would be to regard *false pol Bl* as being first attempts to produce *pol Bl* but the stratigraphic occurrence places *false pol Bl* between the others.

Stratigraphically, the forms that belong to this phase include the following: Tecomate H; Ollas F, M, J, G, and N; Vases E and G; Divergent Straight-wall Bowl K and possibly A; Concave Bowls A, E, I, and possibly P; Convex Bowls A, Y, and CC; Compound-silhouette Vessels D, E, G, I, and possibly R; Bases A, B, D, E, and M to some extent; Handle A; Wide Everted Rims A, B, O, P, Q, and R; Vessel Supports A, B, C, D, F, and H; Features D(?), I, J, K, L, AA, and BB. Summarizing, it would seem that the general characteristics of Phase 4 and especially *pol Bl* include a small tecomate with fairly complicated incised design, ollas with vague and small short necks, slightly curved necks with rounded, thinned, or slightly flaring lips but also with straight necks or forty-five-degree-angle necks with a great variety of lips. Vases have straight or slightly concave walls, occasionally with reinforced rims very often having a single line around the outside lip and often with engraving outside. Straight-wall bowls have inclined walls either with a single line around the outside or with slightly everted rims. Concave bowls have a line around the outside lip with engraving outside, or occasionally are plain with slightly reinforced rims or with nubbin or slightly everted rims. Convex bowls most often bear one line around the outside lip and engraving outside, but slightly everted rims and simple, plain forms also occur. Compound-silhouette vessels have high shoulders and straight sides. Mushroom effigy vessels surely belong to this phase and the last part of Phase 3. Vessel bases are almost always flat although a few concave forms are known. Often there are one or two lines incised around the bottom of the wall where it joins the base. Handles seem to be of the simple strap type, probably all flat and placed vertically on the vessel. The wide everted rims are dominated by complicated versions with

or without moldings, two lines going around a medium wide rim, and flat everted rims either plain or with simple designs. There is also a complicated wide everted rim with an interior labial rise. The supports include round nubbin type, either conical in form or flattened slightly at the tip, mammiform supports, ring bases, and perhaps the simple slab leg. Special features are dominated by incising (a common *pol Bl* trait) but objects of unknown use occur, as do plain raised bands around a vessel, groups of small parallel lines, and worked sherds.

At first examination *pol Bl* seems to be quite varied in form and decoration, but after closer study it becomes obvious that the variation is restricted to a fairly narrow range. For example, the Wide Everted Rim Form P has many variations but follows a basic pattern. Decorative elements are almost always confined between two lines or one line and a molding, and occur in series. The designs themselves are only combinations and recombinations of perhaps a half dozen basic motifs. The triangle filled with hachure or cross-hachure, double triangles, "S" design, single or double lines, and the advancing chevron or "herring-bone" design make up the majority of basic motifs, with the half-circle, dot, and step designs occurring less frequently. Techniques include incision (pre- and post-slip), excising, filling with red pigments, jabbing, molding, and perhaps some painting. Incision is by far the most common.

Decoration of the wide everted rims is directed toward the outer edge with few exceptions.

In some ways the *pol Bl* is a return to an earlier tradition. The renewed importance of the vase form, the one line around the outside rim, and the almost exclusively flat bases all remind one of Phases 1 and 2, especially Phase 1.

PHASE 5

This phase cannot be adequately defined with so few remains from only two levels of one pit, Levels 3 and 4 of Pit 26. However, a change does seem indicated and its stratigraphic position is known. The only ceramic type that can be assigned confidently to this phase is *pol Ob*, and that is poorly defined.

The known pastes are cream, light brown, and reddish brown in that order of importance. The texture seems to be exclusively fine and the paste includes stray opaline inclusions.

Forms include Vase G; possibly Divergent Straight-wall Bowls D; Base E; Handle A; Wide Everted Rims B, C, P, S, perhaps Q and R; and maybe Vessel Support A. Less cryptically, the forms seem to include a vase with slightly outward inclined walls with one line around the exterior rim and engraving outside, convex bowls with the wall thickened slightly toward the bottom as well as an incipient or actual labial flange, flat bases with straight walls, simple strap handles, wide everted rims that are either flat or curved and with or without designs, and elaborate wide everted rims. The only possible support is a small conical nubbin type.

It seems that *pol Ob* vessels with the wide everted rims are more convex than the similar *pol Bl* ones. It is obvious that the forms of both *pol Ob* and *pol Bl* vessels are basically the same and that the two types and their respective phases must be related, probably rather closely. The designs are practically identical with those found on *pol Bl.*

Although evidence is not conclusive, we feel that *pol Ob* is at least partially contemporaneous with *pol Bl. Pol Ob* always is accompanied by *pol Bl.* Also, the considerable similarities between the types are best explained by temporal overlap, not replacement. Further, *pol Ob* must not have been a very satisfactory utilitarian pottery because it is soft and the slip fragile while *pol Bl* is harder and would have served better. The problem is discussed below.

Two polychrome sherds found in Mound B are considered by Delgado (1965, 56, 57) as similar to the Early Classic (Tzakol 2 and 3) Dos Arroyos Orange Polychrome and another to a protoclassic Maya polychrome; Warren and Lowe concur with his assignment (personal communication). Another polychrome sherd, now lost, was found in Mound J, Trench 1-East, Level 2, the section that probably had been disturbed. The 1956 N.W.A.F. excavation at Santa Rosa recovered several polychrome sherds, including one swollen mammiform support fragment, at the base of Mound S, but they are not available for study.

On the basis of available information, Mound B must be assigned to a *pol Bl* period, since, in answer to specific questions, Delgado reported no *pol Ob* from the mound (personal communication). It would therefore be concluded that *pol Bl,* while typical of Phase 4, most likely continued into Early Classic times and probably was at least in part contemporaneous with the *pol Ob* typical of Phase 5.

PHASE 6

The remains assignable to this phase are found in Levels 2 and 3 of Pit 17, Level 1 of Trench K-2, Level 1 of Trench S-1, Levels 2 and 3 of Pit 1, Levels 2 and 3 of Pit 16, and occasionally elsewhere.

Pastes are predominantly light brown but cream was also noted. Coarse textures are common in the cream paste but not as frequent as medium. A reddish brown fine-texture paste may also have been used. Temper is always coarse volcanic ash except in the rare fine-texture pastes where no inclusions are noted.

Types are predominantly *Sl dBr,* but also include *Sl Bichr, Sl Polychr,* and *Sl Mar.* The maroon is specular hematite and similar to that found in Phase 3, but here it is never polished nor does it occur in conjunction with a white pigment.

Forms include Divergent Straight-wall Bowl M; Concave Bowls D, F, and P; Convex Bowls A, J, and JJ; Compound-silhouette Vessel L; Bases A and B; Handle I and perhaps A; Vessel Supports A, B, C, and G; and Special Features F, G, K, L, and X. Mold-made figurines and large hollow figures are known. Plain spindle whorls may belong here or in the following phase.

The forms include concave bowls with sharply tapered or reinforced and flattened rims and possibly a slightly everted rim. Convex bowls have rounded and plain lips; reinforced straight-wall or concave bowls have pseudo-glyph bands around the outside which appear to be mold-made. Vessel bases are flat. Handles include simple flat straps and maybe "flange" appendages. Supports are conical, either pointed or rounded, and there are tapered round ones and notched solid slab legs. Special features include single bands of fillet around the body of the vessel but more often on the basal angle, groups of small parallel lines and vertical fluting.

The polychrome decorations appear to be geometric patterns in red, orange, and black. Bichromes may include any two of the foregoing colors. The maroon is applied exclusively to the rims, interior and exterior. The basal angle fillet is unique to this phase. Pseudo-glyphs and appliqué around the outside rims occur only in Phase 6 also.

Levels 2 and 3 of Pit 16 contained several fragments of what resemble a San Juan plumbate vessel. Shepard examined all and said they were not true plumbate. They may be local variants or imitations.

PHASE 7

These remains were mostly found in Levels 1 and 2 of Pits 1 and 2. The area of these pits served as a burial place during a post-Conquest period. The presence of many cut cattle bones suggests that it also had been a living area.

Remains include glazed sherds, a glazed ring base, colander sherds, and possibly two plain spindle whorls, although these may pertain to Phase 6. Baked bricks and tiles were found as were many bones from cattle.

I suggest that these remains are quite recent, probably 1800-1850.

THE CERAMICS FROM MOUND EXCAVATIONS

METHODOLOGY

Ceramic remains from mound excavations have been studied to define the construction sequence and to elucidate the remains from stratigraphic pits whenever possible. As with the pits, only decorated sherds and those from rims, basal angles, handles and supports were used. Sherds from all excavated mounds were studied, except those from Mound B which have been described in detail by Delgado (1965:45-57).

Frequencies of the previously described types were tabulated for each level of every excavation unit. Frequencies of the most diagnostic types then were arranged in a seriated sequence given in Table 9. The types were ordered across the top of the table according to their appearance in the stratigraphic sequence, with the more recent being to the left. Mound excavation units were arranged vertically according to the presence and frequency of progressively more recent types, with primacy given to *pol Bl*. Each excavation unit was divided into sections dictated by natural stratification, usually the presence of a floor. For example, in Table 9 the reader will note that percentages are given for upper and lower sections of Mound G. The dividing line was an earthen floor. Type frequencies are given as percentages because the excavation unit volumes vary.

