

SURFACE ARCHAEOLOGY OF IXTLAN DEL RIO, NAYARIT

BY

E. W. GIFFORD

**UNIVERSITY OF CALIFORNIA PUBLICATIONS IN AMERICAN
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PREFACE

IN THE region of Ixtlán del Río, Nayarit, Mexico, in January, 1946, accompanied by my wife, I made a surface reconnaissance of archaeological sites. This paper reports the results of that investigation.

For her advice and opinions I am greatly indebted to Dr. Isabel T. Kelly, a veteran of many seasons in the field and the best-qualified expert on northwest Mexican coastal archaeology, especially in the states of Sinaloa, Nayarit, Jalisco, and Colima.

The hearty coöperation of the Instituto Nacional de Antropología é Historia, México, D.F., made the exploration possible and materially aided the acquisition of a useful and representative collection. To the unstinting aid of Dr. Arq. Ignacio Marquina, Dr. Eduardo Noguera, and Dr. Juan Enrique Palacios of the Instituto the survey owes much of its success.

At Ixtlán del Río, Mr. Albert M. Paredes, a mining engineer, and Professor Francisco Parra Castillo, principal of one of the schools there, interested themselves in my work and took me to several important sites. These gentlemen presented to the University of California a number of specimens. The University is indebted also to Mr. Francisco del Toro, *presidente municipal* of the town of Ahuacatlán, for contributions to its collections.

To my constant and patient companion, Mr. Felipe Gonzalez, of the Nayarit Highway Patrol, I owe a debt of gratitude; and to the many other persons who made our stay in Ixtlán del Río pleasant and scientifically profitable I also extend my thanks.

E. W. G.

CONTENTS

	PAGE
INTRODUCTION	183
GEOGRAPHIC AND CHRONOLOGICAL CONSIDERATIONS.....	184
ARCHAEOLOGICAL SITES	185
Site 1. Chapalilla: Knoll of the Idols.....	187
Site 2. Ahuacatlán	188
Site 3. Six miles west of Ixtlán	188
Site 4. Jala	188
Site 5. Mina La Colorada.....	189
Site 6. Potrero Zootlan	189
Site 7. Rancho San Miguel	190
Site 8. Fernando Ruiz ranch	190
Site 9. Villita	190
Site 10. Kilometer 1604.....	191
Site 11. La Taberna	192
Site 12. La Cañada	192
Site 13. Cerrito de Santa Catarina.....	192
Site 14. "Pyramid" area at Toriles.....	193
Site 15. South bank of Ahuacatlán River.....	197
Site 16. Chapalilla hilltop	197
POTTERY	197
Early-period pottery	199
Figurines	199
Plain ware	205
Incised and notched wares.....	207
Nubbin ware	208
Painted wares	208
Bichrome wares	208
Polychrome wares	218
Middle-period pottery	225
Incised ware	225
Painted wares	225
Bichrome wares	227
Polychrome wares	227
Late-period pottery	228
Plain ware	228
Painted ware: bichrome	229

	PAGE
POTTERY (Continued)	
Miscellaneous pottery	231
Nubbin and flanged wares	231
<i>Molcajetes</i>	231
Solid tripod legs	232
Spindle whorls and roller stamp	233
Plaques and solid figurines	233
Problematical fragments	233
STONE ARTIFACTS	235
CONCLUSION	237
BIBLIOGRAPHY	239

ILLUSTRATIONS

FIGURES	PAGE
1. Arrangement of cross-section drawings.....	183
2. Diagram of western part of site 14.....	194
3. Engraved stone slabs in pyramid at site 14.....	195
4. Diagram showing construction of pyramid at site 14.....	196
5. Early plain and incised wares.....	206
6. Early white-on-red bowl.....	209
7. Early buff-on-red dish.....	210
8. Early buff-on-red rim sherds.....	211
9. Early orange-on-buff bowl.....	212
10. Early red-on-buff sherds.....	214
11. Early bichrome sherds.....	216
12. Early sherds with blue; Early black-on-red vessels.....	217
13. Early uniface polychrome ware.....	220
14. Early uniface polychrome sherds.....	221
15. Early polychrome sherds.....	224
16. Middle-period bichrome and polychrome sherds.....	226
17. Late-period bichrome sherds.....	228
18. Middle-period <i>molcajetes</i> and Late-period <i>molcajete</i> legs.....	230
19. Spindle whorls and roller stamp.....	234
20. Stone axes and fragment of bark mallet.....	235

PLATES

1. Site 9 and pyramid at site 14.....	243
2. Early monochrome figurines.....	245
3. Early bichrome figurines.....	247
4. Early bichrome figurine.....	249
5. Early bichrome and trichrome figurines.....	251
6. Early trichrome figurine.....	253
7. Early trichrome figurines.....	255
8. Early trichrome figurines.....	257
9. Early tetrachrome figurine.....	259
10. Early tetrachrome figurine.....	261
11. Early plain and bichrome pots.....	263
12. Early nubbin ware.....	265
13. Early buff-on-red bowls.....	267

	PAGE
14. Early red-on-buff bowls	269
15. Early red-on-buff and negative-patterned wares	271
16. Early uniface polychrome pot.	273
17. Early uniface polychrome sherd and bowl	275
18. Early biface polychrome sherd	277
19. Early biface polychrome sherds	279
20. Middle uniface incised sherds	281
21. Middle biface incised sherds	283
22. Late rim sherds	285
23. Late white-on-red sherds	287
24. Middle and Late nubbin and flanged sherds.	289
25. <i>Molcajete</i> tripod legs, perforated.	291
26. Late and Middle tripod legs, solid.	293
27. <i>Molcajete</i> floors	295
28. Pottery plaques and solid figurines.	297
29. Stone pieces and retouched obsidians.	299
30. Early stone figurines	301

MAP

Archaeological sites in the Ixtlán region.	186
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TABLES

1. Periods represented at sites.	187
2. Pottery by periods and sites.	198
3. Stone artifacts	236
4. Relation of Ixtlán culture horizons	238

BIBLIOGRAPHICAL ABBREVIATIONS USED

A Ant	American Antiquity
AMNH-AP	American Museum of Natural History, Anthropological Papers
UC-IA	University of California Publications: Ibero-Americana
VFPA	Viking Fund Publications in Anthropology

SURFACE ARCHAEOLOGY OF IXTLAN DEL RIO, NAYARIT

BY

E. W. GIFFORD

INTRODUCTION

IN 1931 President Robert Gordon Sproul solicited the financial aid of five friends of the University of California in purchasing the collection of Mexican pottery and stone objects from Sonora, Sinaloa, Jalisco, and Nayarit which had been assembled by Mr. E. O. Matthews, an employee of the Railroad Express Agency at Nogales, Arizona. Professor Carl O. Sauer had appraised the collection as one of high scientific value, since it contained fifty of the pottery figurines characteristic of the early prehistoric culture of the Ixtlán region. This type was first described and illustrated by Lumholtz.¹ Toscano, Kirchhoff, and Rubín de la Borbolla have pub-

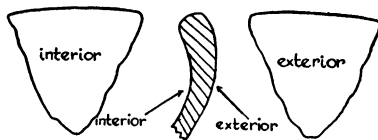


Fig. 1. Arrangement of cross-section drawings.

lished pictures of additional pieces. The purpose of my trip to Ixtlán was to become acquainted with the source of this excellent collection and to acquire sherds which would show the pottery types associated with the figurines.

Collecting was limited to the surface and exposed banks of sixteen archaeological sites in the vicinity of Ixtlán. No excavation was undertaken, since permission for only surface reconnaissance had been requested of the Secretaría de Educación Pública, México, D.F.

The prehistoric objects collected were of pottery and stone only; no bone or shell artifacts were found. The Matthews Collection of the University of California likewise lacks bone and shell artifacts from this region. The scarcity of shell would seem to indicate scanty trade relations between Ixtlán and the peoples to the west from whom shells might have been obtained.

In this paper many technical aspects of the pottery of the region have been neglected. These should certainly be carefully studied, following adequate and controlled excavations, if the relationship of the Ixtlán culture to the better-known Mexican cultures is to be established on a firmer foundation.

In the accompanying drawings of potsherds and vessels the following conventions are used: white, white; black, black; vertical hatching, red; open stippling, buff; close stippling, orange; horizontal hatching, gray; crosshatching, brown; wavy lines, blue. Buff covers a range from pale buff to nearly yellow; red, a range from vermilion to dark red and reddish brown; orange sometimes borders on vermilion. In one figure the convention for brown is used to represent maroon.

¹ Lumholtz, II, 300-303, 306, pls. 1-5, in chap. 7.

In the cross-section drawings the interior surface of the sherd faces left, the exterior surface right. Likewise, the illustrations of sherd patterns show the interior surface to the left, the exterior surface to the right, of the cross section. (See fig. 1.)

The original drawings, by Mrs. Elizabeth W. Leopold, were the actual size of the object; the reduction in the text figures is indicated in the legend. The photographs of figurines, potsherds, and other specimens in the University's collection were made by Mr. Victor G. Duran, the University photographer.

All specimens are in the University of California Museum of Anthropology and bear numbers of the Museum's catalogue 3 (Mexico and Central America). All citations of specimen numbers in this paper omit the prefix 3-. The specimens bearing numbers in the 3000 series are in the Matthews Collection and lack any record of site provenience.

GEOGRAPHIC AND CHRONOLOGIC CONSIDERATIONS

The Ahuacatlán River, the principal stream draining the Ixtlán region, flows, not into the Río Grande de Santiago, but into the Río Ameca, which empties into Banderas Bay. A range of mountains separates the Ahuacatlán and its affluents from the Río Grande de Santiago. Several towns are situated in the Ahuacatlán Valley; from upstream to downstream: Ixtlán del Río, Mexpan, Zootlan, Ahuacatlán, and Tetitlán. Jala and Jomulco, on the eastern side of the Volcán Ceboruco, are in a subsidiary and more elevated valley to the north. Chapalilla lies in a tributary valley to the west of the Volcán.

The railroad stations of Ahuacatlán and Ixtlán del Río have elevations of 3,484 and 3,394 feet, respectively, above sea level.² The general elevation of the region is well above the *tierra caliente* of the coastal lowlands. In January, mornings and evenings were cold enough for us to enjoy our overcoats.

The Volcán Ceboruco dominates the region. A recent description of the Volcán, which erupted in February, 1870, is quoted below.

El ilustre don Mariano Bárcena dice: el 16 de febrero de 1870, comenzaron a sentirse algunos sacudimientos terrestres acompañados de ruidos subterráneos en la región del volcán, y a los 4 días se observó que de la cumbre se levantaban vapores blanquizeos; siete días después, el 23 de febrero, se declaró formalmente la erupción con la salida de lavas, vapores densos y cenizas. Se formó un nuevo cráter, y además en la región S. W. del volcán se hendió el terreno en varias partes, levantándose en otras y los trozos de roca y las lavas surgían con profusión. Este dique de rocas incandescentes caminó por el lecho de un arroyo y en el año de 1875 en que lo visitamos, estaba detenido a la distancia de 7,520 metros del cráter, la cual corrió en el espacio de 2 años... el volcán escurría lava pastosa del nuevo cráter; las rocas amontonadas conservaban aún muy elevada temperatura, se resquebrajaban rodando por las pendientes y dejaban a descubierto grandes surcos de fuego; las columnas de humo salían del cráter de 10 en 10 minutos.

El doctor Waitz, en la obra citada, con referencia a las nubes ardientes cita: "El 21 de febrero de 1870, principió el período de mayor actividad con la emisión de nubes de vapor" . . . el día 23, "el volcán ya producía una cantidad tan grande de arenas y "cenizas" que se podían formar nubes ardientes que describe A. Cervantes . . . "Los árboles de las márgenes de este arroyo de los Cuates, se han secado por el calor. Esta lava fina o arena hervida corrió por el arroyo a semejanza del agua, el miércoles 23 de febrero al principiar con fuerza la erupción." Fotos 1 y 2.³

² Elevations given in Southern Pacific Railroad timetable.

³ Ramos, p. 85. Fotos 1 and 2 show views of Ceboruco craters and lava flows. Parts of this description are quoted from Waitz, pp. 267-277.

Three pre-Spanish cultural horizons may be distinguished in the vicinity of Ixtlán. These I call Early, Middle, and Late. Throughout this paper, however, the reader should bear in mind that my attribution of specimens to periods is based only in part on stratification. Surface specimens are assigned to periods solely on stylistic grounds. Excavation might unearth specimens that would necessitate a modification of the classification here presented.

The Volcán is probably responsible for the overburden of pumice and pumaceous earth on three sites (4 [lower], 8, and 9) of the sixteen examined, and in these it has sealed off the cultural stratum which I assign to the Early period. In my opinion the Middle and Late cultural horizons postdate the deposition of this volcanic layer. If we assume that the Middle period, characterized by wares of the Aztatlán complex, dates from 1300 to 1350 A.D., it seems certain that the eruption which deposited the pumice took place before 1300. Three pure Early-period sites (sites 1, 2, and 13) were so situated that they escaped being covered by volcanic debris.

The Early period is distinguished by its pottery figurines (*ídolos cerámicos* or *monos*). At each site inquiry was made whether any of these had been excavated. Under the circumstances this was the only feasible means of determining whether the material I collected could be associated with the figurines in the Matthews Collection. I saw only two figurines from the sites I examined; all others reported had been sold or otherwise disposed of. However, since no other type of figurine has been reported from the region, it seems legitimate to associate with the Ixtlán examples the potsherds I found in sites and strata said to produce figurines. The Coliman and Tarascan effigies are of recognizably different appearance and are of types which, so far as I know, have not been found in the Ixtlán area. Fine polychrome pottery is another Early-period trait. From this period few or no tripod vessels, *molcajetes*, three-quarter grooved axes, and prismatic-flake obsidian knives have been found.

The Middle period yields molded or pressed pottery plaques, nubbin and flanged ware, and annular-base *molcajetes*. Three-quarter grooved stone axes are also attributable to this period. Certain pottery wares belong to the Aztatlán complex: fine incised, brown-on-buff, and red-on-buff wares.

The Late period is characterized by plain wares (red utility ware with heavy, out-curved rolled rims), rim-ring handles, bichrome pottery, chiefly white-on-red, and tripod *molcajetes* with hollow legs perforated on two opposite sides. These legs sometimes contain a ball rattle.

Eleven sites (including the upper strata of sites 4 and 15) yielded Middle and (or) Late material. Of these, ten are surface sites; the eleventh (site 7) is partly subsurface, but the overburden appears to be from slopes above rather than a pumaceous deposit.

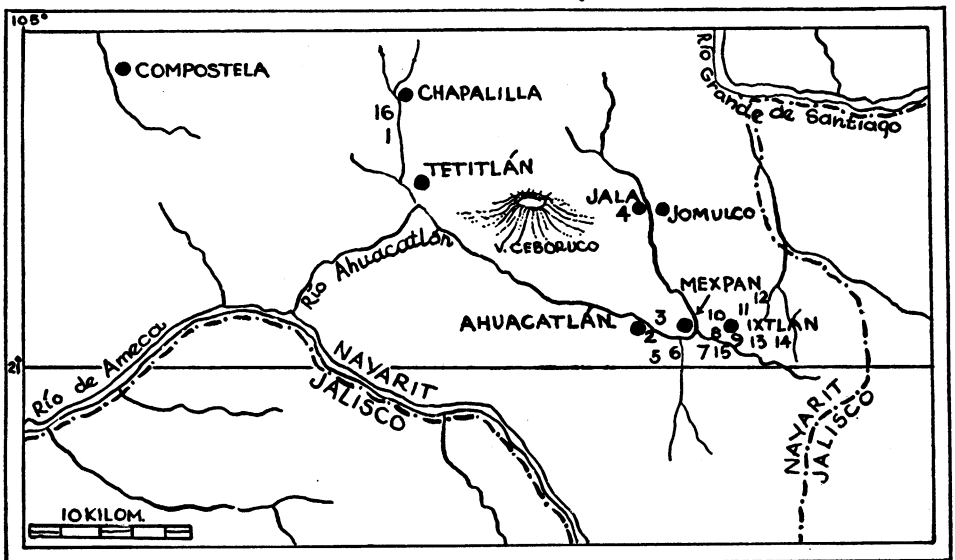
ARCHAEOLOGICAL SITES

Sixteen sites in the Ixtlán region were examined in January, 1946. All were in the drainage area of the Ahuacatlán River, within a few miles of Ixtlán del Río, except those near Chapalilla (sites 1 and 16) about forty kilometers from Ixtlán on the national highway to Tepic.

The map on page 186 shows the approximate locations of the sixteen sites. Unfortunately, there is no satisfactory base map, so my estimates of distances re-

main estimates only. However, the map, together with my descriptions, should serve to identify the localities. Seven sites in the Ixtlán region, some of which I visited, are shown on map 17 of the *Atlas Arqueológico de la República Mexicana*, published by the Instituto Panamericano de Geografía é Historia.