It is realized that certain assumptions have been made. It is assumed that the ceramic types are valid divisions, that their appearance order is correct, and that each sample is qualitatively and quantitatively representative of the Santa Rosa ceramics until the time when that mound portion was heaped up. The last assumption is the most dubious. But if there are regular change patterns with clear and consistent general trends, the assumptions are rendered less disturbing and more acceptable. As discussed below, the assumptions seem permissible. A more detailed discussion is given later.

Using Table 9 it will be seen that when a mound has been divided into sections, the upper always is more recent than the lower, as one might expect. Also, the steady increase of *pol Bl* percentages is halted and reversed with the appearance of *pol Ob*, which is reasonable since *pol Ob* is stratigraphically above *pol Bl* and presumably supersedes it. The *false pol Bl*, considered an antecedent to *pol Bl*, clusters in the units immediately before the appearance of *pol Bl*. The cluster is more striking when one knows that the .2% of *pol Bl* in the upper section of Mound G represents a single sherd from the surface level.

Pol RBr, *pol BlBr* and *pol O* attain their highest percentages early in the seriational sequence and then decline, although somewhat erratically. *Pol CrW* and *pol Mar* frequency peaks are between *pol RBr* and *pol Bl* peaks, a situation that conforms with conclusions reached in the stratigraphic study. *Pol Mar*, considered typical of early Phase 3, abruptly declines with the appearance of *pol Bl* while *pol CrW*, considered typical of late Phase 3, declines more slowly and even enjoys three high frequencies when *pol Bl* was plentiful; two of the three high frequencies are from Mound F units. It is suggested that the source of debris used for building Mound F included an extraordinary proportion of *pol CrW*. In support of this suggestion, Pit 13, some fifty meters southwest of Mound F, yielded the greatest concentration of *pol CrW* found in any of the stratigraphic pits. Further, the most marked variations from the generally steady decline of *pol RBr* and *pol O* percentages coincide with the irregular peaks of *pol CrW* percentages. While a rise in the popularity of one type often is reflected by a drop in another, the relationship here appears more complex. That is, while the steady increase of *pol Bl* percentages is accompanied by corresponding decreases of all other slipped and polished types, the relationship between *pol CrW* on one hand and *pol RBr* and *pol O* on the other would seem more direct, as though they were not only alternatives but also partially contemporaneous.

TABLE 9. SERIATIONAL SEQUENCE OF SELECTED CERAMIC TYPES AND ARTIFACTS FROM MOUNDS

	CERAMIC TYPES										SELECTED ARTIFACTS		
UNIT	Ob Pol	Bl Pol	falBl Pol	CrW Pol	Mar Pol	Pol RBr	Pol BlBr	Pol O	Unslip-ped	Others	"Mushroom" Effigy	Ring Base	Mammiform Support
Mound V						5.9	2.4	31.8	26.6	33.4			
Mound W			.8	4.9	2.8	15.4	15.2	13.6	15.9	31.0	1		
Mound G (lower)				10.3	10.3	18.4	14.7	10.3	13.2	22.8			
Mound G (upper)		.2	.2	12.1	6.0	15.1	13.2	10.9	18.7	24.4	1		
Mound L		1.1	.5	4.6	5.8	18.2	9.5	16.5	10.6	33.6		3	
Mound K		2.7		5.1	2.7	17.2	7.9	18.6	17.1	28.3			
Mound AA		5.4		18.0	4.3	7.9	6.5	10.0	24.3	24.0	1		
Mound M (Trench 2)		8.9		5.9	1.9	10.3	12.8	11.3	20.3	29.5			
Mound S (Trench 1, lower)		9.2	.2	5.1	1.5	12.2	14.2	17.7	10.3	29.3			
Mound T (Trench 1, lower)		13.3		4.2		7.9	9.6	15.4	20.7	28.8			
Mound F (Trench 1, lower)		13.3		13.3	4.4	4.4	4.4	11.1	15.5	33.3			
Mound J (Trench 1-W, lower)		14.6		4.4	2.5	9.5	9.3	18.9	15.3	25.9		4	
Mound F (Pit 1, lower)		16.8		5.9	1.6	15.9	7.9	9.2	17.5	24.7		1	1
Mound J (Trench 1-W, upper)		17.6		6.9	3.3	10.0	4.2	12.0	22.4	22.3			
Mound F (Trench 1, upper)		25.7		7.1	2.2	7.9	4.4	5.9	17.4	28.0			2
Mound F (Pit 1, middle)		28.2		6.5	2.2	7.4	6.9	13.0	13.9	21.7		2	2
Mound F (Pit 1, upper)		52.0		10.0		4.0	1.0	8.0	12.0	13.0		1	
Mound T (Trench 1, upper)	.1	23.6	.3	6.8	.4	6.9	1.4	6.3	33.3	19.6	1	2	1
Mound BB	2.0	22.4		7.1	.7	4.8	.7	3.7	45.9	12.2		2	
Mound S (upper)	.8	17.5		4.4	.8	4.7	2.5	5.8	37.2	26.1			

THE MOUND CONSTRUCTION SEQUENCE

While Delgado (1965) has reported upon results of mound excavations and indicated temporal placement in general terms, this more detailed study permits some refinements and contradictions.

Mound F was investigated by Trench 1 dug on the high central portion, Pit 1 on the northern extension, and two trenches along its northern end. Trench 1 encountered three floors but all remains above the third floor have been grouped into a single lot including Levels 1 through 6. This upper section is of late Phase 4. The lower section below the third floor apparently is of middle Phase 4 assignment. Carbon from directly above the third floor yielded a radiocarbon date GrN-1932 of 40 ± 65 B.C. (Vogel and Waterbolk, 1964:364).

Pit 1 in the northern extension of Mound F had thirteen levels of 25 cm. each, with the lowest three being below the mound. The upper ten were divided into three sections—Levels 1 and 2, Levels 3 and 4, and Levels 5 through 10—on the bases of soil differences that presumably reflect different construction stages. All sections are of progressively later parts of Phase 4.

Mound G was divided into upper and lower sections with a stamped earthen floor found at a depth of 1.75 m. (the .75 figure given by Delgado, 1965:22, is in error). The latest material, a single *pol Bl* sherd found in the top level, would indicate the upper section to be of very early Phase 4, although the type frequency pattern argues for assigning it to the end of Phase 3. The lower section certainly is of late Phase 3. Since the test trench was terminated at 2.5 m. and the mound stands 3.5 m., the earlier construction must have been a platform between 1.0 and 1.5 m. high.

Mound J was investigated by a trench dug into its top, divided into east and west sections. The west section, measuring 10 m. in length, is used herein because the other apparently had been disturbed; a Colonial or Phase 7 glazed sherd appeared in Level 3. The west section has been divided into upper and lower parts with the intact floor at the bottom of Level 2 being the separation point. The entire structure is of middle Phase 4.

Mounds K and L, twin parallel structures, were excavated by single trenches that penetrated the original ground surface only of the former. Presence of *pol Bl* in low frequencies indicates an early Phase 4 placement.

Mound M, Trench 2, was complicated by a floor and walls, but, when all sherds were grouped, the total frequencies were found to agree with an early Phase 4 assignment; no later remains were noted.

Mound S sherds have been grouped into upper and lower sections with a stucco floor as the division point. The lower section contained *pol Bl* sherds but nothing later, and so the greater bulk of the mound is of Phase 4. In the thin upper section, excavated as a single unit, were found the *pol Ob* of Phase 5 and examples typical of Phase 6. Since the relative positions of the remains are unknown, it is not possible to determine more precisely when the upper section was built.

Mound T, as studied by Trench 1, likewise presents an uncertainty. While the lower section below the intact stucco floor obviously is of Phase 4, the upper section contains remains of Phases 5 and 6. A gravel floor 30 cm. below the surface and some 83 cm. above the stucco floor may separate remains of the two phases. Since Burial 8 with the fine anthropomorphic effigy vessel was found below the gravel floor, the distinction is of particular importance. However, my field observations were inadequate (Delgado, 1965:31, 32, 39, 40).

Mound V, tested by one trench, yielded sherds of Phases 1 and 2 and therefore should be considered a Phase 2 construction, the earliest known at Santa Rosa. Delgado (1965: 43) considered Cache 7 (Fig. 21) found below a large rock—probably an altar—embedded in the mound, to be Late Classic, but in our opinion it could be Phase 2; such plain, undiagnostic pieces occur beginning in Phase 2.

Mound W yielded no indication of substructures although the one trench dug into it penetrated only two meters deep into the fourteen-meter-high structure. No *pol Bl* sherds were found in 1958, but the 1956 excavations encountered Cache 10 which included complete examples of *pol Bl* vessels (Delgado, 1965:43, 44). The cache apparent-

ly was intruded into an earlier structure since the lack of *pol Bl,* low frequencies of *pol CrW* and *pol Mar,* presence of *false pol Bl,* and high frequencies of *pol RBr, pol BlBr,* and *pol O* all indicate a Phase 3 temporal placement.

Mound AA most likely is a Phase 6 structure. Frequencies of polished types and unslipped sherds argue for an early Phase 4 assignment but occurrence of diagnostic Phase 6 remains (Delgado, 1965:34) date the construction.

Mound BB, excavated by a trench 1 m. deep, may be a Phase 5 construction since six *pol Ob* sherds were found in the lower level. No later remains were found.

CONSIDERATIONS OF MISCELLANEOUS REMAINS

Selected artifacts from mound excavations are noted in Table 9 according to the mound and section where they were found. This arrangement helps to place the artifacts' appearance in time and illustrates associations between artifacts.

Sherds bearing the distinctive finger-nail-punched surface, always from ceramic mushroom effigies when the vessel is sufficiently complete for form definition, were found in mound excavation units, three of which are assigned to Phase 3 or early Phase 4. Extrapolating from the radiocarbon date of 40 ± 65 B.C. from Mound F, it is suggested that the ceramic mushroom effigy was present at Santa Rosa during the last centuries B.C. According to the stratigraphic evidence presented in Table 7, the mushroom effigy—Form 13-U—is present in Level 7, Pit 25, and Levels 4 and 5, Pit 29, and therefore is late Phase 3 and early Phase 4. The splendid consistency between conclusions reached from different evidence gives credence to the temporal assignment as well as to the general sequence. S. F. de Borhegyi, in his thorough study of ceramic mushroom effigies (1963: 328-338), found them to be most common in southern Mesoamerica during the late Preclassic and Protoclassic, but at Santa Rosa the form apparently is more restricted temporally.

Ring bases and mammiform supports are late Phase 4, except for three of the former from Level 1, Mound L, which we consider intrusive because of the tight cluster later in the seriational sequence. As noted before (Brockington, 1961:91), ring bases and mammiform supports are contemporaneous at Santa Rosa. If there is any temporal dissimilarity, the ring base is both earlier and later. Again extrapolating from the Mound F radiocarbon date, the two forms were present during the first centuries A. D.

Two "double-ring" objects were found in Mound W, Level 2 (Delgado, 1965:68). Similar objects found at Chiapa de Corzo (Agrinier, 1964:25) were assigned to the Francesa phase, which agrees with our placement of Mound W.

CACHE VESSELS AND STONE OBJECTS

Delgado (*ibid.*) describes cache vessels and stone implements. The following gives additional descriptions and corrects an error.

Cache 4, an unslipped but polished Form A vase of Phase 1, has a repeated incised design on its exterior. This is a rectangle with a V-shape jab in the center of each side. An "S" design is incised in the middle of the rectangle and a small circle in each corner. There is no hachuring (Figs. 27, 28).

Pit 22, Level 1, yielded a unique form of a nearly complete "shoe" vessel (Figs. 42, 43). It was buried 15 cm. below the surface in an upright position in a level that contained tremendous amounts of utilitarian and fine sherds, including much *pol Bl.* It is not known whether the vessel represents a cache or discard.

The vessel toe is modified to represent two swollen female breasts while another two protrude laterally from near the heel. Each breast is encircled by three shallow incised lines about its base. Two handles, connecting neck and body, are on the heel and toe ends. Maximum dimensions are 13.5 cm. height, 15.5 cm. width. It is of a hard, unpolished brownish-orange paste. Its temporal position is Phase 4 or later.

The uniqueness of the vessel lessens its usefulness for comparative purposes. Dixon (1965), in his study of shoe vessels, does not report any similar ones. Gordon (1957:Plate 2) figures a somewhat similar vessel from the Sinú region of northern Colombia but provides no other information.

Figure 42. Mammiform Shoe-shape Vessel From Level 1, Pit 22

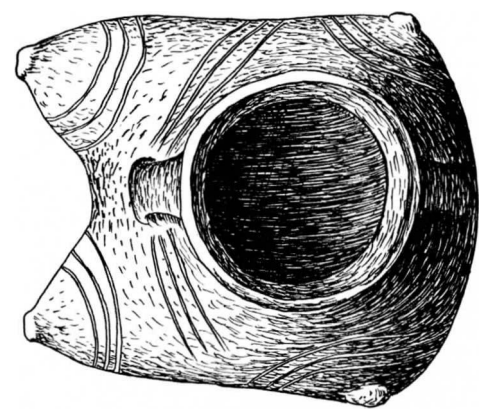

Figure 43. Mammiform Shoe-shape Vessel From Level 1, Pit 22

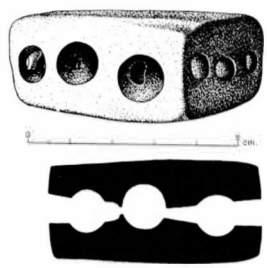

Figure 44. Possible Gaming Piece of Stone

A drawing of a problematic "gaming piece" was omitted inadvertently from Delgado's report (1965:71, 72). It is included herein as Figure 44 and shows clearly that a conical drill was used.

A dark gray granitic stone object from Pit 21, Level 3, also was omitted. The object may be the upper part of a mushroom effigy similar to some illustrated by de Borhegyi (1961, Fig. 2). The broken stone is 12.5 cm. long; the diameters of shaft and head are 5.7 and 8.0 cm. respectively (Fig. 45). The shaft is round and well polished on all sides while the head bears peck marks that are especially pronounced around its margins. Since Levels 2 and 3 of Pit 21 contain *pol Bl* and no later types, the stone is assigned to Phase 4. The fragment might also be the lower end of a broken pestle, though pestles of this shape do not appear to be typical of this general area.

Figure 45. Possible Mushroom Effigy Stone Fragment
From Level 3, Pit 21

SETTLEMENT PATTERNS

METHODOLOGY

One purpose of this report is to discuss settlement patterns. We are indebted to Gordon Willey (1953) for his pioneering studies of archeological settlement patterns. Most of his approach and objectives have become a part of the general interest and knowledge of archeologists. His work was based on the view that:

> . . . These settlements reflect the natural environment, the level of technology on which the builders operated, and various institutions of social interaction and control which the culture maintained. Because settlement patterns are, to a large extent, directly shaped by widely held cultural needs, they offer a strategic starting point for the functional interpretation of archaeological cultures (Page 1).

His four main objectives were to describe sites with regard to geographic and chronologic position, outline the developmental reconstruction of settlements with relation to function and sequence, reconstruct cultural institutions, and compare his work in the Virú Valley, Peru, with other parts of Peru (p. 1).

We deal with but one site for which a developmental reconstruction is made. Cultural institutions are inferred. A broader view of patterns in central Chiapas is given as speculation in the final section of this paper.

The quadrant system of locating stratigraphic pits was used in an attempt to learn the horizontal and vertical distributions of ceramics of each phase (Fig. 1). As described earlier, the pits were spaced at intervals of 100 m. in a grid 600 m. long and 400 m. wide covering the central portion of the site. The widely spaced pits gave a broad, general view of the site's contents and their distribution. Pits placed at smaller intervals and extended westward to the Aguacate River and south along the river to the ranch house would have refined and increased our understanding.

Conclusions were reached by noting the ceramic contents of each pit by levels, identifying the levels by previously established phases, and estimating the intensity of occupation by phases according to the number of sherds of diagnostic types. For example, Pit 27 has two levels, each with few sherds, but including *pol Bl* as the most frequent type and no earlier diagnostic types. Pit 27 was evaluated as being of Phase 4 with very light occupancy. Conclusions therefore are subjective but are based on quantified evidence.

Figure 46 of the Santa Rosa area shows the scattered Phase 1 occupation. Figures 48 through 51 are general, schematic representations of mounds and habitation concentrations for other phases in the investigated central part of the site. Unexcavated mounds have been included in Figure 50 of Phase 4 since it was then that most of the structures of known placement were built.

The most vulnerable of several assumptions made is that each level of each pit accurately reflects the ceramics used in that vicinity for that time segment. We cannot ignore the fact that mound construction has altered the evidence. A small depression at the southeast corner of the site has been suggested as a possible borrow pit, but similar depressions that fill with water to become small lagoons are common for kilometers south of the site. In our opinion, the mound building material was scraped up from surrounding areas and carried to the nearby construction. The total cubic content of the mounds, excluding stones, stucco, etc., had been spread over the site.

The contents of the mounds have been calculated as 111,706 cubic meters, a figure that is only reasonably accurate because irregular shapes make precision impossible and rates of erosion and accumulation are not known.[1] If the total mound volume were

[1]See page 62.