Site 14, the "pyramid" area at Toriles, is the farthest upstream; on the basis of my surface collection it may be attributed to the Middle and Late periods. Above this point the valley narrows considerably, the downstream edge of the barranca country and the upstream end of Ixtlán Valley producing a more mountainous terrain. The downstream end of the valley is marked by the desolate lava beds of the Volcán Ceboruco; even before these are reached, the valley narrows in places.



Archaeological sites in the Ixtlán region.

My 1946 reconnaissance by no means reached all the archaeological sites in the region. Thirteen of those I examined were pointed out by native informants; three I found myself. Undoubtedly there are many more, and a complete survey of the area would take many weeks. Natives searching for pottery figurines to sell discover new sites but spoil them for the archaeologist. Some natives are said to make a living by digging figurines, which have a ready sale in spite of the law. The Ixtlán field rivals that of Colima in the popularity of its antiquities.

I was told that potsherds and obsidians were to be found at Monte de Fuanacata, ten kilometers north of Ixtlán, but I did not go there. Nor did I visit Rancho Veladero, from which Lumholtz obtained nine pottery figures, now in the American Museum of Natural History.⁴ Three of his sites, Rancho Uzeta, Rancho de Pedregal, and Rancho de Camachin, which also produced images now in the American Museum, could not be identified by the natives; nor could I find the site near Jomulco where he obtained ten images. Burials and images were said to have been found in an area north of Francisco Jaime's ranch on the north edge of Ixtlán. A pot containing a skull and covered by a bowl was reported from there; according

⁴ For illustrations of the Lumholtz collection, see Lumholtz, Vol. II, chap. 7, pls. 1-5.

to the story, this skull was too large to pass through the mouth of the pot! I did not visit the site; nor did I go to Buenos Aires, close to the Río Grande de Santiago across the mountains to the north of Ixtlán, a site from which pottery figurines and a few weathered shell beads in the possession of a local collector were said to have come.

I retained all painted sherds. When I was packing at Ixtlán, in order to reduce the weight of materials to be transported I discarded some body sherds, a few rims of Late-period vessels, and a few tripod *molcajete* legs.

TABLE 1
PERIODS REPRESENTED AT SITES

Sites	Periods		
	Early	Middle	Late
1.....	x	..	..
2.....	x	..	..
3.....	x	x	x
4 (lower).....	x	..	..
4 (upper).....	..	x	x
5.....	..	..	x
6.....	x	x	x
7.....	x	x	x
8.....	x	..	..
9.....	x	..	..
10.....	x	x	x
11.....	x	x	x
12.....	x	x	x
13.....	x	..	..
14.....	..	x	x
15 (lower).....	x	..	..
15 (upper).....	..	x	..
16.....	x	x	x

SITE 1. CHAPALILLA : KNOLL OF THE IDOLS

A knoll, which I have called Knoll of the Idols, about five kilometers southwest of the village of Chapalilla and west of the fine stream flowing down the Arroyo de Chapalilla, yielded the largest pot fragments found at any site. They had been recently tossed out of underground chambers from which pottery figurines had been excavated, and the site had not been subsequently plowed, hence their size.

Chapalilla village lies on the highway to Tepic in the little valley called the Arroyo de Chapalilla. Near Tetitlán the road ceases to parallel the railroad and the Ahuacatlán River and swings northwest up the valley of a small affluent, then begins a gentle ascent of the divide which separates the Ahuacatlán drainage area from that of the Río Grande de Santiago. To the southwest and south of Chapalilla are rolling hills (my site 16), which are cultivated by the people of the village, maize and garavance being the principal crops. From the hilltops a rather high peak, Cerro de las Garsas, can be seen a few miles to the west. To the east and southeast the towering mass of Volcán Ceboruco dominates the landscape.

The Knoll of the Idols bears no native name, but the surrounding region is called Primavera. It is beautiful cultivated country, especially to the west. Ten or a dozen excavations for figurines had been made in the knoll. The figurines were found in recessed chambers, one to four in each chamber, at the bottom of pits about 6 ft. deep. The recesses were closed with whitish stone slabs, about 20 in. square. Broken pottery, left by the diggers, littered the top of the knoll. Informants said no burials had been found. From this it may be inferred that the figurines found here served some purpose other than funerary offerings. Could they have had some religious connection with the agriculture of the district? A villager of Chapalilla showed me a small pottery figurine of characteristic Ixtlán type; presumably the others excavated here belonged to this type also. All material from this site is Early. (See site 16.)

SITE 2. AHUACATLÁN

The town of Ahuacatlán, eleven kilometers downstream from Ixtlán, is next to it in importance, with a smaller population. We were conducted to a little hill called Cerrito de la Cruz, on the east edge of the town. On top of this hill there is a small shrine. The archaeological site is at the foot, near the south end of a bridge which was once part of the old Camino Real but is not incorporated in the new highway system.

At the point where the road rounds the end of the hill and turns onto the bridge, excavations for figurines had been made in the clefts and crannies of the hill bedrock. From these a number of figurines had been taken. At least one burial was found here. The *presidente municipal* of Ahuacatlán gave us a shouldered pot (pl. 15, *a*) and the head of a pottery figurine (8172), both said to be from this site. I collected a few sherds here, but found no *molcajete* fragments or any recognizable Middle- or Late-period sherds. The site would appear to belong to the Early period and is so considered in this paper.

Another site, where someone dug for figurines but found only vessels, is said to be somewhere near the north end of the bridge at Cerrito de la Cruz. Search for this site proved futile.

SITE 3. SIX MILES WEST OF IXTLÁN

Exactly six miles (9.6 km.) downstream from the highway marker at the western city limit of Ixtlán del Río there are several small knolls, one hundred to three hundred meters north of the main highway. We examined three of these, which were natural knolls, and obtained some sherds from their cultivated lower slopes and the surrounding level fields. Figurines are said to have been dug from one of the knolls. Our sherds, except for one Early-period sherd (9220) and a figurine fragment (9813), may be attributed to the Middle and Late periods.

SITE 4. JALA

A half kilometer west of the village of Jala is the most interesting site examined. The surface slopes downward to the east; Volcán Ceboruco lies upslope five kilometers to the west. Here a vertical exposure, from 15 to 20 ft. high, reveals an 8- to 12-ft. layer of pumice, mostly in fist-size lumps, which separates two strata of differing cultural horizons. In the stream bed at the foot of the vertical wall men were busy making adobe bricks of brownish soil from the lowest layer, mixed with pumice from the middle layer. They were positive that the lowest layer alone produced the

pottery figurines characteristic of the region, declaring that no figurines had ever been found in the top layer.

In the lowest layer, down to 4 ft. below the pumice, I found sherds, all attributable to the Early period. Below the 4-ft. level there seemed to be no cultural material, so far as inspection of the exposed vertical face showed. This lowest stratum represents one of our purest examples of the Early period, since it was sealed off by the pumice. Obviously, the Early settlement on the site had been overwhelmed by pumice from Volcán Ceboruco. On top of the pumice there later accumulated the dark gray volcanic-ash topsoil, 2 to 3 ft. in depth, yielding potsherds of the Middle and Late periods. At the time of my visit the topsoil was planted to tomatoes.

SITE 5. MINA LA COLORADA

On the crest of the isolated spur of mountains rising abruptly about four hundred meters above the Ixtlán valley floor south of La Colorada mine are a dozen low, apparently artificial, elevations, possibly old house sites. The mountains are about two and a half kilometers southwest of Zoatlán and perhaps a half kilometer due south of the sugar-mill *pueblito*, Amequita, which lies out on the valley floor. The mountains, not forested, are topped by summits connected by saddles and command a magnificent view of Ixtlán Valley with the towns of Ixtlán, Mexpan, Zoatlán, and Ahuacatlán. South of the mountains a small, deep, fertile valley carries a tributary of the Ahuacatlán River, which enters the main stream at the western end of the spur. This tributary also separates this isolated range from the lofty, forested sierra to the south.

According to Mr. Albert M. Paredes, there is a local tradition that this site was a stronghold occupied as "capital" by the last "king" of the region in late prehistoric times. It does give the impression of an easily defensible place of refuge. A wooded canyon close below the summits on the south side has springs of water which could have supplied the needs of the population. At present the summits are given over principally to maize fields. Sherds were fairly common; of those collected, only one had a painted design (white-on-red). No pottery figurines were reported from here, but a couple of holes which we saw may have been exploratory test pits. All the sherds from this site appear to be of the Late period.

SITE 6. POTRERO ZOATLAN

This site is a mound, apparently artificial, lying on the western edge of a cultivated field about one-third of a kilometer south of the Ahuacatlán River and midway between the villages of Mexpan to the northeast and Zoatlán to the southwest, about a half kilometer from each. About 150 ft. in diameter, rising 7 or 8 ft. above the surrounding land, it is cut by a small, elevated, brick irrigation ditch, which conducts water raised from the river by a gasoline-engine pump. The surface of the mound, like the fields about it, is cultivated. Sherds were more numerous in the ploughed fields than on the surface. On the west side a cut and pit, 7 or 8 ft. deep (measured from the top of the mound), have been made for a road, running from north to south, which passes close by. This mound, together with three slight elevations to the east, possibly also mounds, is called Potrero Zoatlán.

The remarkable feature of the mound, revealed by the cut on its west side, is a row of several compartments, 18 in. wide and about 3 ft. high. The walls and floors

of these are of brown adobe slabs, 3 or 4 in. thick, and the compartments were apparently once covered by roof slabs, though these cannot be certainly distinguished. The four or five compartments in the row face west, and at their north end, and at a right angle to them, is one facing south. Their position gives the impression that there was formerly a chamber lined with compartments. However, not the slightest evidence remains of the south and west sides of such a chamber.

The natives told me that the individual compartments housed pottery figurines and vessels of the usual Ixtlán type. Again, as at site 1, there is said to have been no association with burials; according to the natives, no human remains have been found here. The surface of the site yielded specimens from all three periods.

SITE 7. RANCHO SAN MIGUEL

Site 7, on Rancho San Miguel, south of the Ahuacatlán River and one kilometer east of the village of Mexpan, was not a mound but a slope, with a covering of sterile earth varying in depth from 3 ft. on the lower end to nothing on the upper. The area had been dissected by erosion, and we collected the sherds, for the most part, by picking them out of the walls or from the bottom of the principal arroyo, which had been cut down through the sterile overburden and the cultural deposit beneath. The sherd-yielding part of the walls was about 5 ft. high in the lower parts of the arroyo. Cavities at the base of the arroyo walls were said to be spots from which pottery figurines had been removed. The drainage of this site of several acres is toward a little southern tributary which joins the Ahuacatlán River near Mexpan. The lower end of the arroyo marks the upper edge of an artificial pond, which had been constructed by damming this small stream. Sherds were in evidence from this point on up the arroyo. My impression is that the maximum depth of the cultural deposit is 5 ft., but it is possible that the sherd-bearing deposit extends below the present bottom of the arroyo. As in all other sites, scattered through it were worked pieces of black obsidian. All three periods are represented in the collection from this site.

SITE 8. FERNANDO RUIZ RANCH

The ranch of Fernando Ruiz is about a half kilometer southwest of the railroad station of Ixtlán, and on the south side of the main highway, on the north bank of the Ahuacatlán River, about two kilometers upstream from Mexpan.

We examined the north bank. Here some 6 ft. of overburden contains much fine pumice and, as at Villita (site 9), this pumice overlies a deep stratum of reddish-brown earth. From the bank "many" figurines had been dug at depths of 15 to 16 ft. from the surface of the ground. One group of a dozen had been found in a chamber with human bones. Others had been dug at various spots along the bank, all at similar depths. I collected potsherds and a tiny figurine (pl. 28, *a*) at depths of 15 or more feet from the top of the bank. The upper 6 ft. was overburden without visible cultural material. The sherds found can all be attributed to the Early period. This site, like site 9 and the lower stratum of site 4, is one of our sealed-off Early-period sites.

SITE 9. VILLITA

Villita, a site on the north bank of the Ahuacatlán River, at the south end of Francisco I. Madero Street, Ixtlán, is one of the diagnostic Early deposits. Three to four feet of overburden, composed of small pumice fragments, earth, and sand, seals off

a brown-earth stratum of unknown depth. (See pl. 1, *a*.) No artifacts were found in the overburden or on the surface. The face of the lower stratum yielded, at a depth of 10 ft. and more from the ground surface, potsherds, a human-skull fragment, and obsidian. All are attributable to the Early period.

Professor Hans Jenny, of the Division of Soil Science, University of California, examined samples of the sherd-bearing stratum from this site and from the Fernando Ruiz ranch (site 8) downstream. The sample taken from a depth of 10 ft. below the top surface at site 9 he pronounced more weathered than that from the same stratum (at a depth of about 16 ft.) at site 8. The pumaceous material from the upper stratum at site 9 contained smooth, rounded bits of pumice, apparently waterworn, whereas the sample from the upper stratum at site 8 contained bits of pumice, irregular and not smoothed, which showed less water wear, or possibly none at all.

Professor Howel Williams, vulcanologist, of the Department of Geological Sciences, University of California, washed out a sample of the lower stratum material from site 9 and reported on the stony residue as follows.

Seen through the microscope your brownish "clay" appears to consist almost entirely of volcanic ash. The principal constituents are blackish and deep brown chips of volcanic glass (presumably andesitic). With these are many chips of colorless obsidian, and crystals of quartz, feldspar, and occasionally of hypersthene and augite.

I would judge that you have a mixture of ejecta, partly andesitic and partly dacitic or rhyolitic. Whether they represent products of different eruptions of the same volcano or were discharged by different volcanoes, I cannot say. But the material seems to me to be partly waterworn. I would class it as weathered and re-worked volcanic ash.

Professor Parra said that he excavated, in 1945, burials with pottery figurines at a depth of "6 m.," at a spot within an adobe structure which serves as a tannery. The southeastern corner of this building appears in plate 1, *a*, which shows the upper and lower strata of the deposit. Six vessels, the neck of a pottery bottle (7930), and an obsidian point were given to us by Mr. Parra. Four of the vessels are shown in plate 11, *b-e*. In addition to burials Parra found three cremations. He was convinced that all interments were made before the upper pumaceous stratum was deposited. He says also that the center of the cemetery contained a concentration of figurines, whereas the edges had few or none. Under the north room of the tannery, four bronze-colored pottery figurines were found in a single cache.

Burials found by Professor Parra suggested contemporaneous interments. The bodies of three "principal" persons had stone slabs in vertical position close to the tops of the heads. At the feet of these three were several other burials without slabs, distributed in an arc. The burials were extended supine.

SITE 10. KILOMETER 1604

This site is north of Ixtlán and the railroad tracks of the Southern Pacific of Mexico, near marker 1604 (on a telegraph pole). It lies on the uphill side of the tracks, on both sides of a small creek bed, which was dry at the time we saw it. Scattered sherds and obsidian fragments (one red) were found on the gentle slopes. The site is about two kilometers east of Ixtlán station (in kilometer 1602), and a half kilometer west of the rough road running north from Ixtlán and crossing the tracks at marker 1604/29.

The sherds found here were from all three periods. I have no information whether figurines had been dug at this site, which I found myself. From this site west to the railroad station we saw no archaeological sites along the right of way.

SITE 11. LA TABERNA

On January 23 my friends took me to La Taberna, a sugar mill two kilometers north-east of Ixtlán. The rocky road north from Ixtlán reaches the railroad tracks at marker 1604/29. The site lies a short distance northeast, north of the tracks and about a half kilometer uphill from them, within railroad kilometer 1604. A very deep arroyo has dissected the lower slope of the hill near the tracks.

The site is a burial ground in a small bulge in the hillside. The soil is light brown. A spring near by is now used for irrigation. Parra and Paredes consider the site a natural one, as do I. Burials are said to have been 10 feet deep here and were accompanied by images; I found bone fragments on the surface.

Sherds from all three periods were collected and none were discarded.

SITE 12. LA CAÑADA

East of the rough road running north from Ixtlán and crossing the railroad tracks at marker 1604/29, I found a site at railroad marker 1605/19, perhaps two and a half kilometers northeast of Ixtlán. The railroad cuts through the lower edge of this site. Sherds were collected both east and west of the marker, most of them on the gentle slopes above the tracks and inside the barbed-wire fence which bounds the right of way. There are clumps of trees at two springs, about a third of a kilometer apart, upslope from the site. These springs probably supplied water for the ancient inhabitants. At present, the cultivation near them is chiefly of bananas, papayas, and maize.

The site is a natural one. Figurines are said to have been dug here; whether at the time the railroad was built I could not learn. I mention this particularly, since Dr. Kelly is of the opinion that at least some of the figurines in the University's collection may have come from a site cut by the railroad.

La Cañada, a site which I discovered myself, proved rich in painted sherds. I collected few unpainted body sherds, although they were abundant. One small, nearly square lava muller was seen. It is uncertain whether there are ancient burials here. All three periods are represented by the sherds.

SITE 13. CERRITO DE SANTA CATARINA

This cemetery of the Early period is situated perhaps two kilometers east of Ixtlán, north of the new national highway from Guadalajara to Tepic, between a high hill called Cerrito de Santa Catarina and a hillock to the east of it. The site lies beyond the east slope of Cerrito de Santa Catarina. Beyond the hillock is the "pyramid area" (site 14) of Toriles, about a kilometer to the east, out of sight.

When we visited the cemetery it was being exploited for pottery figurines, found with vessels near the heads of extended burials. One burial was reported with vessels but no figurines. At this site I collected a few fragments of human bone; also some sherds, both painted and plain. Here there seems to be unquestionable association of burials and figurines. The graves were about 6 ft. deep in red earth, which has accumulated in the saddle between the two hills.

Except for a single Late-period white-on-red sherd, all material obtained here was Early. Professor Parra presented two spindle whorls (fig. 19, *a, b*) from this site.

SITE 14. "PYRAMID" AREA AT TORILES

About three and a fifth kilometers east of Ixtlán del Río, north of the main highway and railroad, is a small conical "pyramid," probably 100 ft. in diameter, called by the people of Ixtlán an "Aztec temple." To the north of it are two old highways, one of which ran from the port of San Blas to Mexico City.

About 200 yds. directly south of the pyramid is a roughly rectangular elongate mound. To the east and southeast are three more elongate mounds, each 100 to 125 ft. long and 30 to 40 ft. wide, with their long axes running east and west. South of the midway point between these and the pyramid is an L-shaped mound. All these mounds lie west of a modern stone boundary fence; beyond this to the east are more scattered mounds, making a total of about twenty. Perhaps some of these elevations are natural. The diagram (fig. 2), though not drawn to scale, shows the approximate positions of the mounds west of the fence.

The pyramid has a stairway on the north side, which has been uncovered by excavators. Diguët mentions two stairways, but at the time of my visit the southern one was buried under rubble from excavations. I estimated the height of the structure as it now stands as 15 ft. Past excavations have left uncovered part of its northern face and also the stairway. These ruins are partly sheltered by a temporary tile roof, which prevented the taking of satisfactory photographs.

The character of the terrace walls of the pyramid is shown in plate 1, *b-d*. The excavation near the stairway has exposed three such walls, which form the faces of three terraces. Above these and in line with the stairway is a small raised section, suggesting an altar like that at Cuicuilco. Actually, the stones of the stairway are missing, but the two balustrades of flat rectangular stone slabs still stand (see pl. 1, *c, d*). The distance between the two balustrades, 7 ft. 3 in., gives us the width of the stairway, which leads to the first terrace, 10 ft. above ground level as the vertical wall stands today. The two terraces above this one are each approximately 2 ft. high, made of courses of small flat stones, 3 or 4 in. thick, placed with the edge out to form the wall. The courses of these inner walls are chinked with stones about 1 in. thick. All exposed walls are about 2 ft. thick. The inner circular wall goes below the terrace level and probably rests on the original base upon which the pyramid was erected. If this is so, this inner wall presumably was constructed before the outer 10-ft. wall.

An engraved slab of red lava, now cracked transversely into two pieces, rests against the base of one balustrade. Its original position, it is said, was in the curved face of the 10-ft. outer wall to the east of the stairway; that is, it faced approximately northeast at a height of 7 ft. above the present ground level. The red slab is 31 in. long, 20 in. wide, and 3 in. thick. Figure 3, *a* shows the engraved design. The stone was placed in the wall with its length horizontal and with the design exposed. It rested on a ledge or platform of red stone, 4 or 5 in. thick, which formed part of one of the masonry courses.

A circular white stone slab, 15 in. in diameter and 3 in. thick, is *in situ*, imbedded in the face of the inner, curved wall to the east of the stairway, close to the position once occupied by the red stone in the outer face of the outer wall. The stone has a

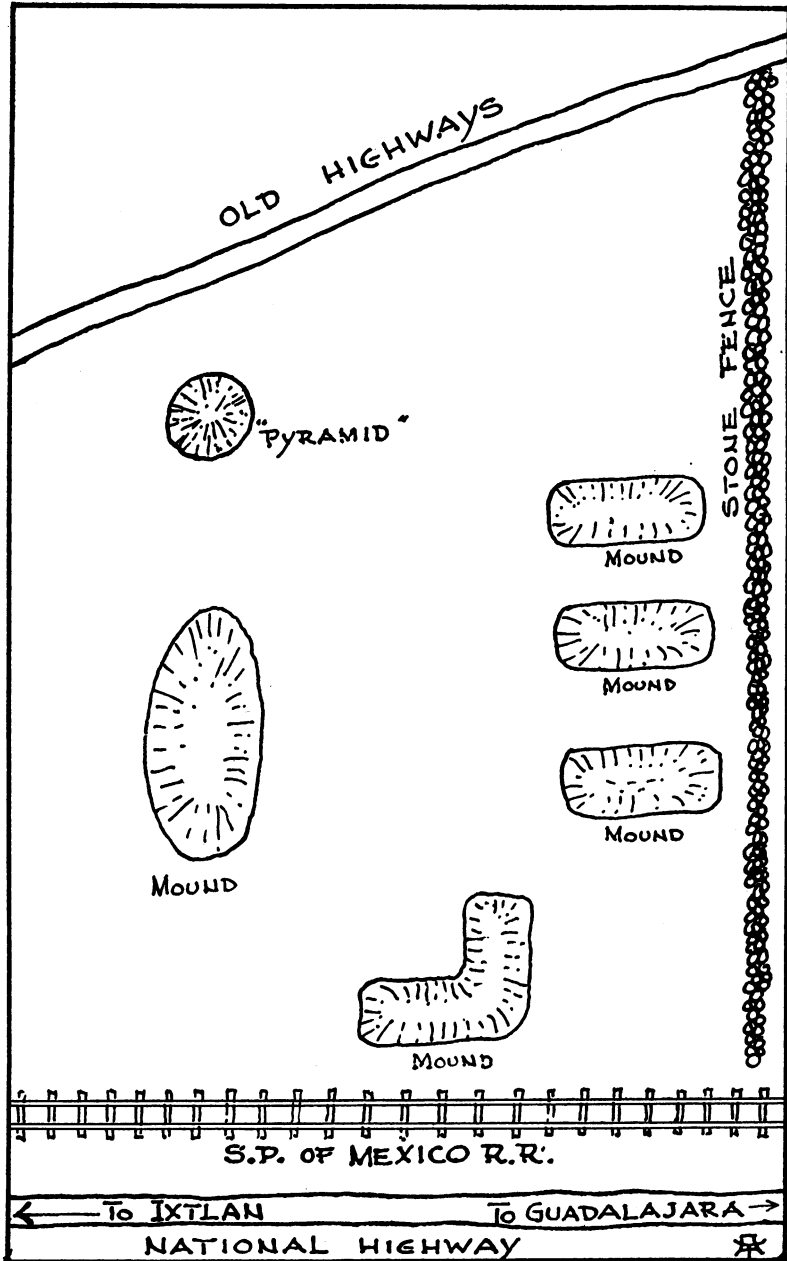


Fig. 2. Diagram of western part of site 14. (Not drawn to scale.)

spiral design (fig. 3, b). The wall in which it is set is built of horizontal layers of flat stones mortared with adobe; or perhaps not originally mortared but filled with clay and earth from between the walls. Excavation has exposed three niches in this wall, which may have held stones similar to the circular white slab. Each niche is 1 ft. wide and 17 in. high. The original depth of the niches is uncertain; it may have been as much as 2 ft.; that is, the niches may have been holes through the wall.

The inner circular wall is about 2 ft. higher than the outer, and the space between the walls is 32 in. These two walls constitute Diguets AA "wall."

Diguets diagram, copied by Professor Parra and reproduced in figure 4, shows the outer and middle walls as concentric throughout their courses. The third and highest wall (not shown by Diguets) forms the retaining wall for a third "terrace"; it may be merely a superstructure. It is on the northeast side of the pyramid and forms a corner at a 90-degree angle, one wall facing north, the other east. Only a small part of this wall remains.

Lumholtz,⁵ referring to the excavations of this pyramid by Father Navarro of Ixtlán, states:

"This is the only mound in which nothing but walls and staircases had been found. . . . In all other mounds which the priest had excavated he had unearthed skeletons with their belongings, but nowhere else had he come upon walls."

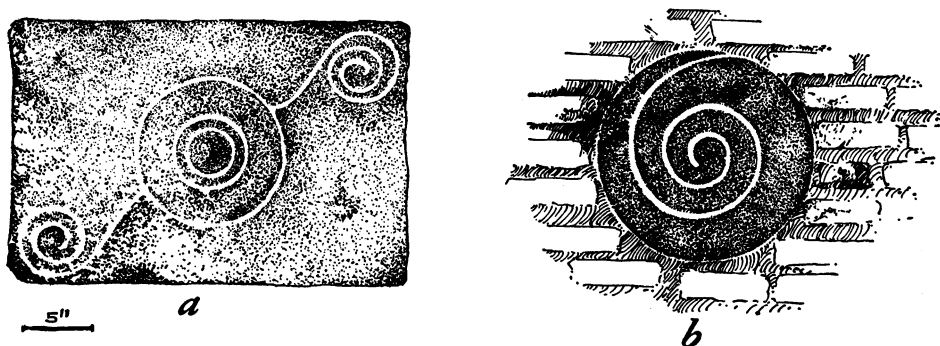


Fig. 3. Engraved stone slabs in pyramid at site 14. *a*, red slab; *b*, white slab.

I have not had access to Diguets's original published account (cited) but I present below a transcript of it, together with a diagram (fig. 4), which Professor Parra kindly supplied.

Noticias de Ciertas Pirámides de los Alrededores de Ixtlán

En los terrenos cercanos a Ixtlán, pequeña ciudad del Territorio de Tepic, situada a una altura de 930 (novecientos treinta metros) sobre el camino nacional de Guadalajara a Tepic, se encuentran aquí y allá numerosos montículos de forma hemisférica que presenta una ancha base y una elevación de algunos metros. Estos montículos, cubiertos la mayor parte de una tupida vegetación, no habían hasta hoy llamado la atención y parecían más bien accidentes naturales de la topografía de la región, que obra de los pueblos civilizados, hoy desaparecidos, que ocupaban el país en tiempo de la conquista española. No fué sino accidentalmente, como el señor Navarro, Cura de Ixtlán, llegó a descubrir el origen de estos montículos y a considerarlos como lo que se ha convenido en designar con el nombre de pirámides mexicanas. Un ancho corte practicado en toda la extensión de uno de esos montículos, y después otros más pequeños ejecutados en diversas direcciones, hicieron visibles bajo un terraplén de cinco metros en su parte central y de 166 de circunferencia; 1°. un muro de forma circular construido con piedras cimentadas con arcilla; 2°. dos escaleras orientadas en dirección N.S. y que van a dar al suelo del edificio. El muro tiene un espesor de 88 cms. por una altura de 1 metro 60 cms. y se extiende sobre una circunferencia de 72 metros. El conjunto de la pirámide mide, en su base 53 metros de diámetro y 166 de circunferencia. La construcción es regular y cuidadosamente ejecutada. Otro muro de igual espesor, construido con piedras redondas, sostiene al primero en una longitud de algunos metros, en la parte Sur. Las dos escaleras son de piedra convenientemente tallada; tienen una anchura de metro y medio y desem-

⁵ Lumholtz, II, 304-305.

bocan a dos metros de distancia una de otra. Esta disposición y la del muro, con relación al montículo, están indicadas en el plano de la pirámide. La presencia de un gran número de éstas en la región y de su estructura interna, pueden dar lugar a toda especie de conjeturas, sobre todo porque la historia no suministra sino muy pocos datos acerca de los pueblos que ocupaban esta porción de tierra y que fueron sometidos por los conquistadores Nuño de Guzmán y Chiricos. Una suposición muy aceptable consiste ver en estas pirámides los vestigios de antiguos templos o adoratorios nahuatl, semejantes a los que están representados en las pinturas geroglíficas de los códices mexicanos. Estos templos constaban de un pequeño edificio colocado sobre un montículo de forma cónica y de pendiente suave, por la cual los fieles llegaban al adoratorio para sus prácticas religiosas. Si tal explicación es exacta, la pirámide representa pues, ahora el zócalo del edificio, y una parte de los escombros de él. (La mayor parte de estas construcciones están hechas de adobe.)

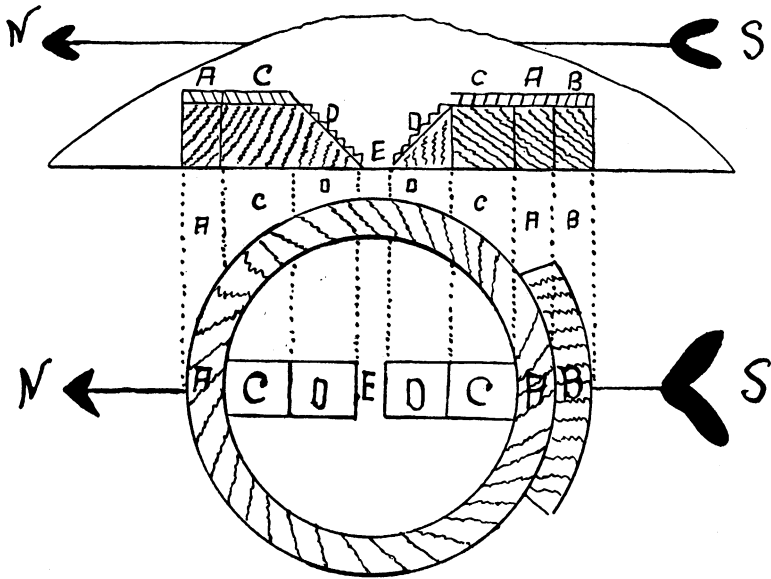


Fig. 4. Diagram showing construction of pyramid at site 14. Copied by Professor Francisco Parra C. from original by Léon Diguët.

- AA Muro exterior de piedras planas esquistosas cementadas con tierras (espesor: 88 centímetros);
- BB Muro que sostiene el anterior por el lado Sur (espesor: 88 centímetros);
- CC Embaldosado de piedras planas que conducir a la escalera (anchura de 1 m. 54 cms. a 2 ms.);
- DD Escaleras de la misma anchura que el embaldosado;
- EE Embaldosado entre ambas escaleras.

El edificio en tiempo en que los españoles se establecieron en el país debe haber sido saqueado y destruido; sus cimientos deben haber sido sepultados bajo los restos de esa demolición, y el tiempo y las condiciones climáticas deben haber dado a las ruinas su forma actual. Las siguientes observaciones, hechas en los materiales en su estado actual, concurren a dar credibilidad a esta suposición. La parte inferior de la pirámide hasta la altura del muro exterior, está compuesta de piedras regularmente amontonadas y que parecen haber sido unidas con tierra. A partir de esta zona, que parece el zócalo del adoratorio sigue una nueva zona formada por una mezcla informe de tierra y de piedras. Esta segunda zona debe ser el producto de destrucción del edificio, y las calzadas que conducen a la entrada de las escaleras orientadas de Norte a Sur, deben indicar el lugar en que estaban colocadas las puertas del adoratorio. Hay además un hecho importante que corrobora todas las anteriores conjeturas: es el hallazgo hecho por el señor cura Navarro, a poca distancia de la pirámide, de fragmentos de arquitectura ejecutados en piedra volcánica y de una estatua groseramente tallada en una piedra de igual naturaleza y cuya forma y herá tica puede ser que se le considere con razón como una de las divinidades que se adoraban en aquellos edificios.

En derredor de estas pirámides se encuentran túmulos funerarios en los cuales las excavaciones han descubierto numerosas osamentas y entre ellas figurillas de barro cocido. Las osamentas están habitualmente colocadas en posición horizontal y tienen en sus extremidades vasos que contienen diversos objetos o ídolos de grandes dimensiones, y sobre las mismas osamentas hay minúsculos objetos e ídolos de barro cocido o de piedra muy dura.—LEON DIGUET.

From the pyramid and the mounds west of the modern stone boundary fence, as well as from the area east of the fence and north of the mounds there, surface specimens were collected. Some were found along the stone-paved road which antedated the present national highway. Mr. Paredes, who constructed part of this old road, has presented to the University several specimens (spindle whorls, an obsidian knife, and a pottery roller stamp) which he collected there. Just north of this road was the still older Spanish stone-walled highway, which connected San Blas, Nayarit, and Mexico City when San Blas was an important seaport.

Metate fragments, some body sherds, and some rims, but no diagnostic pieces, were discarded. In period of time, site 14 is classified, on the basis of my collection, as Middle and Late. I obtained nothing which could be attributed with assurance to the Early period.

SITE 15. SOUTH BANK OF AHUACATLÁN RIVER

We examined the south bank of the Ahuacatlán River opposite site 8. Sherds were found in brownish clayey soil at a depth of 6 to 15 ft., thus corresponding to some extent with finds on the north bank (site 8); others were found in the overburden and on the surface, in contrast to the finds on the north bank. The surface sherds were found in a level field lying in a semicircular bay between two northward-projecting hills.

Apparently only Early and Middle periods are represented at this site: Early in the lower riverbank, and Middle in the upper; on the surface of the field, Middle only.