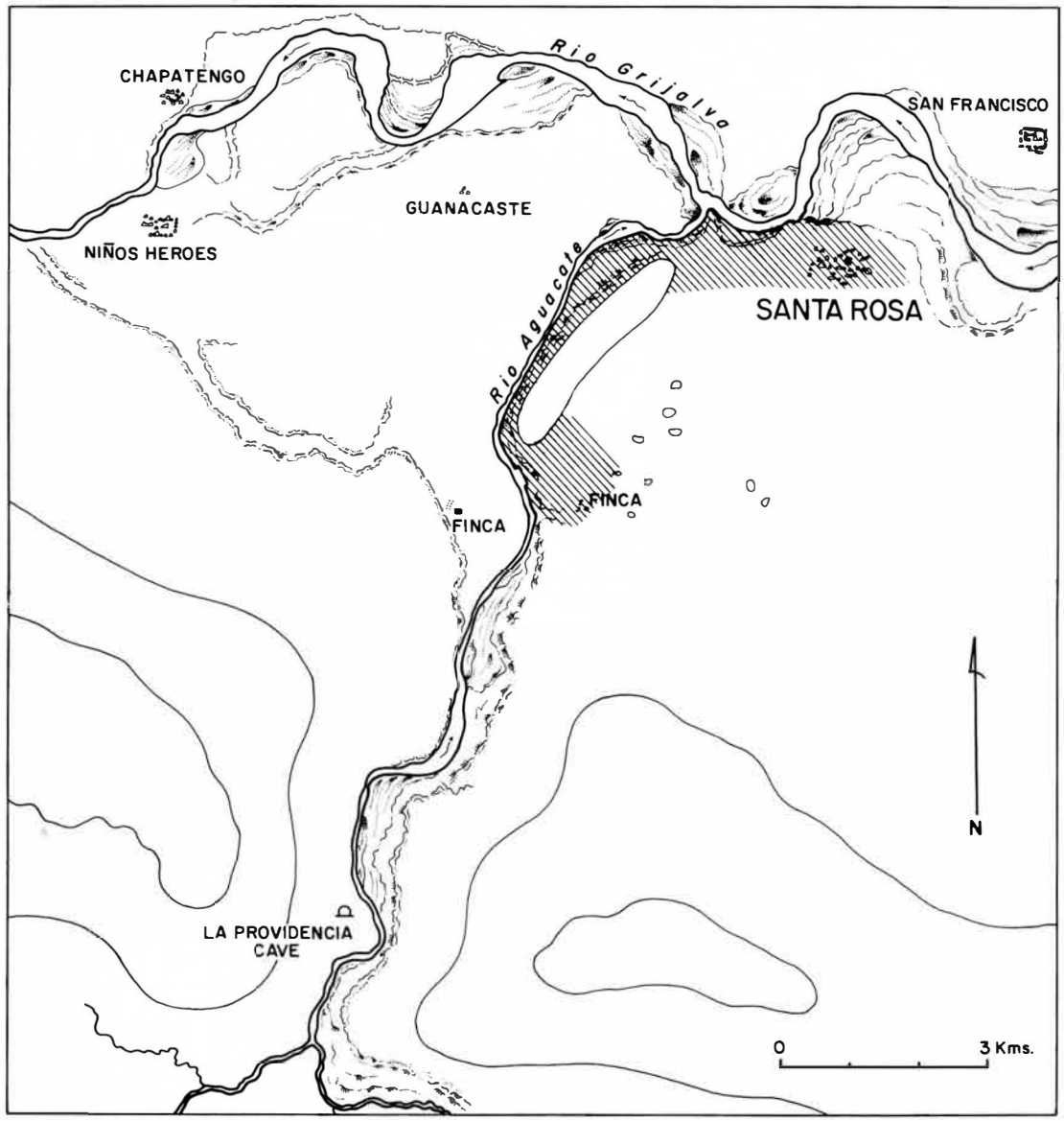

Figure 46. Map of Vicinity of Santa Rosa, showing Phase 1 Settlement Pattern

Prepared by Eduardo Martinez from aerial photograph. The Phase-1 settlement pattern is shown by hatching.

spread evenly over an area of 500 by 800 m. (the central portion of the site), it would make a layer 28 cm. thick. If the area is reduced to 400 by 700 m. (the inner zone or zone between the largest mounds), the layer would be 40 cm. thick.

If the central zone had contributed disproportionately to mound construction, the stratigraphic pits dug there would probably be shallower than those dug elsewhere. Also, were this true, the pits in the central portion should contain less Phase 4 remains, since it was then that most mounds were built. We find that the outer ring of pits averages two levels (50 cm.) more in depth than those in the site center, but Phase 4 remains are as frequent in the central zone as elsewhere. The conclusion is that, while disturbance and

earth removal surely occurred, the sample reflects the deposition pattern and the interpretations presented herein of those patterns are acceptable.

A rude index of habitation intensity as compared with ceremonial activity was calculated by making a ratio of numbers of tecomate and olla sherds versus other forms for each level of each pit. The index was not very useful.

SETTLEMENT PATTERNS

So far as can be detected, mound orientations and their placements relative to each other have no special discernible meanings. None appears placed according to a plan to create integrated ceremonial groupings. None seems to be oriented for making observations on solar movements, using other mounds as sighting points. This does not exclude the possibilities of natural horizon markers having been used nor the arrangement being for making observations on other celestial bodies. No mounds have been located in any obvious relationship with another, except for Mounds K and L which are not only of identical size and form but lie parallel to each other. The others appear to be scattered on a general line with the platform Mound S in the center, the tall Mounds A and B to the east, and W to the west. This description and the map do not include the other mounds to the north and west near the confluence of the Aguacate and Grijalva Rivers and occasional small mounds two kilometers up the Aguacate.

The apparently random placement of mounds, or placement depending upon terrain, is typical of the Grijalva Central Depression during the Preclassic, as has been noted by Lowe (1959:70).

We also are almost totally ignorant of the house types and forms at Santa Rosa. The remains of posts in Mound F and numerous bits of burnt daub bearing impressions of sticks and poles suggest wattle-and-daub construction, although the burnt daub could equally well be remains of cooking platforms. It is only on the surface that we find the stone outlines called "house platforms," and most of these are south of Mound S. The very lack of evidence indicates impermanent constructions of perishable materials. Since such houses require frequent rebuilding, the population must have been shifting about rather often from one house site to another.

Most Phase 1 remains are scattered west of Mound F with the only heavy concentration being near Mound K, and light concentrations near Pits 25, 28, and 29. Judging from surface finds and two pits dug near the ranch-house for oven-cooking and an outhouse, Phase 1 sherds are more plentiful from the Grijalva River for three kilometers southward along the Aguacate; the smaller river apparently presented a more favorable environment at this early time (Fig. 46). No mound is assignable, although only sherds of this phase were found on the surface of a small conical mound some 800 m. north of the ranch-house. Also see Lowe, 1962b:58, 59 for description of a Dili phase platform at Chiapa de Corzo, partially contemporaneous with Santa Rosa Phase 1.

The wider scatter of early sherds with occasional concentration suggests frequently relocated, dispersed single dwellings.

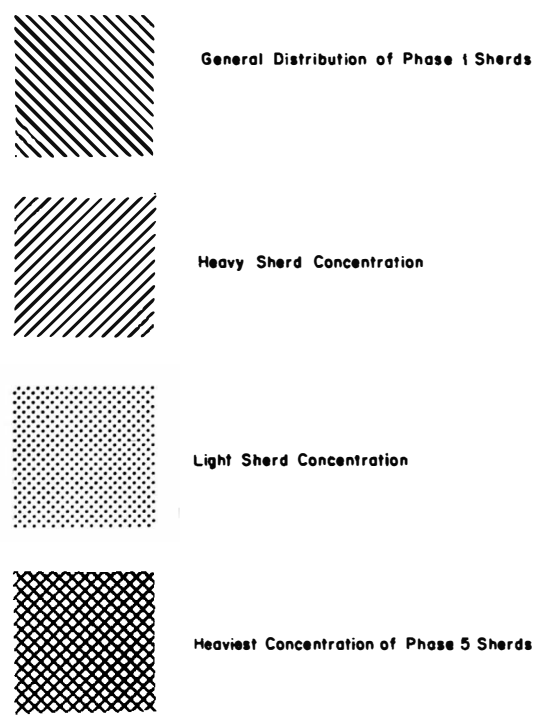

Figure 47. KEY TO SETTLEMENT MAPS

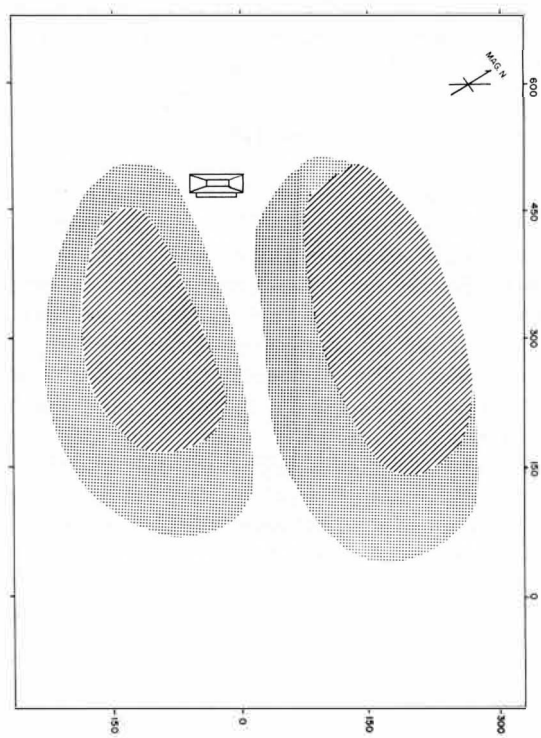

Figure 48. PHASE 2 SETTLEMENT PATTERN, SCHEMATIC REPRESENTATION

Phase 2 sherds have been found over most of the pit grid and extending west to the Aguacate. Those within the grid were most heavily concentrated in two parallel belts extending true east-west for about 400 m. from Pit 29 to Pit 20 and Pit 26 to Pit 9 (Fig. 48). The area between the belts has Mound V, a Phase 2 construction, at the west end. The mound faces slightly south of east.