SITE 16. CHAPALILLA HILLTOPS

Guided by a native of Chapalilla, we walked from that village five kilometers up hill and down dale to site 1. Along the sides and on the tops of the cultivated hills occasional sherds were found. I have called this area site 16. Here and there was an open pit, said to have yielded pottery figurines. The spots in which the effigies are buried are located by tapping the ground; a hollow sound indicates a subterranean chamber, which may contain pottery effigies, or *ídolos*, as the natives call them.

Besides sherds found scattered in the cultivated fields two stone specimens were seen. All three periods are represented among the sherds collected. See site 1.

POTTERY

Pottery is discussed in this paper chiefly under headings of the three periods, Early, Middle, and Late, the discussion being based mostly on decorated pieces. Plain sherds have not been identified as to period, with the following exceptions: (1) all from pure Early-period sites (1, 2, 4 [lower], 8, 9, 13, and 15 [lower]) may be safely assigned to the Early period; (2) all heavy rolled rims of cantaros are Late; (3) all from site 5 are Late.

Early-period figurines are treated in a separate preliminary section.

TABLE 2
POTTERY BY PERIODS AND SITES

Pottery	Sites																
	1	2	3	4 ^{l*}	4u [†]	5	6	7	8	9	10	11	12	13	14	15 ^{l*} 15u [†]	16
Early Period																	
Plain ware.....	x	x		x					x	x				x		x	
Incised and notched wares.....	x																
Nubbin ware.....	x																
Painted wares: bichrome																	
Buff-on-red.....	x	x		x				x	x	x		x	x	x			x
Red-on-buff.....	x	x		x				x	x	x		x	x	x			x
Brown-and-buff or -orange.....	x		x	x				x		x			x				
Brown-and-red.....													x				x
Sherds with blue.....								x									
Black-on-red.....	x																
Painted wares polychrome																	
Uniface.....	x						x	x		x	x	x	x	x		x	x
Biface.....	x													x			x
Large keeled spindle whorl.....														x			
Middle Period																	
Incised ware.....			x		x		x				x	x	x		x		x
Nubbin ware.....					x							x					
Flanged ware.....					x		x	x			x		x		x		
Painted wares: bichrome																	
Brown-and-buff.....					x								x		x		x
Red-on-buff.....								x				x	x		x		
Buff-on-red.....															x		
Black-on-gray.....																	x
Black-on-red.....						x							x				
Painted ware: polychrome.....						x											x
Annular-base <i>molcajetes</i>						x		x	x			x	x		x		x
Plaques.....													x		x		x
Late Period																	
Flanged ware.....						x											
Plain ware.....			x		x	x	x						x		x		
Painted wares: bichrome																	
White-on-red.....			x		x	x	x				x	x	x		x		
White-on-brown.....																	x
Black-on-red.....														x			x
Black-on-gray ("Aztec").....																	x
Tripod <i>molcajetes</i>			x		x	x	x	x			x	x	x		x		x
Rim-ring handles.....						x							x	x		x	
Angular rim projection.....						x						x					

* Lower stratum.

† Upper stratum.

Table 2 shows the distribution by site and period of the pottery wares of the Ixtlán region, based on the specimens collected in 1946. No specimens from the Matthews Collection are included in the table, since their site provenience is unknown. My native informants asserted that characteristic pottery figurines had been taken by local collectors from the following sites: 1, 2, 3, 4 (lower), 6, 7, 8, 9, 11, 12, 13, and 16.

It should be recognized that any ware may have a more extensive distribution in space and time than is indicated by the table. Systematic excavation is much needed in this area in order to get a clear and unimpeachable record of the culture sequence.

EARLY-PERIOD POTTERY

The diagnostic artifacts of the Early period are the pottery human figurines. The associated sherds and other objects may also be considered Early. Native informants told me that the fine polychrome wares which I collected at sites 1 and 13 had recently been excavated with figurines but had been discarded. These fine polychrome wares of the Early period, then, apparently are found on the surface only as the result of excavation by present-day figurine hunters. It is principally to such activity that I attribute their occasional surface occurrence in association with Middle and Late sherds at other sites. At site 13, this material and the accompanying images were from burials, according to my informants, and I saw fragments of bone which substantiated this. Informants declared there were no burials at site 1, and I saw no bone fragments there.

The Early-period pottery, to judge by the yield from assuredly Early sites, is characterized by figurines of human beings, plain utility ware, bichrome ware, and elaborate uniface and biface polychrome ware. The utility ware lacks the heavy rolled rims and thick brick-red slip so characteristic of the Late period. Some crude attempts at incising appear, but the incised pieces are in marked contrast to the fine incised ware of the Aztatlán complex of the Middle period. No specimens give evidence of the paddle-and-anvil technique of manufacture, or of appliqué exterior decoration.

FIGURINES

The pottery figurines of the Early period represent, though certainly do not portray, human beings. These caricatures, with their clumsy and ungainly limbs and beaklike noses, are a unique achievement of the Ixtlán potter. An appreciation of the distinctive character of Ixtlán or southern Nayarit ceramic figurines is readily obtained from the plates in Lumholtz's *Unknown Mexico*⁶ and those in *Arte precolombino del occidente de México*, by Toscano, Kirchhoff, and Rubín de la Borbolla. In the latter work, the characteristics of Nayarit pieces, as compared with Coliman and Tarascan, are clearly shown.

The cultural features demonstrated by the pottery figurines are discussed in detail by Kirchhoff, who directs attention to the costume and personal adornment of the various figurines and to the activities they represent. The Nayarit series which he describes consists of 47 separate pieces, all shown in plates A, B, and 1-41; Coliman and Tarascan pieces, some of which are not ceramic, are shown in 109 additional plates. Virtually all figurine types in the University of California's collection have counterparts in this Nayarit series.

Some of the fine pieces in the University's collection are illustrated in the present paper. The inventory of the Matthews Collection attributes to Ixtlán the figurines with catalogue numbers below 3651. For those with numbers higher than 3650 the inventory gives no provenience, but most of them are of Ixtlán type and are doubtless from the same region.

Since the figurines were not made in molds, each has its distinct individuality.

⁶ Lumholtz, Vol. II, chap. 7, pls. 1-5.

Some plates show front, side, and back of the figures; this triple view is of definite value in furthering appreciation of the unique art of the southern Nayarit region.

Most of the figurines are hollow, at least in part. Some of the smallest are solid, except for such details as the skirt on a female figure. These small, rather flat pieces suggest modern gingerbread cookies. The representation of eyes varies from a mere white spot, through a rather indifferent slit, to carefully formed lids with the eyeball represented in intaglio. The eyes in most of the specimens are represented in this last manner. All figurines have nose or ear ornaments or both.

Many figurines and potsherds of the Early period are speckled with black pigment, almost as though they had been spattered with a brush. Lumholtz mentions this but attempts no explanation.⁷ Suspecting that the spots were caused by a deposit acquired while the artifacts were underground—possibly because of some undetermined constituent of the clay coupled with excessive moisture—I called upon certain of my colleagues of the University of California for expert opinion. Potsherd 8014 from site 4 (lower), figurine head 8172 from site 2, and figurine 3590 (pl. 5, *c*) of the Matthews Collection were examined by Professor Lee Bonar, Department of Botany, Professor Francis A. Jenkins, Department of Physics, and Professor Paul L. Kirk, Department of Biochemistry.

Professor Bonar reported that the spots were not due to algae growth, since they showed no cellular structure. Professor Jenkins found that they were not fluorescent. Professor Kirk's report follows; it will be noted that he differentiates between fortuitous black spots and the black pigment used in designs.

Two figurines and one piece of pottery which you delivered to us for examination were studied by Mr. J. Way and myself. The original question, whether black spots and areas which partially covered the figurines were put there by man or by some accidental process, cannot be answered completely on the basis of our investigation. However, certain facts which may be pertinent to the question were uncovered. These may be briefly summarized as follows:

1. At least two different types of black material were present on the surface of the figurines. These we may designate as "inorganic" and "mixed organic."

2. The inorganic material was impervious to continued heating, therefore free of organic carrier or contamination. It had, in places, undoubtedly been painted on, since the pattern, accuracy of line, etc. was clearly that of the original or a later artist. This inorganic fraction tended to conform in pattern to the concept that all of it was deliberately placed as found.

3. The inorganic material probably had its origin in volcanic rock. The flakes were of a density close to that of a sample of Mexican basalt, and the mineral components appeared microscopically similar. It contained material of higher density than the average of the intact flake. When powdered, a portion of the material sedimented in a density gradient tube which supported both the unground flakes and basalt with which it was compared. It is likely that a paint was made by grinding a black volcanic rock and suspending it in some suitable medium. The rock was probably not identical with the basalt sample examined, as indicated by a small but definite difference in density. The elementary composition of the inorganic flakes was similar to that of some basalts, including detectible or considerable amounts of the alkali and alkaline earth metals, and Al, Se, Fe, and Ti, along with the usual cations of igneous rock, and pyrophosphate.

4. The "mixed organic" flakes constituted the majority of the black material on the figurines. It was characterized by a high content of organic matter which on ashing left a light-colored, finely pulverent residue. The residue was similar in chemical constituents to soil from the region. It seems highly probable that these flakes were deposited by natural processes in moist soil, and that the black organic material was a humus-like substance originating from the action of soil microorganisms. Similar material from this type of source is found rather frequently. The organic constituents showed solubility behavior similar to humus, and completely different from other

⁷ Lumholtz, II, 311.

possible organic constituents such as asphalt. It cannot be claimed that, because of its nature, this material was not placed on the figurines through human agency, since it is not impossible that daubing with black mud might have been part of some ceremony or prank. However, from information available, it appears that the conditions were suitable for such a deposition to occur, and the material is itself consistent with such a theory. The random distribution of the material would seem to preclude the possibility that it was an expression of the artistic instincts of the person who may have deposited it.

Summary.—The black material on two figurines was composed of two parts, one of which was apparently a sort of paint which may have been made from volcanic lava, and which was applied for the decoration of the figurine.

The second material seems to be ordinary black soil humus whose distribution is random, and which may well have been deposited by the natural processes of microorganism. The similarity of gross appearance of the two forms of black material may point to deliberate application of the second form as well as the first, though the material used (very black mud) would not suggest contemporary application, nor would the distribution indicate any artistic qualities on the part of the person involved.

The coloration of the figurines is monochrome, bichrome, trichrome, or tetrachrome. It is difficult to determine the category of some specimens because of what may be adherent foreign matter—white, black, or yellow. Since all three of these colors occur in patterns, it is sometimes hard to tell whether the irregular patches of color were applied in a slovenly way by the potter or the pigments were deposited while the image was in the ground.

Monochrome.—Monochrome figurines in the University's collection are red, buff, or white. On some specimens the white paint is chalky and flaking badly. Five monochrome specimens, not illustrated, are the following: 3613, figurine head, with "harelip," white; 3681, three arms from figurines, white; 3661, seated female figure, legs missing, hair represented by incising; 3597, small globose bowl with head, arms, and two legs added to represent a person holding the bowl on his back with his left hand, pinkish buff color. Three monochrome figurines are illustrated: plate 2, *a*, seated figure with mortar and pestle and ribbon-like torso of stylistic interest; plate 2, *b*, brick-red figure of seated woman and child; plate 2, *c*, seated woman wearing a cape, old-rose color with gray smudges, hands and feet with four digits.

The two figurines shown as *b* and *c* in plate 2 seem rather different in style from most Ixtlán figurines. However, this fact alone does not preclude their being bona fide Ixtlán pieces, since the total range of the ceramic art of the region is probably not yet represented by the published specimens.

Bichrome.—Most of the bichrome human figurines have a white or buff pattern on a red ground, usually brick red. Exceptions are a woman's figure (3670), the basic color of which is wine red, and the specimen in plate 4, which is orange painted over reddish brown.

Plate 3, *a* represents a seated armored warrior, plate 3, *b* a kneeling woman. The three warrior figurines in the collection wear double-pointed hats or helmets, carry clubs horizontally, and are supported in tripod form, the two flexed legs being supplemented by a third support in the rear, suggesting a modern seat-cane. The kneeling woman's figure (pl. 3, *b*) has a tetrapod support which, viewed in profile, gives the effect of knees and toes forming the base. This tetrapod support also characterizes other figurines of kneeling women in the collection. The hair is represented by incising. In all pieces the eyes are indifferently modeled and are accentuated by white paint.

Plate 4 shows the tallest pottery figurine in the collection, a naked woman's figure. The hair is covered by what appears to be a cloth, which hangs to the shoulders. The figurine is reddish brown from the waist down; above the waist the color is chiefly orange, which has been painted over reddish brown. Plate 5, *a* represents a seated man in polished red ware; the hair, in a pigtail down the back, is represented by incising on unpolished buff clay; ornaments on neck, arms, and waist are buff.

Part of a unique two-piece figurine is shown in plate 5, *b*. It is the lower part of a tetrapod receptacle of polished red ware. The two front legs end in human feet, the hind legs being cylindrical supports. The color is a deep but somewhat variable brick red with a white pattern. The rim is ledged externally to hold a cover, of what form I do not know. It may have been an effigy or possibly merely a plain lid. The four legs are hollow, forming downward extensions of the floor of the bowl; these support the vessel. Each leg is encircled by a ring of whitish paint. Below the ledged rim is a band of alternating diamonds and triangles, an outline pattern formed by a continuous series of white X's. The diamond spaces have no pattern; the lines of the triangles enclose white dots or stippling. This pattern band encircles the figure. The piece is thinner than any of the human effigies of corresponding size.

A small vessel of polished red ware (3598, not illustrated) is in the form of a foot with five toes; there is a band of yellow just above the toes. This piece and the two shown in plate 5, *a* and *b* differ from most Ixtlán figurines in having a polished red slip.

Figurine head 8172, from site 2, has a brick-red slip. White stripes decorate the headband and the huge disk earplugs. The eyes are represented in white. This specimen was one of those examined by Professor Kirk to determine the nature of the black spots with which it is heavily speckled.

Polychrome.—The polychrome figurines may be divided into those with three colors and those with four; in each group the basic ground color is, of course, counted as one. Some difficulties of classification arise because of possible deposition of pigment, as discussed earlier, and because of the fading of colors. Lines which apparently were originally yellow have faded in part to buff or white, judging by the occurrence of all three colors in a single line. The black, especially, tends to fade. In none of the specimens with facial designs is it clear whether face paint or tattoo is represented, or possible to identify the material of the nose and ear ornaments.

Most trichrome pieces have a red ground color. The first combination to be considered is of black and white or buff on the red base.

Plate 5, *c* shows one of the specimens examined by Professor Kirk. Careful scrutiny of the rear view reveals traces of painted black lines between the wavy buff lines. Most of the black elsewhere, especially in spots or blotches, is deposition. Whether the pattern represents body paint or a garment is not clear; if a garment, it is too short to cover the genitals. The fan-shaped object in the right hand may be a fan, a weapon, or a rattle. The left hand to the mouth may indicate whistling, singing, or eating.

Specimen 3673 represents a standing man wearing a pudendal sheath or covering, with the concave side up, as in all such representations. This covering is evidently suspended from a girdle and may have been of gourd or shell. It is possible that it does not represent anything actually worn but is a conventional way of indicating

the male genitalia, comparable to a fig leaf. A rectangular garment is suspended by a strap over the right shoulder and is worn partly in front and partly in back, passing under the left arm; the buff lines presumably indicate a woven garment. Strands of a bead necklace are depicted by buff dots. The chief pattern is in buff and yellow. Faint traces of black outline the eyebrows and eyelids.

Plate 6 shows a naked woman's figure. At first glance apparently bichrome, pale buff on brick red, it has traces of a black area over the lower nose and face, and much-faded vertical lines (shown in the rear view) on the back above the waist, giving the impression of negative patterning.

Figurines 3592, 3589 (not illustrated) represent a standing and a seated woman, respectively. The color combination is white and black on red, though the black is, for the most part, fugitive. On the standing figure the black can be faintly discerned bordering the oblique white bands of the headcloth. On the seated figure it appears in narrow stripes in the dress, as a faint band from the left shoulder to the left breast, and again as a transverse mark on the lower left arm. Mouth and eyes in both figures are represented by blotches of white paint.

A second common color combination of the trichrome pieces is white and yellow on a brick-red basic ground. Examples follow.

Figurines 3591, 3593 (not illustrated) represent a standing and a seated woman, respectively. The color combination is white and yellow on red. The standing figure has a brick-red ground; the seated figure is overfired to almost purple on its lower back. Balanced on the head of the standing woman is a low-shouldered pot, like certain Early-period pots (pl. 11). This figure shows only the barest traces of yellow lines paralleling the white lines on the back of the skirt. The seated woman has a trace of matting or basketry impression on the buttocks.

Plate 7, *a* represents a seated man with a high conical hat and a blanket covering him from chin to toes. Kirchhoff considers such images representations of the dead. This does not seem to me necessarily true, since one often sees modern Mexicans sitting on the ground with their blankets completely hiding their bodies up to their chins.

Figurine 3659 (not illustrated) is a seated woman supporting an open pot on her right shoulder. Teeth, usually shown in such middle-sized and larger figurines, are lacking. As in many other female figures, a crescentic raised object is represented at the top of the chest.

Figurines 3654, 3662, 3671 represent three standing, skirted women, one holding a bowl against her right shoulder (pl. 7, *b*). It is possible that these figurines once had black facial designs, but no trace of them is left. I note this because several tetrachrome pieces still show varying traces of black, which seems to be fugitive. In 3654, the hair is represented by incising.

Figurines 3605 (pictured in plate 7, *c*), 3653, 3660 represent seated men playing musical rasps. All three hold the notched sticks on the left arm, rubbing them with a rolled material, as the profile view shows, not with straight sticks. All three men wear pudendal coverings, concave side up.

Plate 8, *a*, *b* shows two seated men, one with pudendal covering in front, the other with a similar device in back. The front of the latter figure is concealed by a bowl. On both specimens the designs are in white and yellow on a red ground. Specimen 3665, not illustrated, is a man's figure, with pudendal covering; he wears a solid,

trapezoidal nose ornament and holds a ball. The man in plate 8, *a* wears a crescent chest bar and a headdress of the skin of an animal, identified by Kirchhoff as that of a dog. He shakes a gourd or pottery rattle with his right hand and holds a small bowl in his left palm. In plate 8, *b* the man is apparently sucking or blowing through a sinuous tube which suggests a snake. Could he be a snake charmer? Plate 8, *c* shows a male drummer behind his drum, which he beats with his hands. The color scheme is chiefly red on buff; two pairs of black stripes are between or over the red stripes on the left side of the drum.

In the twelve tetrachrome pieces now presented, the basic red and, usually, the overlying white and yellow are readily recognizable. The fourth pigment, black, seems to have been impermanent; from many pieces it has almost disappeared.

Plate 9 shows three views of a seated man, with elbows on knees. The white and yellow parts of the design are not so sharply differentiated as in plate 10; the black face design stands out very clearly. A black design is just discernible on the abdomen and extends to the top of the chest. The back view shows an ancient break which was painted over without being first repaired. A tightly fitting, broad breechclout completely conceals the genitals. Passing around the thighs, it is more like a diaper than a simple breechclout. The upper garment, probably of cloth, is on the back only.

Figurines 3612 and 3656 (not illustrated) are two seated female figures with front and back aprons, or perhaps pendent ends of breechclouts; these have longitudinal, black, white, and yellow stripes on the red ground color, the yellow stripes being zigzag. The left side of the face, the left breast, and the abdomen have traces of a black design. In both figurines the bottom gives evidence of having rested on a basket or woven mat while the clay was soft. In 3656 this feature is most pronounced; here the impression appears to be checkerwork, with each square made up of four narrow parallel stripes.

Figurines 3677 and 3610 (not illustrated) are two seated, skirted women, yellow and white on red, with traces of a black design. Both figures have smudge spots on the back. Specimen 3677 is a woman with legs flexed and folded to her left. In her left hand she clutches a fanlike object; the right hand is held up, palm forward. At the top of her chest is a disk ornament, a rarity, the usual ornament being a crescentic bar. The dress design is yellow and white on red. There may once have been a black design on the face, but it has faded to brown. The only true black design is a horizontal line at the base; as usual, there are plenty of fortuitous black spots. The "fan" has an open triangle of yellow on its face. The second figure (3610) holds an open bowl, decorated with zigzag yellow stripes, on the left shoulder. One foot is tucked up under the dress. A crescentic bar ornament is at the base of the neck in front; the nose ornament has been knocked off. The headband has oblique windings, decorated with white and yellow stripes. Traces of a fugitive black design are discernible under the eyes.

Plate 10 shows a large male figure wearing a sleeved shirt, which does not cover the genitals; on the shirt is an elaborate pattern in squares, white and yellow on red. There are traces of a fugitive black design on the forehead, and there may have been also a black design below the eyes, but it has completely disappeared. A raised crescent neck ornament, a necklace, a large, double, nose bar, and many earrings are noteworthy features.

The six figurines of women described below are not illustrated.

Figurine 3567 is a seated female, with a crescentic chest bar and a dress of white-and-yellow design in red squares. The face pattern is brown and yellow; an elaborate pattern in brown includes a dentate design on the lips, as if representing a mouth of enormous size. I suspect that the brown of the elaborate face pattern may once have been black. The headband is striped red and yellow. The eyelids are yellow.

Figurines 3604 and 3652 represent two seated women wearing skirts. Figurine 3604 holds a pot on the right knee; the left hand is missing. This specimen has traces of a black design encircling the eyes, the left breast, and the mouth; under the right eye can be discerned two parallel lines connected by crossbars. Figurine 3652 has a similar decoration over the eyes. This second figure holds a pot in the right hand at shoulder height and a fanlike object in the left. On both figurines the dominant colors of the dresses are white and yellow on red.

Figurines 3655, 3669, 3674 are three standing, skirted female figures, holding pots and wearing crescentic chest bars. The designs are white, yellow, and fugitive black, on a brick-red ground color. The nose ornament of figurine 3674 has been broken off. Figurines 3669 and 3655 have unusual nose pendants, incised, rectangular, perhaps of bone or shell. Figurine 3655 shows cloths suspended from the shoulders at front and back and reaching to the top of the skirt; the designs on these are in white and yellow on red. Traces of fugitive black (now mostly brown) are to be seen on the forehead and right shoulder. Figurine 3669 shows an interesting curvilinear, partly dentate design in fugitive black on the face and chest. A white cord at the throat supports by two corners a square cape which hangs down the back. This has a white, yellow, and black design on the red ground. The dark area on the back of the head suggests that either hair or a headcloth was once represented by black pigment. Figurine 3674 wears only a skirt, with a white-and-yellow design on red. Traces of a fugitive black design are just discernible on the shoulders and left arm, but the design does not extend to the back.

I found only one figurine myself, a tiny solid affair of brick red, only 29 mm. high, somewhat damaged; it apparently represents a woman (pl. 28, *a*). It came from site 8, on the north bank of the Ahuacatlán River, at a depth of 15 ft.

PLAIN WARE

The shapes of plain or monochrome vessels, presumably utility ware, are represented by Matthews' specimens, by three vessels from site 9 (pl. 11, *c*, *d*, *e*), and by three sherds from site 1 (fig. 5, *a*, *b*, *c*). The fragment shown in figure 5, *a* is of a squat, thick-walled pot, its maximum wall thickness being 13 mm. It is grayish in color, with smudges; the paste is pinkish brown, with many small stony inclusions. The fragments pictured in figure 5, *b* and 5, *c* are respectively buffish and pale reddish brown; both pieces have stony inclusions.

Two pots from site 9 (pl. 11, *d* and *e*) have slightly concave bases, somewhat suggesting wine-bottle bottoms. Each has a red slip, marred by smudge spots. The paste in *d* has many black, stony inclusions; the core is gray, the edges reddish. A plain-ware sherd (8671) from site 1 suggests the low shoulders of one of the site 9 specimens (pl. 11, *d*), indicating the occurrence of similar utility ware at both sites. Plate 11, *c*, a beaker from site 9, has a fine black paste. Its exterior is so smudged

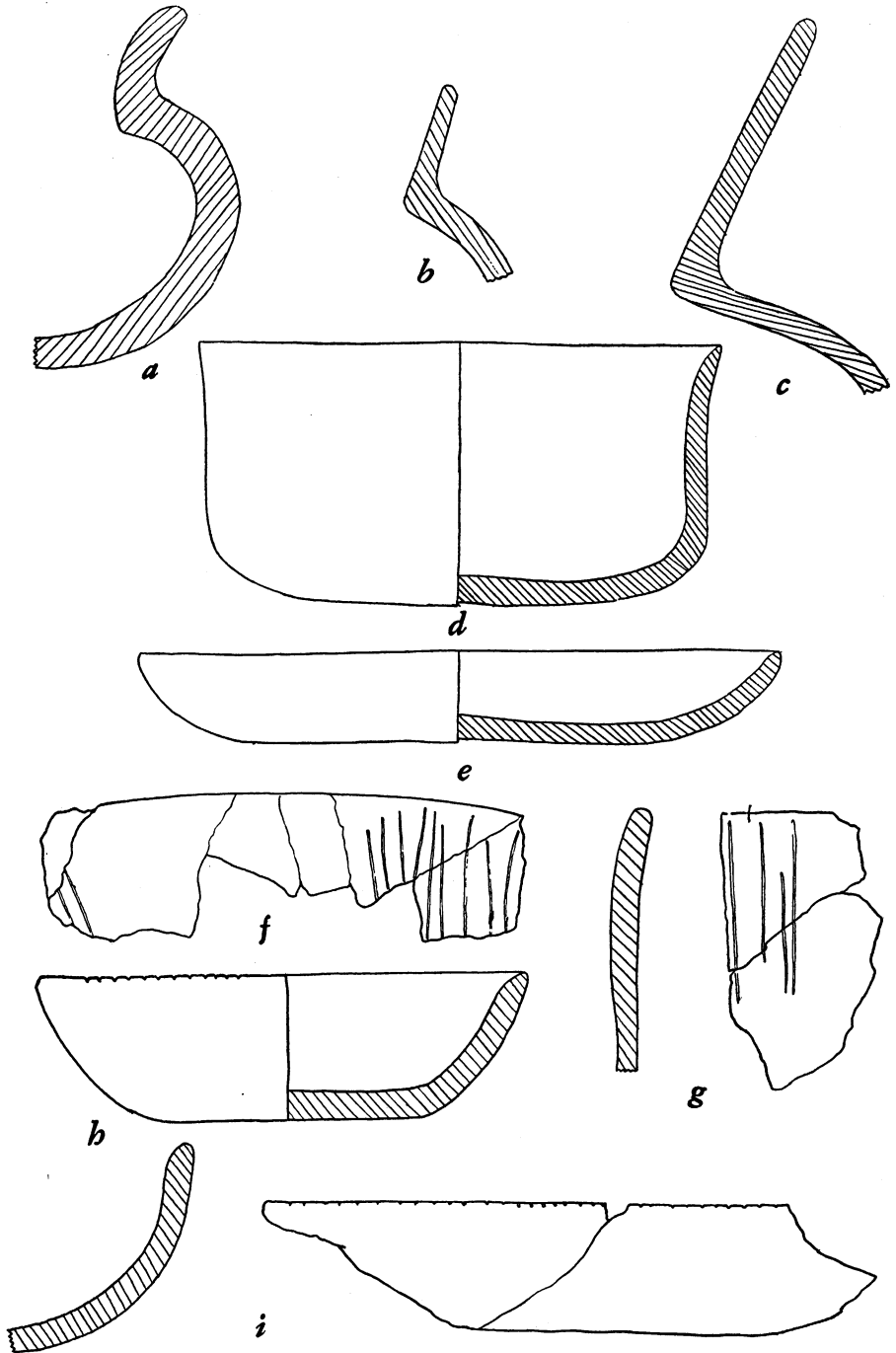


Fig. 5. Early plain and incised wares. Shoulder forms of plain-ware vessels: *a*, 8633; *b*, 8660; *c*, 8677. Plain ware: *d*, 3641; *e*, 3631. Incised ware: *f*, 8657; *g*, 8642; *h*, 3633; *i*, 8656. Provenience, *a-c*, *f*, *g*, *i*, site 1. One-half nat. size.

and dingy that the original color of its slip is not certain, but it presumably was dark brown. Sherds with similar outturned rim edges indicate the occurrence of similar beakers at site 4 (lower) (7981), site 8 (8572), and site 11 (8982, 8991). A Matthews specimen (fig. 5, *d*) is a complete, shallow, red-ware beaker with the same type of rim shown in the taller beaker in plate 11, *c*. Figure 5, *e*, another Matthews specimen, is a shallow plate.

In the Matthews Collection there are eight open red-ware bowls (3624, 3626, 3628, 3635, 3637, 3638, 3639, 3642), thin-lipped, with diameters ranging from 90 mm. to 120 mm., heights from 38 mm. to 70 mm. They are all more or less smudged, and one with black interior (3642) may have been inverted when fired. Two others have partially blackened interiors. The paste, however, as revealed by the chipped edges, is not black, but brown or gray. The red slip is equally well smoothed or polished on the interior and exterior surfaces. The eight pieces are not illustrated; their shapes and rims are like those of the bichrome bowls shown in plate 13, *a*, *b*, *c*, *e* and figure 6.

A small, bottle-necked, red-slipped vessel with slightly concave bottom, a Matthews piece shown in plate 11, *a*, is 85 mm. high. Its shape corresponds with that of a negative-patterned piece (fig. 12, *f*, *g*) that I collected at site 1. A neck sherd (7930), with rim diameter 50 mm., from "6 meters" deep at site 9, indicates the occurrence of the type at that site also.

The tempering of the numerous small sherds from the Early period varies from black stony inclusions in thick sherds to sandy tempering in thin ones. Some have overfired black pastes. Slip is present on some, on others it has worn off or is absent. The dominant surface colors are grays and browns, with occasional white, pinkish white, black, buff, or bright red. The thickness varies from 3 mm. to 13 mm. Some rim sherds—for example, five from site 11 (8981, 8982, 8991, 8992, 8998)—are thin brown ware with high polish. Specimen 8992 has a black, hard, central core of paste, flanked by a brown slip $\frac{2}{3}$ mm. to $\frac{3}{4}$ mm. thick. Five small, thick (11 mm. to 17 mm.) rim sherds (7945, 7982, 8209, 8210, 8610) are like 8675 (pl. 17, *a*), except that they are monochrome. They come from sites 4 (lower), 9, 13, and 15 (lower), respectively. Evidently all are from thick-walled, flaring bowls. Other rim sherds from sites 1, 4 (lower), 8, 9, 13, and 11 are of styles represented by the vessels illustrated and discussed.

INCISED AND NOTCHED WARES

Only two Early-period specimens (fig. 5, *f* and *g*) from site 1 are incised, having on the exterior rough scratches made after firing. The first is the rim of an open shallow bowl, with gray paste, pearl-gray interior, and dull red-slipped exterior. The second is a chocolate-colored rim sherd of a beaker, with chocolate paste and incising even less finished than the first. It is hard to believe that this crude incising is ancestral to the fine work of the Aztatlán complex of the Middle period.

Two other specimens have notched or milled rims (fig. 5, *h* and *i*). The specimen in figure 5, *i* is the fragment of a plate or shallow bowl with buffish-brown slip. It has a hard black paste and smudges from overfiring. Its most distinctive feature is its incised edge, which gives it a milled appearance. A complete bowl in the Matthews Collection is shown in figure 5, *h*. It has milling on four opposite sides of the rim, from 12 to 16 incisions in each group.

NUBBIN WARE

Early-period nubbins ware was made by a different technique from the Middle or Late pieces, on which the conical nubbins are appliquéed with no interior depressions to account for the protuberances on the surface. A small Early polychrome jar from the Matthews Collection is pictured in plate 12, *a*. The eight nubbins, made by pressure applied from inside, encircle it near the base. White and buff bands, with white dots between the buff bands, extend around the jar; this color pattern is painted on the red ground. The whole is a somewhat slovenly job.

Fragments of a flattened, globose, red-slipped vessel are the only examples of this ware that I found; these were collected at site 1. Unfortunately, they do not comprise the complete vessel, which must have been impressive indeed. Plate 12, *b* shows the form of its body. A piece of the flat shoulder was recovered at the site; upon it the nubbins apparently formed a square. A relatively small neck arose from the center of this flat shoulder, but the sherds give no inkling of its form. The nubbins were perhaps made by the potter's little finger or a stick of that size pressing from within the vessel; the nubbins rising on the surface from the interior pressure were shaped into round-topped, nipple-like cones. Judging from what remains of the vessel, at least eight double rows of nubbins originally ran up its walls, there being three double rows in less than half the circumference of the piece. Its bottom is slightly concave, and the neck, of which no trace remains, must have risen directly over this.

PAINTED WARES

In the painted wares white may verge on buff, and red on orange and brown. In overfired examples⁸ the white or buff becomes pale gray. I have therefore included white, buff, and pale gray in a single category. Thus white-on-red, white-on-brown, buff-on-red, and gray-on-red are regarded as constituting one type (buff-on-red); red-on-white, red-on-buff, orange-on-buff, and red-on-gray, a second type (red-on-buff). Other color difficulties were the transitions from vermilion red to orange and from dark red to reddish brown.

Bichrome Wares

Buff-on-red.—Four of the five Early buff-on-red bowls in the Matthews Collection have flaring rims. The fifth bowl (pl. 13, *b*) has a slightly incurved rim and, like one other bowl, smudge spots and a much-blackened interior. All have slightly rounded bottoms and buff or white designs on the exterior; they are shown in plate 13, *a*, *b*, *c*, *e* and in figure 6. Their rim diameters range from 104 to 190 mm.

Also in the Matthews Collection is a much-weathered shallow dish, 175 mm. in diameter. Its interior and exterior are red to reddish brown. Except for traces of buffish edging to the outside of the rim, the buff pattern seems entirely interior; most of it has disappeared. Figure 7 is a reconstruction of its probable appearance if the pattern were flattened out.