The pattern might be interpreted to suggest a clustered village divided into moieties and oriented in relationship to a ceremonial construction.

Phase 3 sherds are scattered more uniformly than those of Phase 2 but again are concentrated in the same two belts that now are slightly longer and wider. Mounds G and W, Phase 3 constructions, also are located in the middle area with Mound G at the east end and Mound W at the west (Fig. 49).

It is inferred that the orientation and arrangement of Phase 2 continued, but with a larger population.

Phase 4 sherds are even more generally scattered than those of Phase 3 although clusters are noted (Fig. 50). The belts of earlier periods appear to have fragmented. Concentrations are seen in the vicinities of Mounds O, P, and Q, and Pits 25 and 26, around Mound I and Pit 13, near Mound T and Pits 22 and 29, and near Mound D and Pit 3. Each former belt survives but with eastern and western halves. Most of the investigated mounds pertain to Phase 4.

It is suggested that while the former basic pattern continued, it became more complex, as one might expect to accompany the accelerated construction activities and probably more complex ceremonial life and related social institutions. There is further evidence that the postulated basic moiety division persisted.

Delgado (1965:29) describes a gravel layer beneath a plaster floor atop Mound S, the large platform approximately in the site center, and says that the gravel on either side of the medial line of the temple was different. To the north the gravel was broken and to

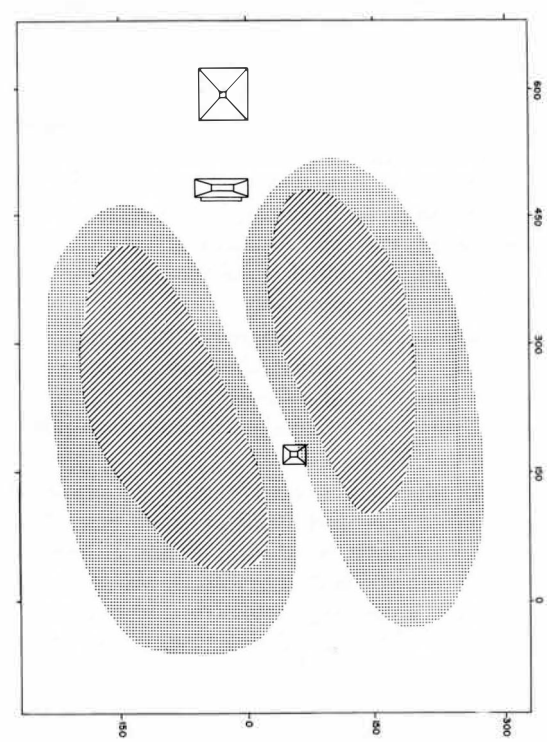

Figure 49. PHASE 3 SETTLEMENT PATTERN, SCHEMATIC REPRESENTATION

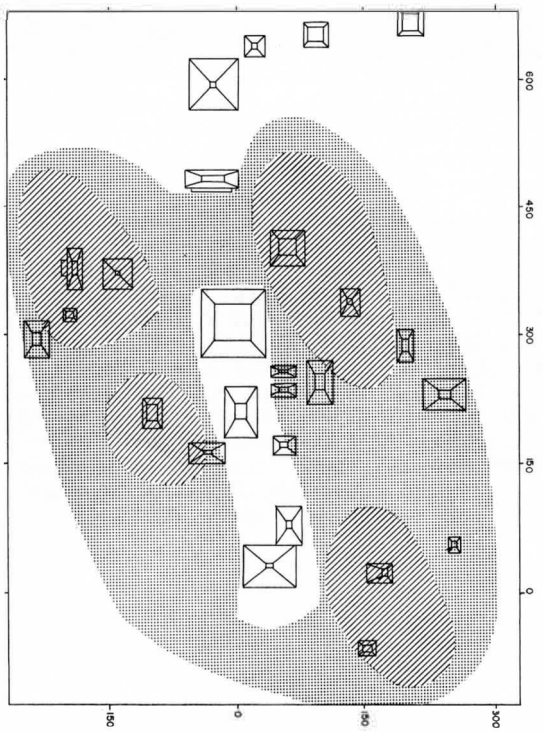

Figure 50. PHASE 4 SETTLEMENT PATTERN, SCHEMATIC REPRESENTATION

the south it was rounded. I supervised that excavation and, upon noting the difference, carefully searched the gravel, finding no mixture whatever. Not only does the difference suggest two sources of materials but it may be taken to imply two separate groups, each working on its section. Further, the medial line runs roughly east-west.

Distributions of Phase 5 and 6 sherds are nearly identical (Fig. 51). They stretch in a band about 200 m. wide running from Pit 26 to Pit 20, from southeast to northeast, although a scatter of sherds from both periods is found over much of the site. The zone includes the stone outlines called "house foundations" (Delgado, *ibid.;* 34, 35) to the south of Mound S. The population apparently declined considerably.

The coincidence of distributions and the variation from the others may suggest a close relationship between Phases 5 and 6 and a break with earlier traditions. As pointed out on page 16, the *pol Ob* of Phase 5 is found most often at those sites where materials of the Late Classic–Early Postclassic Phase 6 are well represented.

SUMMARY

In Phase 1 there were scattered houses along waterways with the small Aguacate River being preferred. No ceremonial structures are known but may have existed. During Phase 2 a low platform was built facing slightly south of east with a long plaza extending to the east and houses clustered along each side of the plaza. In Phase 3 additional mounds were erected at each end of the plaza and the village increased in size. Most mounds were built in Phase 4 with the more numerous population distributed in a more complex version of the earlier pattern. During Phases 5 and 6 the much reduced population concentrated along a line running northeast to southwest through the site center.

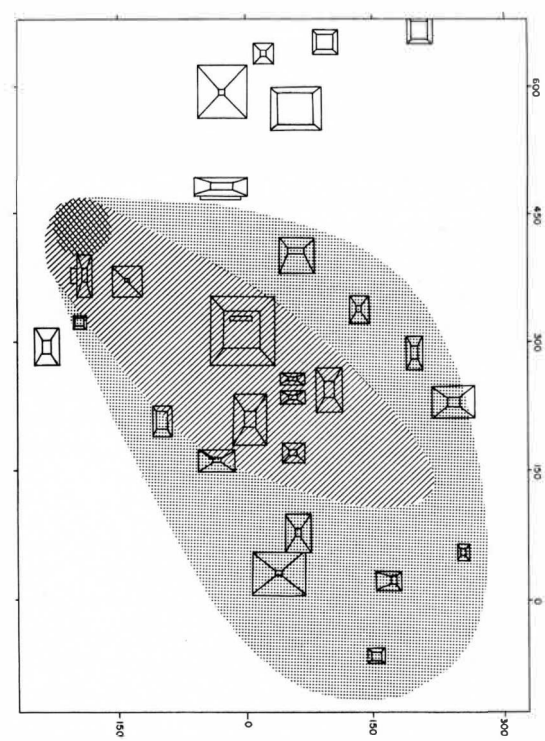

Figure 51. PHASES 5 AND 6 SETTLEMENT PATTERN, SCHEMATIC REPRESENTATION

'The mounds in their present forms are truncated cones and truncated elliptical cones. The formulae used in computing their volumes were suggested by Dr. Saul J. Drobnies, Department of Mathematics, San Diego State College.

For a truncated cone,

$$V = \frac{a^2}{a - a^1}\left[\frac{h_1^3 - (h_1 - h_2)^3}{h_1^2}\right]$$, and for a

truncated elliptical cone,

$$V = \frac{ab}{a - a^1}\left[\frac{h_1^3 - (h_1 - h_2)^3}{h_1^2}\right]$$, where,

a equals the radius of the major axis of the base; b equals the radius of the minor axis of the base; h_1 equals the height of the untruncated cone; h_2 equals the height of the truncated cone; a^1 equals the radius of the major axis of the top surface (top of the mound); and b^1 equals the minor axis of the top surface. To compute h_1,

$$h = \frac{ah_2}{a - a^1}$$, or, $$h = \frac{bh_2}{b - b^1}$$

The computed volumes, in cubic meters, for the mounds are: Mound A, 14,318; Mound B, 4,993; Mound C, 556; Mound D, 1,082; Mound E, estimated to be the same as Mound C, 556; Mound F, 1,952; Mound G, 1,905; Mound H, 2,032; Mound I, 1,311; Mound J, 4,146; Mound K, 637; Mound L, 637; Mound M, 1,795; Mound N, 807; Mound O, 1,830; Mound P, 156; Mound Q, 3,124; Mound R, 2,460; Mound S, 17,866; Mound T, 7,080; Mound U, 874; Mound V, 4,468; Mound W, 28,467; Mound X, 463; Mound Y, 1,693; Mound Z, 2,463; Mound AA, 3,567; and Mounds BB, CC and DD were estimated to be comparable to Mound P, 156.