Most of the Early-period sherds of buff-on-red ware which I collected are from bowls with interior decoration. These were all found at assuredly Early sites and strata, sites 1, 4 (lower), 8, 9, and 13. One buff-on-red fragment (8651) from site 1 appears to be part of an image.

⁸ Some specimens or parts of specimens seem to have been fired in a reducing atmosphere. See Colton, pp. 224-231.

One of the five examples from site 1, a sherd with interior design, is illustrated in figure 8, *a*. It is the rim fragment of a shallow bowl or plate. The exterior is buffish; the core of the paste is black, flanked by buffish. Sherd 8658 shows the interior pattern of a similar bowl or plate. Sherd 8623 is a rim fragment of a beaker or bowl. The exterior has a polished red slip; the buff pattern is on the inner face of the rim; the paste exposed at a fresh break is black in the center. Sherds 8667 and 8672 are fragments of vessels having decoration on the exterior only; the interiors are rough.

A rim sherd from site 8, apparently part of a fairly heavy dish or bowl, is decorated on both interior and exterior (fig. 8, *c*). Another sherd (8563), with exterior

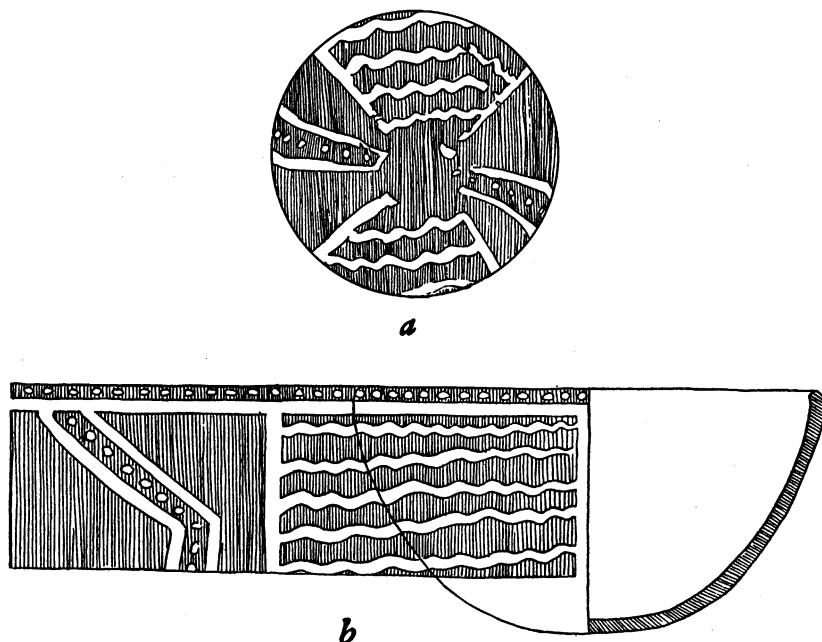


Fig. 6. Early white-on-red bowl, exterior, 3621: *a*, bottom; *b*, elevation, profile. One-half nat. size.

white stripes on reddish brown, has a polished red inner face. Body sherd 8542 has traces of white stripes on the red interior but no exterior pattern. From site 9 comes a tiny sherd (7914) with a white pattern on red, both colors hard and highly polished.

From site 13 comes a bowl fragment with biface pattern of white on red (8595). A small body sherd (8601), 4 mm. thick, shows traces of broad white bands on a reddish-brown interior slip, but no trace of white pattern on the polished, reddish-brown exterior.

White-on-red sherds of the Early period were obtained from surface sites which yielded material of later times also. A rim fragment (fig. 8, *b*) from site 16 is very much like the piece shown in figure 8, *a* from site 1. Also from site 16 comes a fine, delicate rim sherd (fig. 8, *d*) of biface buff-on-red, with two rows of low disks, suggesting rivet heads, on the exterior; from site 11, a delicate rim of dark red with buffish-white oblique stripes on the exterior (fig. 8, *e*); from site 12 another rim, with exterior decoration (fig. 8, *g*). Two sherds from arroyo banks at site 7 are also of this Early type (8859, 8880).

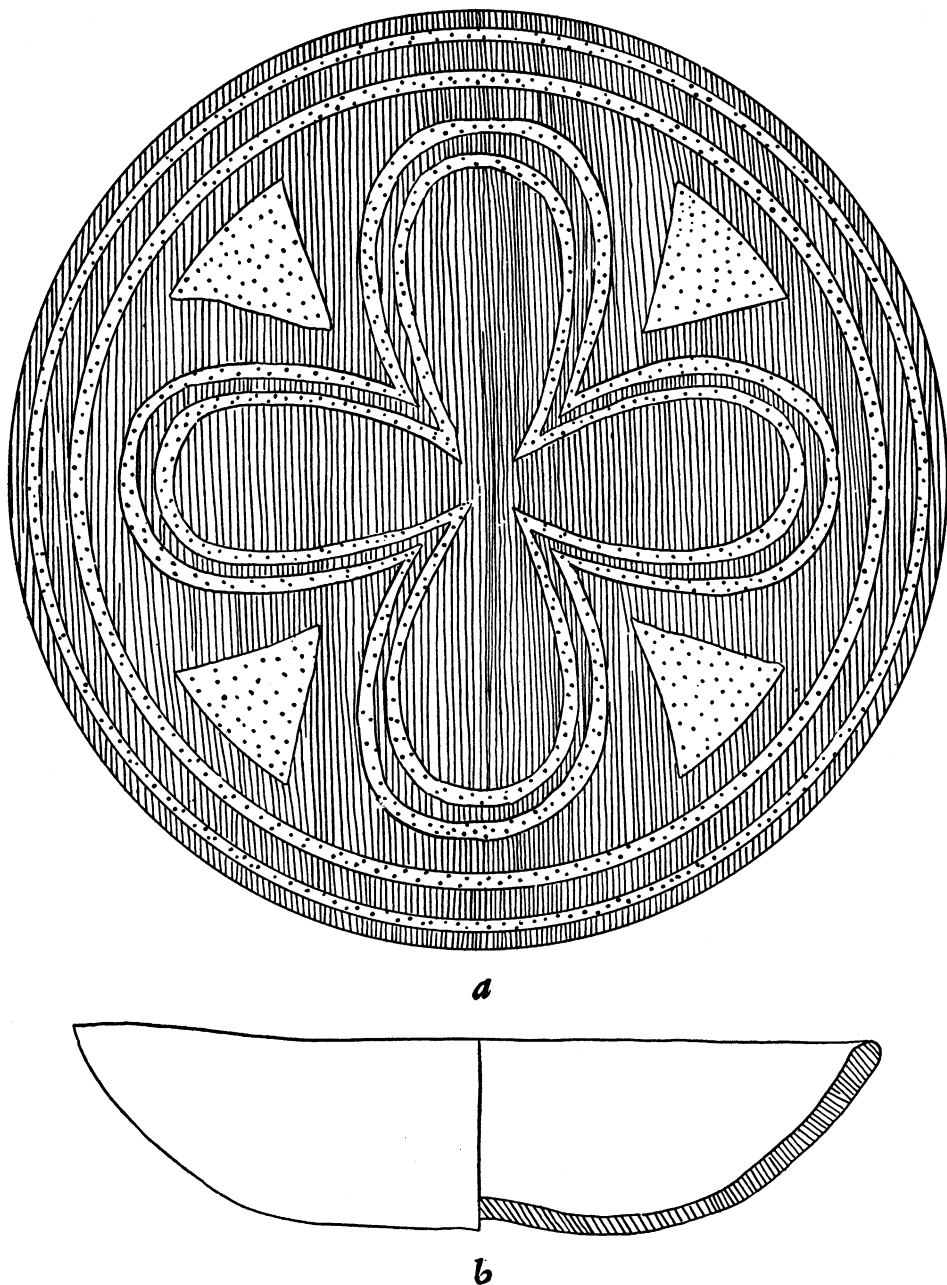


Fig. 7. Early buff-on-red dish, 3643: *a*, interior; *b*, elevation, profile. Diameter, 175 mm.

A thin body sherd from site 2 (8159), maximum thickness a scant 4 mm., has a reddish-brown interior with traces of a former white pattern; its exterior is pale reddish brown.

A rim sherd with a buff-on-reddish-brown combination (fig. 8, *f*) comes from mixed-period site 11 but is undoubtedly Early. It appears to be part of a deep, more

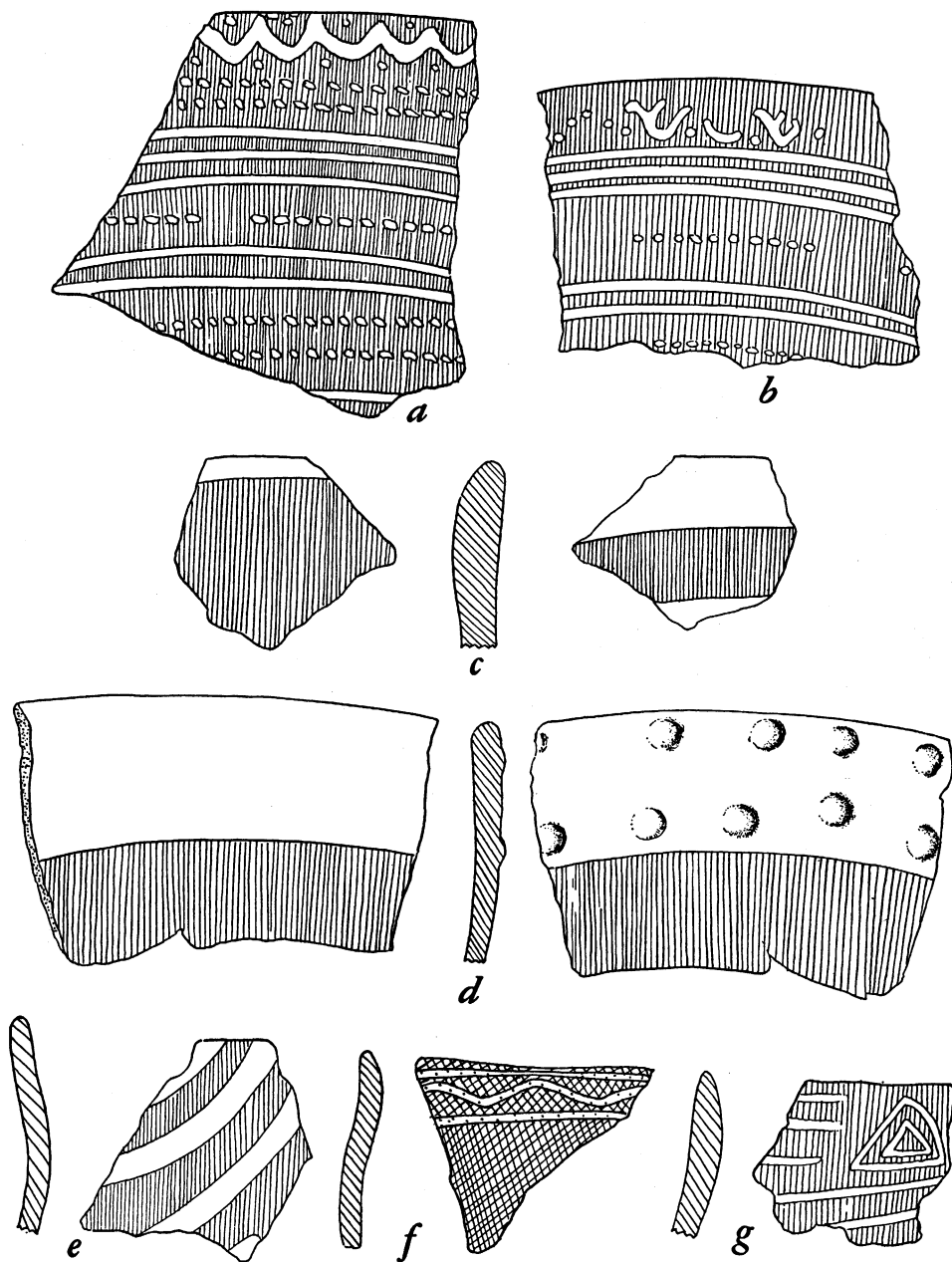


Fig. 8. Early buff-on-red rim sherds: a, 8626; b, 8717; c, 8564; d, 8719; e, 9044; f, 9032; g, 9640. Provenience: a, site 1; b, d, site 16; c, site 8; e, f, site 11; g, site 12. Two-thirds nat. size.

or less cylindrical cup or beaker. The wall is 4 mm. thick. The buff-and-brown pattern is on the exterior; the brown interior is polished as highly as the exterior. A narrow stripe on the inner edge of the rim evidently encircled the vessel.

A single body sherd (8543) from site 8 has an interior pattern in two broad bands, one pale brown, the other deep buff. The exterior shows a red, unslipped

paste. This piece is mentioned because of its relation to red-on-buff ware, though it is off color, so to speak. It might be regarded as polychrome except that the red exterior does not form part of the pattern.

Red-on-buff.—Twelve of the Early red-on-buff bowls of the Matthews Collection have flaring mouths. Of these, one (pl. 13, *d*) is a tripod with short legs. Its ground color is pinkish buff, and orange bands encircle it. One overfired specimen (pl. 14, *a*), a saucer with slightly concave bottom like a wine bottle, has a circle of pendent V-shaped marks and a central crosshatched design on the interior; both elements of the design are apparently negative or resist and are of lighter gray than the field. This is the only red-on-buff piece with the design on the interior only. The rim diameters of the remaining ten red-on-buff bowls range from 90 to 190 mm. Shapes

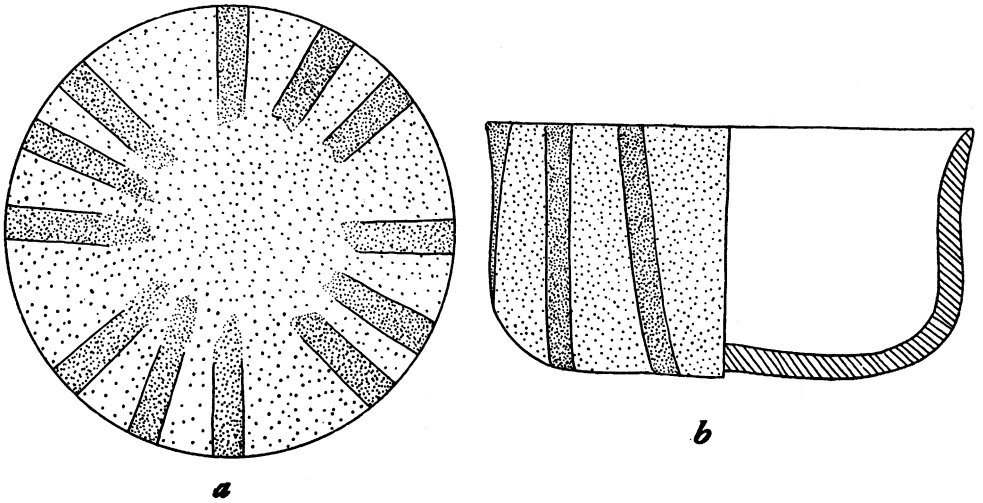


Fig. 9. Early orange-on-buff bowl, exterior, 7934: *a*, bottom; *b*, elevation, profile. Provenience, site 9. One-half nat. size.

are like those of bowls in plate 13, *a*, *b*, *c*, *e*. On all but one (pl. 14, *c*), which is encircled by a band of red on the interior just below the rim, the design is wholly on the exterior, as shown in plate 14, *b*–*g*. The red pigment varies from vermilion to brick red. The four bowls not illustrated are 3616, 3618, 3620, 3636.

From the indubitably Early sites or strata I collected no complete vessels. Professor Parra, however, gave me two bichrome pieces from site 9, excavated at a depth of "6 m." One, a "melon-shaped" vessel (pl. 11, *b*), has a red paste with fine sand temper. The slip is pinkish buff, with brick-red overpaint on the neck, the bottom, and the five broad depressions of the "melon" body. The bottom has a slight concavity. The second piece (fig. 9) has orange-on-buff exterior decoration, but a plain brick-red interior. The exterior once had a dense-buff slip, most of which has peeled off, exposing the brick-red body. The orange vertical stripes of the pattern radiate from the center of the flat bottom. The bottom has a large smudged area.

One red-on-buff vessel (pl. 15, *a*) is said to have come from site 2. Its quadrilateral base is unique and suggests the possibility that it may be a trade piece.⁹ The vessel

⁹I am indebted to Mr. Hugo Moedano for the statement that he had found this type in excavations in the State of Guanajuato.

has a polished buff slip with red overpaint. The paste is red, with fine temper, apparently sand. The height is 111 mm., the mouth diameter 127 mm.

Red-on-buff body sherds of presumably shallow bowls with crosshatched interior designs, found at three Early sites (sites 1, 8, and 13), may be considered characteristic of the period. Similar specimens obtained at two mixed-period sites (sites 7 and 11) may also be attributed to the Early period. Three body sherds are illustrated to show characteristic crosshatching: plate 15, *b* from site 1 and plate 15, *c* and *d* from site 13. Their exteriors appear smoothed but unslipped. These body sherds range from 5 to 10 mm. in thickness. The buff in some has been overfired to pale gray. Three red-on-buff crosshatched sherds (8571 from site 8, 8879 from site 7, and 9024 from site 11) have orange rims, making them polychrome. Other vessels, from which only red-on-buff body sherds were recovered, may have had similar rims and thus also belong in the polychrome category. These rims, with maximum thickness of 11 mm., have the characteristic Early-period shape with no trace of outward rolled edge as in the Late-period cantaros.

Marbled red-on-buff ware, represented by sherds from three vessels, was obtained only at site 1. Two specimens (8664 and another shown in fig. 10, *a*) have a marbled design on the inner surface. Figure 10, *a*, a shoulder sherd, has a marbled effect produced by painting alone. Its coarse sandy paste is buffish gray throughout, like the surface where it lacks red paint; both surfaces are slipped. Three rim sherds, with no trace of marbling, are fragments of the same vessel; the largest is shown in figure 10, *a*, beside the marbled sherd. Its only trace of red is on the rim edge. It is obvious that the marbled effect was limited to a small area on the interior surface, possibly on opposite sides of the vessel. A similar design occurs on the outer surface of 8644, in which the effect is heightened by scraping; there are smudge spots from overfiring, and the paste is brownish, coarse, and sandy.

Vermilion-on-buff sherds were found at sites 1 and 8. The largest of these (from site 1), obviously part of a large open bowl, is shown in figure 10, *b*. The maximum thickness at the rim is 11 mm.; elsewhere, 10 mm. The interior is plain buff; the rim edge and part of the body wall are vermilion, applied roughly. No regular pattern was intended, except for the rim edge. The paste is coarse, with sandy temper; its core, fired gray; the area near the two surfaces, buffish. The slip shows slight crackling or checking, especially on the inner face. A second, thinner body sherd from site 1 (8655), 5 to 7 mm. thick, has a cloudy, amorphous orange area on the buff exterior.

Two of seven red-on-buff sherds from a depth of 15 feet at site 8 are illustrated (fig. 10, *e, g*). Two other sherds from site 8 appear to have been overfired or fired in a reducing atmosphere, so the buff has become gray. One (8570) is dark gray; the inner edge of the rim, probably intended to be red, has altered to a dark brown. In the second specimen, a body sherd (8562), the buff has become a light gray and the red has darkened. This sherd has a peculiar exterior feature, a smooth groove obviously made before firing, in the buff (gray) area between two broad red stripes.

The layer below the pumice at site 4 yielded three sherds of the red-on-buff category. One (7996) is actually red-on-gray and resembles 8562 from site 8, except that it lacks the groove. The two other pieces (7986 and fig. 10, *d*) are rim fragments. Figure 10, *d* has a dark rim edge inside and out, possibly once crosshatched, like pieces from three other Early sites (sites 1, 8, 13). On its exterior is a small,

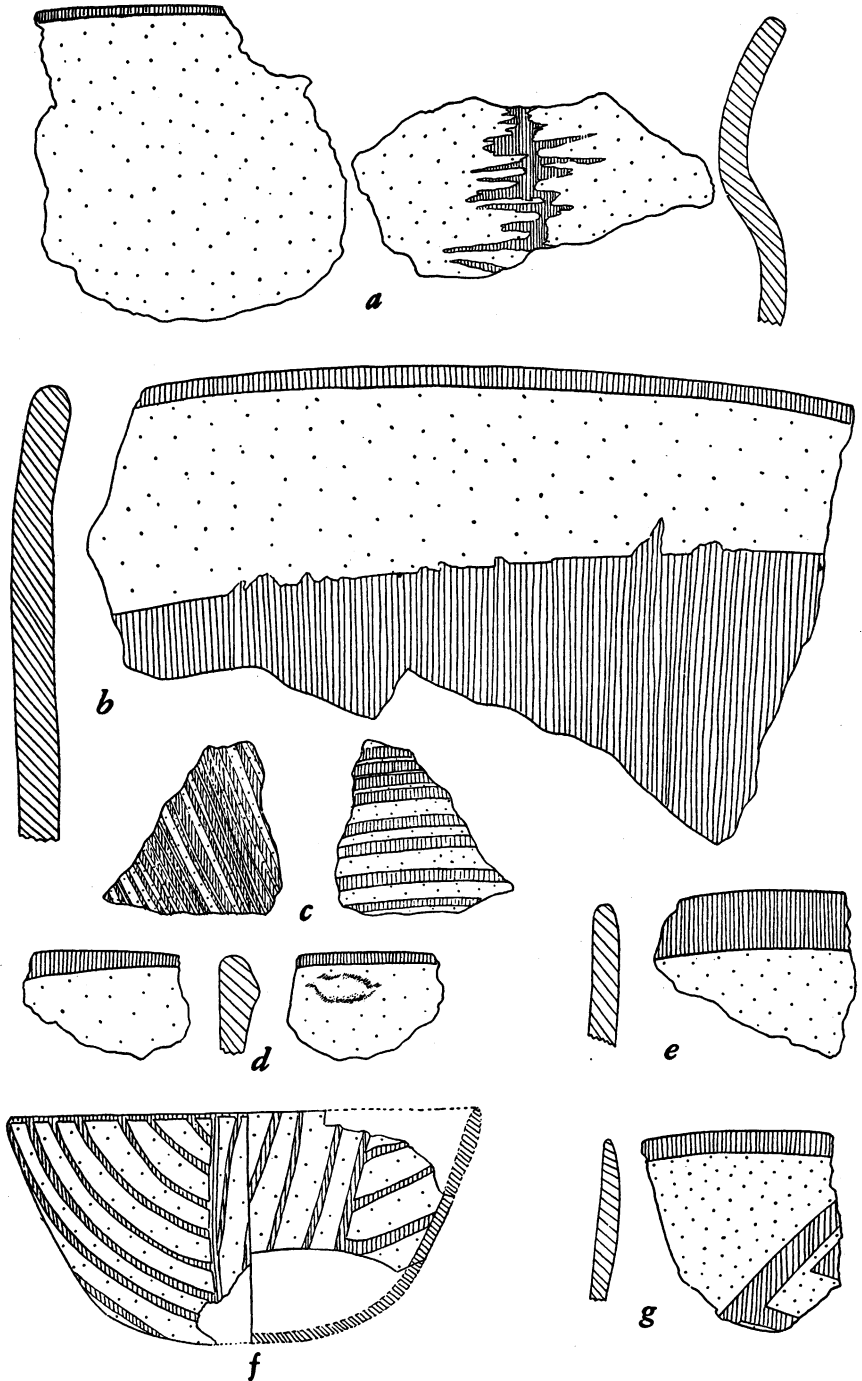


Fig. 10. Early red-on-buff sherds: *a*, 8654; *b*, 8637; *c*, 8707; *d*, 7985; *e*, 8568; *f*, 8933; *g*, 8566. Provenience: *a*, *b*, site 1; *c*, site 16; *d*, site 4, lower; *e*, *g*, site 8; *f*, site 7. One-half nat. size.

low nubbin, which may be accidental. The other rim fragment (7986) has a red stripe along the flattened edge of the rim. The lower edge of the sherd has sufficient curvature to suggest a necked vessel like 8567 from site 8.

Site 9 yielded one Early vermilion-on-buff rim sherd (7938). The design is on the buff exterior; the interior is red. The thickness is only 4 mm., in spite of which there are stony inclusions in the paste.

Site 13 produced five red-on-buff sherds; the "buff" is actually grayish white. Two of these may be rim fragments of one vessel; the larger is specimen 8600. The rim edge is red, and a red band parallels it; red streaks extending above and below the band may be due to faulty application of pigment. The red rim paint continues into the interior to form an inner rim border. The paste, which is fine, shows an inner gray core. Sherd 8585 shows a banded red-on-buff interior and a plain-buff exterior. A small sherd (8612) has a pinkish-buff exterior on which is a trace of rusty-red pattern; the interior is white-slipped. The fifth sherd has a biface pattern in straight and wavy vermilion lines on buffish gray. This is a thin sherd, 4 mm. thick, with gray paste which has a black core.

From site 2 comes the rim fragment of a thick, shallow bowl (8144) comparable to those from other Early sites. The rim is painted reddish brown. The interior is buff-slipped; the exterior has no slip.

Red-on-buff ware from mixed-period sites presents some problems in classification by cultural horizon. Site 16 yielded one red-on-buff sherd (fig. 10, *c*) with biface pattern of parallel stripes; on one side narrow and close, on the other side broader and more widely spaced, like the exterior striping on the biface polychrome sherds from sites 1 and 16. Five sherds (8695, 8697, 8702, 8703, 8724) from site 16 appear attributable to the Early period, on the basis of comparable sherds from Early sites. The designs are too badly damaged to be illustrated. One rim sherd (8724) has a plain-buff exterior and a red-on-buff design in the interior and on the rim edge. The other four are body sherds showing traces of exterior red stripes or bands on buff.

From site 7 come three Early red-on-buff specimens. One (8927) is the wide rim of a vessel with a constricted neck. The rim edge is red; the style of the rim suggests an Early plain-ware rim fragment of a large vessel from site 1 (fig. 5, *c*). Specimen 8869 is somewhat overfired; the red has turned dark red, and the buff has become grayish. The reconstruction of fragments of a beautiful biface bowl (i.e., with interior and exterior designs), red on buffish gray, is shown in figure 10, *f*. I found this protruding from the bank near the bottom of the arroyo which has dissected site 7. The paste is of the same buffish gray as the ground color of the exterior; the walls have a maximum thickness of only 4 mm. The finish is as smooth as satin. Dr. Kelly told me she had found similar vessels in Ameca Valley, near Ameca, Jalisco.

Three more interior-decorated sherds (8817, 8862, 8906) from site 7 have red to reddish-brown stripes on a ground of buff to orange-buff. Also from site 7 comes a fragment (8934) that looks like part of a stemmed vessel, or possibly part of a figurine. The color combination is a reddish brown on buff. Its attribution to the Early period may be unwarranted.

Three red-on-buff sherds from site 11 seem to me attributable to the Early period. Sherd 9046 is an exterior-decorated body sherd with a satiny feel, particularly on

the whitish-gray interior. Sherd 9030 is an overfired rim sherd of a small bowl with inturned rim, on which the buff has turned to gray. The exterior design of parallel concentric stripes ends with the broad rim stripe; the interior apparently once had a reddish slip, but most of it has been smudged from overfiring. Site 12 yielded one interior-decorated red-on-buff body sherd (9413) attributable to the Early period.

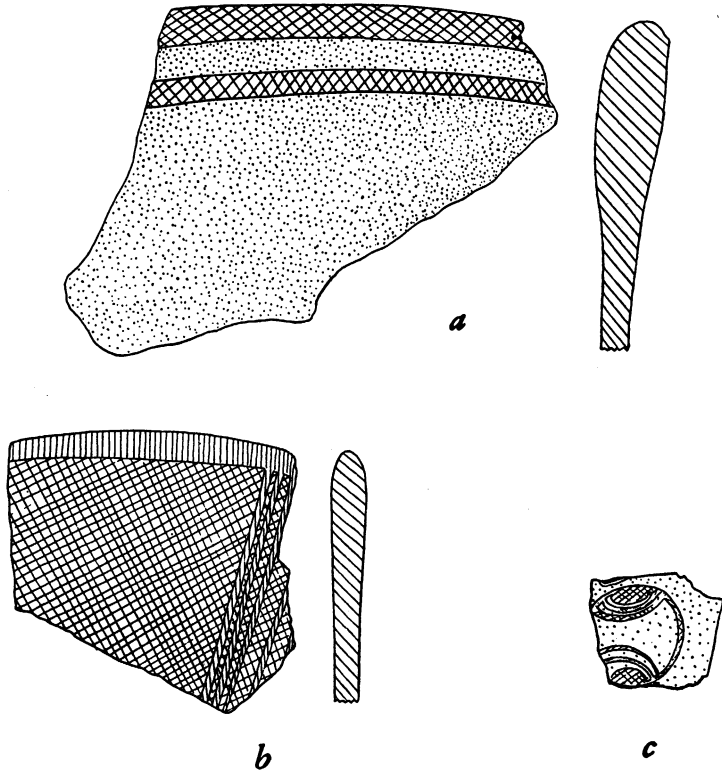


Fig. 11. Early bichrome sherds: *a*, brown-and-orange, 8647; *b*, brown-and-red, 8753; *c*, brown-and-buff, 8359. Provenience: *a*, site 1; *b*, site 16; *c*, site 10. One-half nat. size.

Brown-and-buff or -orange.—Site 10 yielded a fine brown-on-buff body sherd (fig. 11, *c*). Both its exterior and interior surfaces have a smooth, satiny slip, and the paste appears buff throughout. The brown pattern is on the interior.

Possibly brown-and-orange should not be considered a separate color combination from red-and-buff, since red tends to merge into brown, and buff into orange-brown. However, some Early sites and strata (sites 1, 4 [lower], 8, 13) produced a few orange-and-brown sherds; more extensive collecting at site 9 would probably have obtained them there also. Hence I treat them as a separate category.

From site 1 are two rim sherds (fig. 11, *a* shows one) and one body sherd (8632), apparently all from a single large open bowl with interior decoration. The maximum thickness of the rim is 18 mm. The irregular scraped exterior is variably brown and orange.

A tiny body sherd from site 3 (9920), with narrow brown stripes on an orange interior, is rather similar to 7998 from site 4 (lower), also with narrow brown stripes on an orange interior. From the same stratum as 7998 comes a ponderous rim sherd

(part of an interior-decorated open bowl), with a maximum thickness of 17 mm. (7982). This has a broad dark-brown stripe over a slip varying from vermilion to orange to buff.

Site 8 yielded a sherd (8560), 8 mm. thick, with broad dark-brown stripes on a brown-slipped exterior. The interior is grayish white, without any slip.

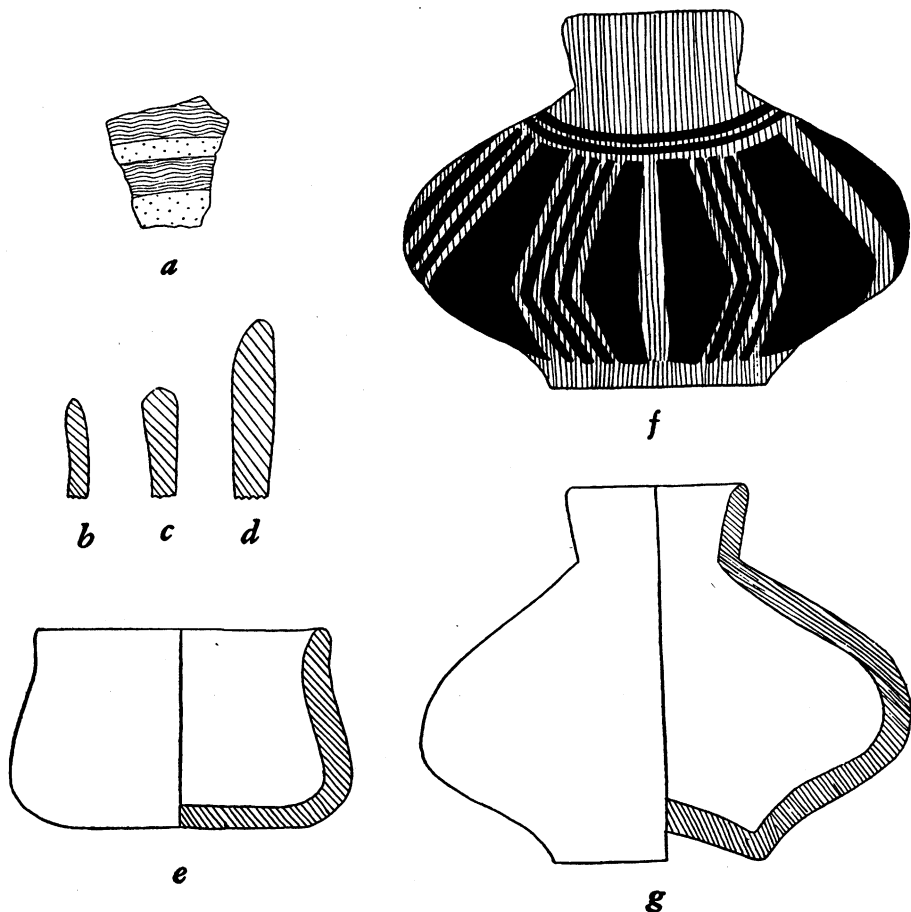


Fig. 12. Early sherds with blue; Early black-on-red vessels. *a*, blue-on-buff body sherd, 8860; *b-d*, blue-slipped rim sherds, *b*, 8876, *c*, 8878, *d*, 8915; *e*, black-on-red bowl, 3647; *f, g*, negative-patterned black-on-red pot, 8668, *f*, pattern, *g*, elevation and profile. Provenience: *a-d*, site 7; *f, g*, site 1. One-half nat. size.