COMPARISONS

While the Santa Rosa phases have been briefly related to other sequences (Brockington, 1961:85-89), the present study broadens and makes more specific the comparisons, dealing mostly with diagnostic ceramic types and attributes by phases. Extremely detailed comparisons probably would be misleading, for the Santa Rosa sequence is not sufficiently precise. Also, samples of Phases 1 and 2 are small and probably do not represent the full range of variations. Most comparisons are made with remains from sites in the Chiapas Central Depression with only occasional references to other sequences.

Phase 1 clearly is comparable to Dili phase of Chiapa de Corzo. *Sl FlatW* is nearly identical with Vergel Slipped Group and bears similar decorative elements. Phase 1 and Dili phase also share the same vessel forms, including a high frequency of tecomates, ollas with short and straight necks, flat-bottom bowls with concave or out-flaring walls, and straight-wall vase forms. Tecomates usually were decorated by raking, punctation, or incised horizontal lines (Dixon, 1959:33). The "double-line break" on bowl rim interiors is typical of both phases, as are multi-strand strap handles and small lugs (Dixon, 1959:36); no other handle forms or vessel supports are known.

The Red-and-White Bichrome of Chiapa is missing at Santa Rosa, except for a single sherd from a white-slipped convex bowl with a red thickened rim found in Mound V and therefore from either Phase 1 or 2. Likewise missing at Santa Rosa are medium everted rims, chalice-shape censers, scalloped everted rims, and other forms. The Santa Rosa decorative elements are less complex and varied. Both phases are characterized by the almost exclusive use of sand temper although the hornblende crystals noted mixed with sand in Chiapa sherds have not been seen in Santa Rosa sherds.

It well may be that differences between sherds from the two sites are due to the small sample recovered at Santa Rosa. With a larger sample and excavations along the Aguacate River, where the phase occupation apparently was concentrated, differences probably would be less. However, the Santa Rosa examples give a strong impression of being more simple.

William Sanders' Burrero Period materials from Santa Cruz (1961), upriver from Chiapa de Corzo, are much like those from Santa Rosa Phase 1, and should be, since he equates the Burrero Period with Dili phase. Burrero Cream vessel forms and decoration (*ibid.*, Fig. 17) are quite like those of *Sl FlatW*, although the Santa Rosa types do not have as many vessel forms nor such complicated designs. Sanders' Burrero Tecomate is identical with many Santa Rosa tecomates (*ibid.*, Fig. 19). Both groupings also include the multi-strand strap handle (*ibid.*, Fig. 19). The important Burrero Gray is in rather low frequency at Santa Rosa; few sherds are of gray pastes.

A survey of NWAF ceramic collections shows that remains like those of Santa Rosa 1 are found at sites throughout the Central Depression and that there is a remarkable uniformity. The same basic complex is found from northern to southern Mesoamerica concentrated along the Gulf Coast, across the Isthmus of Tehuantepec, and southward along the Pacific Coast. It appears in the valleys of Tehuacán, Mexico, Morelos, Toluca, and Playa de los Muertos, Honduras. It is not known as a unit in western Mexico nor found on the Oaxacan Coast. It appears to be the most widespread of all Preclassic ceramic traditions in Mesaomerica.

Santa Rosa Phase 2 also is poorly represented in pure deposits and its diagnostic types persist into later phases or blend into types representative of later phases. Phase 2 surely correlates with the Escalera phase of Chiapa de Corzo and a widespread ceramic tradition mostly found south of the Isthmus of Tehuantepec, as is pointed out by Bruce Warren (n.d., report in progress). The diagnostic *pol O* with its lustrous surface, soapy feel, frequent firing clouds (cloudy resist?), and simple forms is similar to the Mars Orange ware of Uaxactún (Smith, 1955:21). Warren's characterization of the complex as

found at Chiapa de Corzo includes the appearance of volcanic tempering materials (1959:1), of wide-everted rims with multiple grooves on the upper surface (*ibid.*, 3), and ". . . true slipping in red, orange, brown, and black monochrome colors . . ." (*ibid.*, 5), all, except for the last, making their appearance at Santa Rosa in Phase 2. We have not found as yet the elaborate ceramic forms, such as chamfered cylinders, whistling jars, and cylinder seals, at Santa Rosa.

Sanders' description of Chiapilla Polished Red (1961:20-23) may include some *pol O* and *pol RBr* of early Phase 3. He notes a decline in waxy feel and luster (*ibid.*, 48), as we have pointed out at Santa Rosa for *pol O* and *pol RBr*, two similar types that probably are segments of a single ceramic tradition. However, he apparently sees no Escalera phase equivalent at Santa Cruz (*ibid.*, 50).

Navarrete describes sherds similar to *pol O*, but with sand temper, from the Frailesca region of the Central Depression (1960:26), although he found the button appliqué typical of *pol O* and Santa Rosa Phase 2 on sherds he equates with Dili phase (*ibid.*, 25). Fredrick Peterson recovered abundant remains similar to *pol O* and *pol RBr* at Mirador in the northwestern extension of the Central Depression (1963:32-35). However, his study only relates remains to the Chiapa sequence on a typological basis which reduces its chronological value.

Of the three ceramic types most characteristic of Santa Rosa Phase 3, *pol RBr* and *pol Mar* belong to the first half of the phase and *pol CrW* to the second half. *Pol RBr*, with its typical wide everted-rim plate having multiple grooves, must correspond to the Francesa phase of Chiapa de Corzo; Warren (1961:79) considers the form diagnostic of Francesa. Identical pieces were present in burials of that phase (Agrinier, 1964: Fig. 30, *l*). Navarrete illustrates such vessels from the Frailesca (1960:26) and Peterson found many at Mirador (1963:31, 32). Some Chicanel examples are extremely similar in form, slip and decoration (Smith, 1955:38) and there is little doubt that the examples may be equated with that general horizon. Coe notes that the same form and decoration are distributed ". . . from Yucatan through the central Maya area over through Chiapas and across to the Pacific Coast where they are found as far east as Tiquisate. . ." (1961:78).

Beginning with Phase 3b we are progressively less able to find close similarities with other sequences. A few items, probably trade pieces, permit phase equations with Chiapa de Corzo, but the fact remains that the Santa Rosa ceramic tradition becomes increasingly distinctive and divergent. *Pol Mar* and *pol CrW* are not at all frequent in collections from outside the eastern end of the Central Depression. I have noted neither type nor their closely related unpolished versions in collections from the Frailesca or Mirador and they are rare in the Chiapas highlands and Chiapa de Corzo. Sanders' Chiapilla Cream (1961:Fig. 25) is similar to *pol CrW* with regard to vessel forms and decoration. The Cream Ware plates and dishes from Uaxactún with their shoulder flanges and simple everted rims also are similar (Smith, 1955: Fig. 70, *b*). *Pol Mar* is similar to a red-on-white tradition that was of long duration at Kaminaljuyu beginning with the Sacatepéquez period, but the Kaminaljuyú sequence has not been adequately described for making any worth-while chronological comparisons. We can only conclude that *pol Mar* and *pol CrW* pertained essentially to the eastern end of the Central Depression, except for the mentioned similarities.

The distinctive *pol Bl* of Phase 4 fares little better. One vessel and a few sherds have been found at Chiapa de Corzo, all associated with Horcones phase materials. The vessel, part of the large Mound 5 cache (Lowe, 1962:Fig. 18, *i*, and Pl. 16, *d*, *e*, *f*), is not a typical Santa Rosa variation but is known. In the same cache were numerous examples of mammiform supports and some ring base supports (*ibid.*, Pl. 13, *h*, *h'*), both of which are associated with Phase 4 at Santa Rosa. On the other hand, the white-rim black-ware deep hemispherical bowls, typical of Guanacaste through Laguna phases of Chiapa, are represented at Santa Rosa by but two sherds found in fill of Mounds F and J, which are assigned to Phase 4. Warren examined the sherd from Mound J and equates it with his Istmo phase examples (personal communication). The complimentary distributions of *pol Bl* and white-rim black ware are discussed below.

One vessel and some sherds of *pol Bl* were found at Santa Cruz. Sanders seems to have included them in his Chiapilla Polished Black (1961:Fig. 22, upper) but that type includes forms, designs, and pastes not found at Santa Rosa. The two types are not the same.

Culbert showed me a *pol Bl* sherd he found at Cerro San Nicolás near Amatenango in the Chiapas highlands. He considers the site to have first been occupied during the Kan phase or early Classic (1965:17).

It seems remarkable that neither Navarrete working in the Frailesca nor Peterson at Mirador found any *pol Bl*. I searched their collections and inquired of each investigator but alsolutely no *pol Bl* was found. The same time period certainly was represented but by different ceramic types.

We have little success when looking outside of the Central Depression for related materials. A black-slipped series is known from Tzakol 2 and 3 of Uaxactún (Smith, 1955: Vol. 2, Fig. 21-23) but the vessel forms and decorative elements are not like those of Santa Rosa. A vessel very similar to *pol Bl* is reported from the Salcajá district of Guatemala (Rands and Smith, 1965:Fig. 13, *e*); its temporal placement is uncertain (*ibid.*, 121). Mention of similar vessels in the Guatemalan western highlands raises the possibility of there having been an extension of the Santa Rosa tradition into that area (*ibid.*).

A single vessel, eroded and with the distinctive slip, of a typical complicated wide everted rim was collected at Izapa on the Chiapas coast (Lowe, personal communication). Similar complicated wide everted rims are illustrated by C. W. Weiant from Tres Zapotes as part of his general Ranchito collection (1943, Figs. 33, 42-49) but he gives no further details and describes no ware reminiscent of *pol Bl*. Drucker does not illustrate the form in his Tres Zapotes study (1943).

Except for Miraflores period vessels from Kaminajuyú, we find no similar remains from the Guatemala highlands. The vessels from Mound E-III-3 are reminiscent of Santa Rosa *pol Bl* and *pol RBr*. Especially the repeated element designs enclosed within incised lines and/or raised horizontal bands are typically Phase 4 and *pol Bl* (Shook and Kidder, 1952: Figs. 19, 21, 23, for examples).

While we are able to anchor at least part of Phase 4 to the Chiapa de Corzo Horcones and Istmo phases, we cannot see significant similarities with other defined sequences. Speculations concerning the limited distribution of *pol Bl* are discussed below.

The geographical distribution of *pol Ob* has been given in the type description. The finding of a single sherd at Chiapa de Corzo in an Istmo deposit helps fix the chronological position of Santa Rosa Phase 5. The tendency of sherds only of the Istmo and Jiquipilas phases at Chiapa de Corzo and Mirador to have opaline particle inclusions is further evidence that the *pol Ob* and Phase 5 deserve that equation.

The Phase 6 remains with bowls bearing a band of pseudo-glyphs are identical with materials that I found in May, 1959, within the central mound complex at Laguna Francesa. A pseudo-glyph decorated sherd found there is identical with one Santa Rosa sherd, having the same coarse tan paste with volcanic ash temper. A mold fragment found at Laguna Francesa could have been used to produce a similar vessel. Smith places pseudo-glyph bands in his Tepeú phase at Uaxactún (1955, Vol. II:Figs. 81, 82).

As Delgado points out, the Phase 6 Maya-like figurine fragments are almost identical with collections made at Colonia Niños Héroes where typical Late Classic Maya objects are numerous (Delgado, 1965:63).

The Santa Rosa sample is quite small. The lack of diagnostic pieces therefore requires that we assign Phase 6 to the late Classic and/or early Postclassic Maya tradition. Excavations at the major ceremonial center at Finca Laguna Francesa could be expected to refine the temporal assignment and perhaps shed light on the tradition's immediate antecedents.

CONCLUSIONS

SUMMARY AND CONCLUSIONS

Excavations at Finca Santa Rosa on the upper Grijalva River yielded ceramic remains that have been divided into six prehispanic and one posthispanic phases. The first six cover a time span from early in the first millennium B.C. until near the end of the first millennium A.D., or approximately 2,000 years. The evidence indicates a ceramic tradition that parallels the general development in central Chiapas during Phases 1, 2 and 3a. Beginning in Phase 3a the Santa Rosa tradition became increasingly divergent. With Phases 5 and 6 we see the entrance of new ideas and techniques commonly associated with the Classic Lowland Maya, but regionalism continued.

Phase 1 with chalky white slip, double-line-break incised design, flat-bottom plates with outflaring sides, numerous tecomates with horizontal bands of gouged and/or roughened areas, and multi-strand handles is closely related to the Dili phase of Chiapa de Corzo. The inhabitants of Santa Rosa apparently were sharing in a very wide-spread "Middle Preclassic" cultural tradition that covered much of Mesoamerica. There is no evidence of Santa Rosa having been more than a modest station in that tradition. There is no positive evidence of ceremonial platform structures nor of especially noteworthy accomplishment. The population seems to have lived in scattered or slightly clustered wattle-and-daub houses, preferring the banks of the Aguacate River over the larger Grijalva River that probably then flowed by the site. We assume the people were agriculturists who exploited the rivers' resources and augmented their diet by gathering and hunting.

Phase 2 is marked by a sudden change of ceramic manufacturing techniques and ideas. The introduction of hard slips, almost entirely monochrome, and volcanic temper along with new vessel forms indicate the entrance of new ideas. There is no evidence of the new tradition having originated in place. Rather its comparative simplicity at Santa Rosa argues for Santa Rosa having been a recipient, not an important contributor. There are some survivals from Phase 1 but the diagnostic attributes of Phase 1 appear to have been lost rather quickly. The highly polished orange slip with a soapy feel to its surface is typical, as are plain wide everted rims or those with simple parallel line incisions. Ceramic decoration is infrequent, except for slipping and polishing.

The polished orange tradition also seems to have been wide spread in Mesoamerica south of the Isthmus of Tehuántepec. It is related to the Escalera phase of Chiapa de Corzo and the early Mamom of Uaxactún.

The first known ceremonial platform at Santa Rosa is of Phase 2 and apparently was the center about which the village was organized into two groups, one on each side of a plaza stretching eastward from the platform. We assume the subsistence base remained essentially the same as did the houses, but the remarkable change in ceramic tradition requires explanation. The impression is that old pottery was swept aside and replaced by a new tradition that continued, with development and innovation, until the end of Phase 5.

Phase 3 begins with Santa Rosa participating in a general late Mamom and then Chicanel tradition that covered Mesoamerica south of the Isthmus of Tehuántepec, but the Santa Rosa ceramic tradition became more and more divergent. The flat-bottom plate with multi-grooved wide everted rim is diagnostic, but incised and scratched "Z" and "U" designs are common. Temper includes calcite although volcanic dust and ash are more frequent. Vessel forms are more varied. Brainerd's comments about the high level of proficiency and appreciation among Late Formative Maya potters are applicable to Phase 3 (1958:90). The pottery is generally excellent and with much variation.

Phase 3a is related to the Francesa phase (Mamom) of Chiapa de Corzo, and 3b presumably to Guanacaste phase (Chicanel), at least in part. The numerous burials of the

Francesa phase (Agrinier, 1964) have no counterparts at Santa Rosa and so we lack the accompanying grave furniture, which includes elaborate pieces.

Phase 3b continued the basic ceramic traditions of 3a but with *pol CrW* and its variants appearing and partially replacing other types. The convex bowl with labial or shoulder flange was especially popular as were wide everted rims with exterior margins scalloped or notched. It cannot be confidently equated directly with other sequences but overlaps with Chicanel as well as Guanacaste.

There are no indications of mound construction until Phase 3b when at least Mounds G and W were erected, the latter being in size second only to the platform Mound S.

The settlement pattern of Phase 2 apparently continued but with a larger population.

Phase 4 with its distinctive *pol Bl* and tremendous amount of building activity is a chronological and cultural puzzle that cannot be resolved to my satisfaction with available data. *Pol Bl* is well made, technically excellent pottery tastefully decorated. Yet the elements are quite limited in number and emphasis seems to have been placed on varying combinations, not on new elements. The exteriors of wide everted rims are modified in many ways and may be stepped, tapered, molded into animal forms, may have odd stepped projections, etc. Obviously, the potters of Santa Rosa found wide everted rim variations interesting. However, a single incised line around the interior of the wide everted rim—where the rim joined the vessel wall—often was incised so deeply as to weaken the rim. We have many examples where the vessel broke along that line. The total impression is of an interest that has gone awry.

Phase 4 surely relates, at least in part, to the Horcones and Istmo phases of Chiapa. The findings of *pol Bl* at Chiapa de Corzo, the two distinctive white-rim black-ware sherds at Santa Rosa, and the overlapping radiocarbon dates (Delgado, 1965:77, 78) are convincing. Likewise, the distinctive mammiform supports and ring bases found in each provide further agreement. However we are not completely convinced, for all of the evidence is or could be assigned to the first part of Phase 4, and the seriation of mound constructions indicates a long duration for the phase. The *pol Ob* sherd associated with Istmo phase materials at Chiapa may be taken as a signal of the maximum end of *pol Bl* and Phase 4, but an alternative is presented below.

The tight concentration of *pol Bl* in the eastern end of the Central Depression and the rarity of contemporary "Protoclassic" pottery common elsewhere surely indicates a regional cultural unit that vigorously resisted foreign influences. Speculation as to the nature of the unit is given below.

Settlement-pattern studies suggest the continuation of a moiety division fragmented into subdivisions or phratries.

Phase 5, typified by *pol Ob*, appears to be of more limited distribution than *pol Bl*. Little mound construction is assignable to the phase; most were minor alterations of existing structures. *Pol Ob* must represent a decline in ceramic technology but it continues the form and decoration tradition of *pol Bl*. The artifact distribution indicates a change in settlement patterns and a population decline.

Phase 6 marks a major change, probably because of the increased entrance of lowland Maya traits, if not of people, into the Central Depression. Except for the use of volcanic ash temper, there is almost no indication of continuity with the earlier ceramic traditions. The *pol Ob* is found at sites with *pol Bl* and/or Late Classic Maya traits which suggests not only that *pol Ob* was a transitional type but that the Late Classic occupation centered on pre-existing sites. At Santa Rosa the occupation concentrations of Phases 5 and 6 are almost identical, which is further evidence of close relationship between the two.

SPECULATIONS

Many archeologists feel that their obligation is to report facts and to make interpretations based only upon facts. It is my feeling that the archeologist's responsibility is greater, that he should and must present another kind of interpretation best labeled "speculation." All archeologists reach conclusions that

defy verification. If our purpose is to elucidate cultures and societies of the past, we cannot neglect informed guesses, so long as they are presented for what they are. This concluding section of the Santa Rosa ceramic report transmits some of these speculations.

It is felt that the upper Grijalva Valley, east of the Angostura Canyon, was an isolated, provincial place in the past as it is today. In a physical sense, it is a cul-de-sac blocked by impressive mountain ranges to the north, east and south. Today, as in Conquest times, the preferred travel route between central Mexico and Central America is along the Pacific Coast, not the Panamerican Highway that winds through highland Chiapas and Guatemala. We might expect such a region to be internally marginal. Thus, we find that Santa Rosa 1 is an undistinguished version of the Dili phase of Chiapa de Corzo, which is located on a natural and traditional travel route connecting the Pacific side of the Isthmus with interior Chiapas.

During Phases 2 and 3a Santa Rosa was participating in a Mamom Late Preclassic ceramic tradition that was widespread over Mesoamerica south of the Isthmus of Tehuantepec. For corresponding phases at Chiapa de Corzo archeologists have reported a variety of objects suggesting trade or cultural connections with many other regions. Such are almost unknown for Santa Rosa. Instead, we find again an impoverished version of what is known elsewhere.

Beginning in Phase 3b, and reaching a maximum in Phases 4 and 5, we find a regional development at Santa Rosa, similar to what is known elsewhere but very distinctive. It is labeled "regional" for lack of a better term. It also appears to be insular, provincial, ingrown, or xenophobic. The tendency is best illustrated by Phase 4 and its distinctive *pol Bl*. As mentioned in the type description—and see my earlier discussion (1961:89)—*pol Bl* is found only within a small area along the upper Grijalva between the Guatemalan highlands to the east, the Chiapas coastal range, the Chiapas highlands (with a couple of minor exceptions), and the Angostura Canyon. The outstanding exceptions are a thin scatter west of the Angostura along the river route leading to Chiapa de Corzo and the suggested extension into the Guatemalan western highlands. Especially noteworthy is the apparent lack of *pol Bl* at Mirador and in the Frailesca region. There is no geographical reason for *pol Bl* not being present in the Frailesca, for there are no significant physiographic barriers and the region was occupied during Phase 4 times. The reasons must have been cultural, not physical environmental, and such are difficult to know.

Peterson (1963:11) has suggested that White-Rim Black ware, the temporal counterpart of *pol Bl* for the western end of the Central Depression, correlates with the Mixeño language family (Zoque, Mixe, and Popoluca) that at Conquest times reached to about the Angostura Canyon on the southern side of the Grijalva River. The northern side of the river was occupied by the bellicose Chiapanec, who have given their name to their former capital and the modern state, but whose origins remain obscure (Navarrete, 1961:63-74; 1966). If we accept the traditional version that the Chiapanec were newcomers, then in Preclassic times the Mixeño probably extended north of the Grijalva. The eastern end of the Central Depression appears to have been Maya in language—Tojolobal, Mam, or Mototzinteca—which as a group seemingly are separated from the Mixeño by a minimum of forty-seven centuries (Swadesh, 1961:147). Of these, we prefer Mam as a candidate because of its modern occurrence in the Western Highlands of Guatemala.

The fair agreement between linguistic-group limits and archeological cultures suggests that the latter may be related to the former. That is, there may have been cultural and/or political entities based on or reinforced by linguistic differences within the Central Depression. As the better-situated peoples at Chiapa de Corzo in the western end of the Depression participated more actively in the general development of Mesoamerica, their isolated neighbors to the east turned inward, following their solitary interests and rejecting foreign ways. Thus we find no close resemblance with and little typical of Chiapa de Corzo at Late Preclassic Santa Rosa. Phase 4 with its known intensive architectural activity has yielded no tombs, no trade pieces from afar, no Usulután resist

ware. While the lack may well be due to our poor luck in excavations, such does not seem very probable. An alternative explanation centers around *pol Bl* and *pol Ob*.

Pol Bl developed after *pol O* and *pol RBr* which are typical of Mamom and Chicanel respectively, and *pol CrW*, probably related to a Chicanel ware. In other words, *pol Bl* is an addendum to the Late Preclassic traditions. The problem is whether it is an addendum in a lineal or multilineal sense. We suggest it is both. Stratigraphy pit levels and mound fill of Phase 4 contain rare mammiform supports and 47 ring bases. The mammiform supports are usually equated with a Matzanel or Protoclassic horizon and the ring base with an Early Classic horizon. The most troublesome exceptions to the generalization about mammiform supports are those from Monte Albán 1 which I have shown elsewhere probably to be poorly defined in this respect (Brockington, 1966:301, 352). The main exceptions to the ring-base generalization are Vaillant's report of one from Zacatenco (1930, Plate 4a), a number from Tlatilco (Porter, 1953:41), and another often ascribed to Monte Albán 1 but actually found at Monte Negro (Bernal, 1946:139, 140). The assignment of the latter is typological, for the duration of Monte Albán 1-like traits at Monte Negro is unknown. Valliant's example, Porter's, and those few from the Mound 5 offering at Chiapa de Corzo are exceptions. The Santa Rosa ring-base fragments almost always have an orange slip and are from convex bowls when slip is still present and vessel form discernible. The form and color may be considered copies of the orange ware hemispherical bowls with ring bases of Early Classic times throughout much of Mesoamerica.

We would have, then, Protoclassic and Early Classic indicators found together at Santa Rosa with *pol Bl* which follows a Late Preclassic development equated with Chicanel. It might be concluded that *pol Bl* bridged the gap between Preclassic and Classic, persisting into the latter because of being isolated and of a culture generally unresponsive to foreign tendencies. ote the association of *pol Bl* with Kan Phase—Early Classic—in the Chiapas highlands, as defined by Culbert (1965:79). Further, the Istmo phase White-Rim Black-ware sherd from Mound J and the Dos Arroyos Orange Polychrome Early Classic sherds from Mound B are more evidence of *pol Bl* continuing through Protoclassic into the Early Classic.

Pol Ob shares vessel form and decoration attributes with *pol Bl* and is found stratigraphically above it in one pit but we cannot assume there was no overlap. The finding of a *pol Ob* sherd in an Istmo phase deposit at Chiapa de Corzo does not exclude the possibility that *pol Bl* was still being made and used up-river at Santa Rosa. In fact, the paucity of Istmo and Jiquipilas versions of White-Rim Blackware east of the Angostura Canyon may be explained better by tenaciously retained regional pottery types than by proposing partial abandonment of the region during the Early Classic (Lowe, 1959b:15). Further, similarities between *pol Bl* and *pol Ob* indicate a basic continuity while finds of *pol Ob* at Phase 4 and 6 sites east of the Angostura Canyon suggest further continuity. Lowe's failure to identify Early Classic remains (*ibid.*) in the Santa Rosa vicinity may be due to a mistaken assumption about changes in ceramic styles.

It is remarkable that an obviously Late Preclassic or Protoclassic ceramic tradition could have persisted so long without having been seriously altered or engulfed by the more spectacular traditions.

Perhaps the answer will be provided when we succeed in finding where the Early Classic furniture accompanying Burial 8 was made. The answer must come from future investigations. We cannot assume that we have more than roughly sketched outlines of the culture history of the Central Depression's eastern end.

RECOMMENDATIONS

Study of the Santa Rosa ceramics and N.W.A.F. collections from the eastern part of the Chiapas Central Depression suggests that more investigation is necessary at certain sites to cast light on specific problems. Excavations along the Aguacate River on Finca Santa Rosa should broaden our knowledge and perhaps alter our view of the earliest phase defined for Santa Rosa.

A stratigraphic pit dug by me in 1959 at the Huerta Area site, Finca Laguna Francesa,

yielded sherds that verified the division of Phase 3 into two parts. More extensive excavations there could clarify this aspect of the ceramic sequence.

A surface collection from La Libertad, a large site on the Chiapas-Guatemalan border (Lowe, 1959:64), included sherds of Santa Rosa Phases 1 through 3 but no *pol Bl* of Phase 4. The numerous large mounds suggest an elaborate cultural development earlier than the peak of activity at Santa Rosa. Further, La Libertad is located on a natural travel route connecting the Central Depression with the Maya lowlands. Excavations at La Libertad could elucidate the pre-Phase 4 cultural development and relationships between lowland Maya and eastern Central Depression cultures.

The character and duration of Phases 5 and 6 might be explained by investigations at Laguna Francesa and perhaps Colonia Niños Héroes or Chapatengo across the river. Apparently all are of the same time period. Laguna Francesa offers the best possibility since we have found there sherds like those of Santa Rosa Phases 4, 5, and 6.

Finally, the foothill region along the southern side of the Central Depression has not been investigated, except for the Frailesca, as has been pointed out by Lowe and Mason (1965:209). At the least, reconnaissance of the region is needed.

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