From site 13 came a delicate, highly polished sherd (8599); on its exterior are orange stripes on a chocolate-brown slip. The paste is brown, with fine black particles of tempering material.

Brown-and-red.—Some brown-and-red sherds from mixed-period sites are probably attributable to the Early period. Thus, site 16 yielded the brown rim sherd with red interior pattern shown in figure 11, *b*; also the body sherd 8701, with dark-brown stripes on a buffish-brown interior, its exterior being deeply smudged, the black penetrating more than half the thickness of the sherd wall.

A black-paste body sherd (9650) from site 12 is no doubt Early. The exterior design is of parallel brown lines over a red slip.

Sherds with blue.—From site 7, a mixed-period site, come three rim sherds and three body sherds of a blue-slipped ware with red overpaint. Judging from the rim forms, shown in figure 12, *b, c, d*, these may be attributed to the Early period. The fragment in figure 12, *b* has both interior and exterior designs, the sherds in figure 12, *c* and *d* only interior. Unfortunately, the paint is so weathered that virtually nothing can be made of the patterns. It can be said, however, of the specimens in figure 12, *b* that its rim was red both inside and out and that there is a trace of red-and-blue design low on the exterior. The blue in all these specimens is pale, varying from bluish white (fig. 12, *d*) to azure blue (fig. 12, *c*). The blue-gray on two body sherds from this site (8777, 8861) is less well preserved. The third blue-on-buff body sherd is shown in figure 12, *a*; its blue has a grayish tinge.

Black-on-red.—Black-on-red negative patterning is well represented by a bottle-necked jar from site 1, shown in figure 12, *f, g*. The slip is red, the overpaint black. The black is much faded and weathered, hence the drawing overemphasizes the black pattern as it appears today. Figure 12, *e* shows the shape and cross section of a small black-on-red vessel in the Matthews Collection. The paste, where exposed, is buff. The pattern, black over a red slip, is probably negative. The vessel is so weathered that only traces of the vertical black stripes of the pattern remain, and it is impossible to reconstruct it adequately.

Negative pattern.—Examples of negative or resist patterning have been mentioned (pl. 14, *a*; figs. 12, *e, f, g*), but the most striking example is a fine shallow bowl in the Matthews Collection (pl. 15, *e*). The negative pattern, suggesting repeated 88's, is in the parallel grayish-brown bands on the "white" exterior. Intervening bands, where the resist was applied, show the grayish-white slip. The wash of color painted on after the resist was applied now appears as a nondescript grayish brown; it was perhaps originally black. This piece is remarkable for its coal-black paste and the thick white slip which forms the tapered thin edge of the bowl. The slip, indeed, is $\frac{1}{2}$ mm. in thickness. At site 13 I found a sherd (8611) of material so similar that I thought it might prove to be one of the missing fragments of this bowl. A rim sherd (8575) from site 8 is also rather like this, but the paste is gray instead of jet black; there is a weathered olive-brown stripe on both the inside and outside of the rim. Neither of these sherds shows a negative pattern.

Obviously this ware with black paste and white slip belongs in the cultural inventory of the Early period. Dr. Kelly told me she had found this ware in the Ameca Valley. Mr. Hugo Moedano suggested to me that the white surface might be due to the presence of kaolin in the slip.

Linné (1934) and Lothrop (1936) discuss the distribution of negative patterning on pottery. It seems likely that these Nayarit examples are to be regarded merely as an extension of Lothrop's area VI, upon which he comments: "In Mexico, negative painting has been found in the Federal District and to the west in Michoacán and Jalisco."¹⁰

Polychrome Wares

The finest examples of Early polychrome ware came from site 1, where they were strewn on the surface by figurine hunters who had taken them out of the pits.

I have used the terms *uniface* and *biface* to indicate the position of designs. If a vessel, for instance a bowl, has an all-over design on both surfaces, it is called *biface*;

¹⁰ Lothrop, p. 12.

if the design is on the exterior only, the vessel is uniface. In the specimens in which one edge has a small rim border, the main design being limited to either exterior or interior (as in pl. 16), I have called the pieces uniface. In what follows I discuss the samples of various color combinations selected for illustration.

Uniface.—Brown, orange, and buffish white is the color combination on the large sherd from site 1 shown in plate 17, *a*. The design is limited to the interior, except for oblique white bars on the brown rim edge. A white-and-orange pattern of bands and crosshatching characteristic of the Early period is painted on a brown slip. This sherd varies in thickness from 9 mm. toward the center to 13 mm. near the rim. The exterior surface is buff; the paste is buff also, except for a gray central core. A large black smudge, perhaps acquired in firing, marks the center of the exterior. This piece is apparently a fragment of a large shallow bowl with flaring sides.

Figure 13, *b* shows the interior of a bowl fragment from site 1, similar in form to the piece shown in plate 17, *a*. This likewise has only interior decoration, except where the oblique bars of the upper interior register run over onto the edge of the rim. Over a buff interior slip, stripes in red and brown (varying to very dark brown) have been painted. The walls of the vessel range in thickness from 7 mm. toward the center to 10 mm. near the rim. The core is black, flanked with an outer coating of brown, 1 to 2 mm. thick. A number of Early vessels have this combination of black core and thick, colored "slip." It is difficult to understand why, if overfiring blackened the core, it did not have the same effect on the slip.

A nearly complete vessel (pl. 16) is a fine bowl from site 1. The design, chiefly hatching, is in brown and red on a buffish-gray slip. The paste is pale gray, as the plate shows; red is distinguished from brown by its paler shade.

Other buff-brown-red sherds are fragments of vessels from site 1. Specimen 8676 is a rim fragment of a vessel presumably similar to the specimen in plate 17, *a* and figure 13, *b*. Its maximum thickness is 10 mm. Painted decoration is limited to the interior and rim edge. The ground color of both exterior and interior is red.

A shoulder sherd (fig. 14, *a*) from a necked vessel has a maximum thickness of 7 mm. in the body wall, 4 mm. in the neck. The pattern, on the exterior only, is dark brown and red on buff. The sandy paste is brown and has stony inclusions. Specimen 7653 is a body sherd of a vessel with exterior decoration. The wall thickness is 5 mm., the pattern dark brown and red on buff. The paste is similar to that of the sherd in 14, *a*.

A body sherd and a rim sherd (fig. 14, *b, c*) are two of four fragments from a single beaker with exterior decoration. The body sherds have a minimum thickness of 4 mm.; the rim sherds a maximum of 6 mm. The pattern is buff and red on a brown slip. The rim edge is brown with a buff dot design. The interior has a brick-red slip. The walls have a black central core flanked by brown paste. Tempering is minute.

Black-and-white on brick red is the color combination on two specimens from site 1. One (fig. 14, *g*) is a shoulder sherd from a bottle-necked vessel. The body wall is 4 mm. thick. The buffish-white dots are thick and can be felt with the finger; the black stripes are fugitive and have faded with age. The paste, of a sandy temper, is terra-cotta colored throughout, with no sign of overfiring. The interior is rough and only slightly smoothed. Figure 13, *a* reconstructs a shallow bowl from site 1. The complete vessel must have been 200 or 225 mm. in diameter. The pattern is

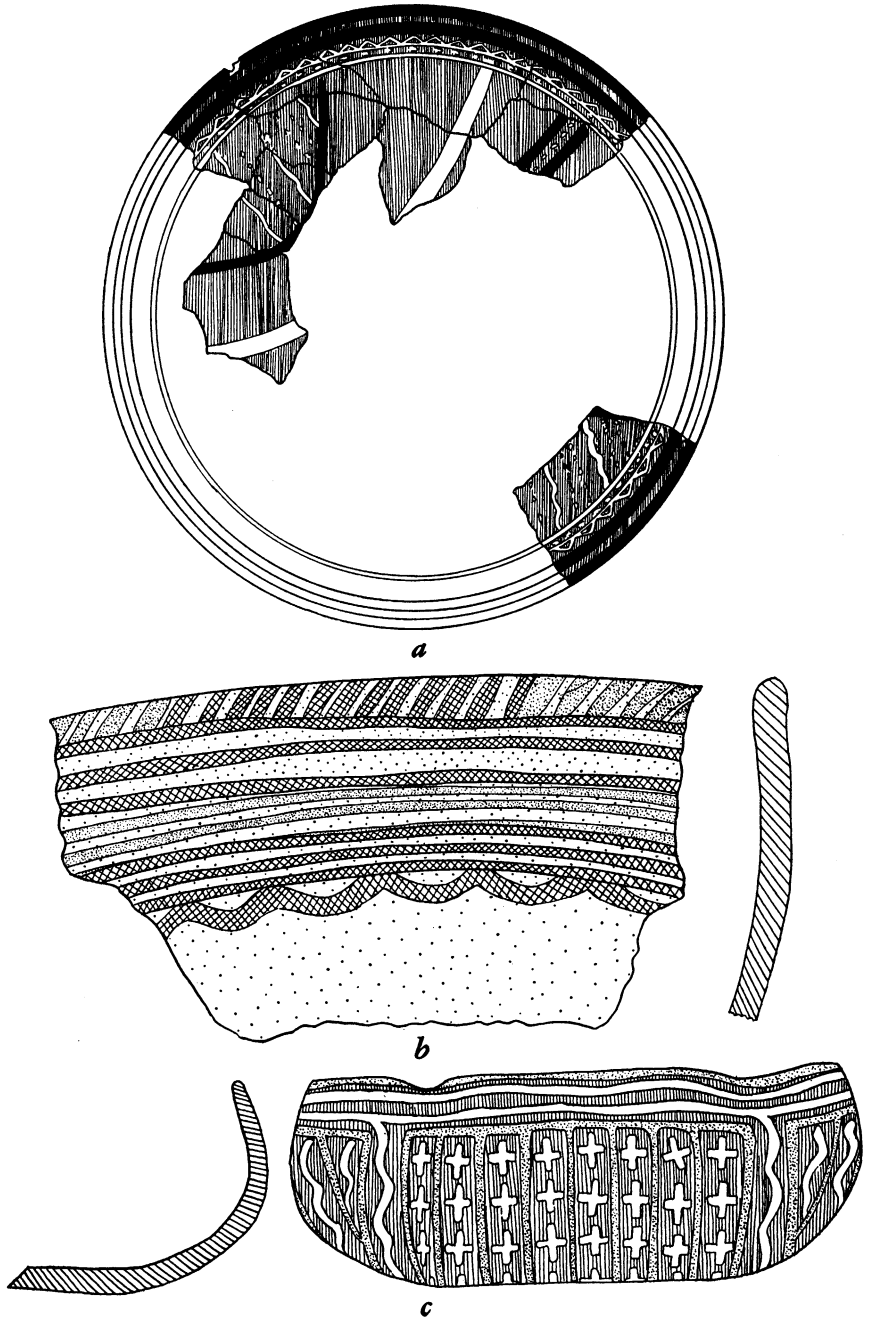


Fig. 13. Early uniface polychrome ware. *a*, interior of black-and-white on red bowl, 8648, one-third nat. size; *b*, sherd, interior of 8643; *c*, orange-and-white on red bowl, 7931. Provenience: *a*, *b*, site 1; *c*, site 9. *b* and *c*, three-sevenths nat. size.

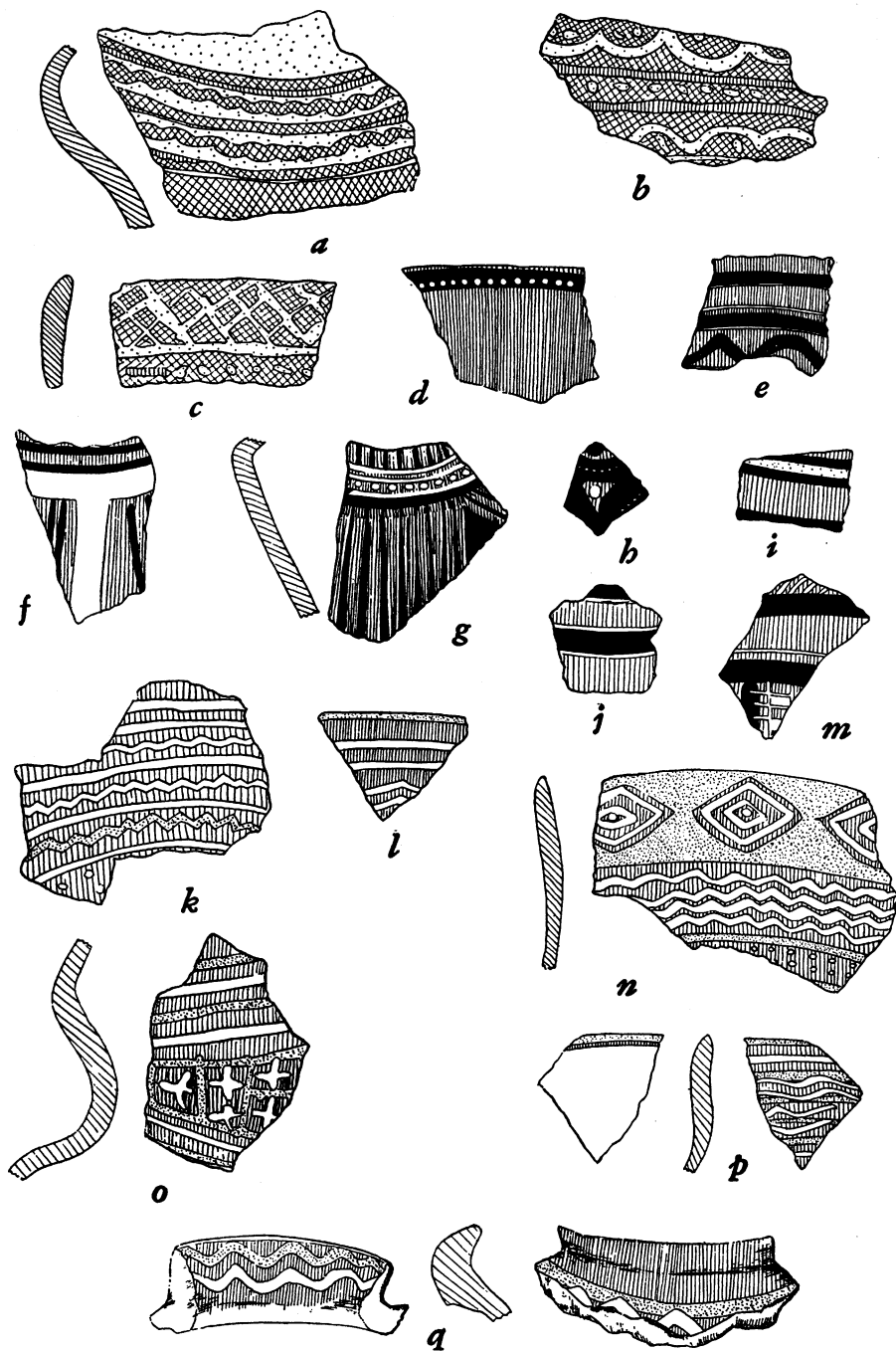


Fig. 14. Early uniface polychrome sherds: *a*, 8663; *b*, *c*, 8631; *d*, 8883; *e*, 10004; *f*, 8603; *g*, 8624; *h*, 9058; *i*, 10005; *j*, 9653; *k*, 8636; *l*, 8588; *m*, 9037; *n*, 9033; *o*, 8586; *p*, 8591; *q*, 8590. Provenience: *a*, *b*, *c*, *g*, *k*, site 1; *d*, site 7; *e*, *i*, site 6; *f*, *l*, *o*, *p*, *q*, site 13; *h*, *m*, *n*, site 11; *j*, site 12. One-half nat. size.

black and white on a brick-red slip. The brick-red exterior shows marks of scraping, and part is heavily smudged from overfiring. The broken edges show a thick black core.

Black-and-white on red is represented by specimens from pure Early-period site 13 and from the mixed-period sites 6, 7, 11, and 12. The black always has a dull finish, lacking the polish of the other pigments. All patterns are on the exterior surface, except for one design on a rim sherd from site 7 (fig. 14, *d*); below the pattern, and also on the exterior, is a polished red slip. A thin body sherd, 3 mm. thick (fig. 14, *f*), from a small vessel comes from site 13. The fine paste is brown throughout. Four other body sherds are illustrated: figure 14, *e* from site 6, figure 14, *h*, *m* from site 11, figure 14, *j* from site 12.

Black-and-buff on red occurs on an Early-period body sherd from the mixed-period site 6 (fig. 14, *i*). The black, as in all other sherds with black pigment, has a mat surface.

The combination of white or buff, orange, and red was common in the Early period, as the following examples attest.

The interior of a rim sherd of a small bowl from site 1 (fig. 14, *k*) has a dull-red slip, the design being in white and deep orange. The exterior is somewhat smudged, apparently from overfiring. The paste has a black core, flanked by reddish brown.

Professor Parra presented to the University a fine bowl (fig. 13, *c*), excavated from "6 meters deep" at site 9. It has a wavy or lobed rim, produced by pressing in the edges on four sides. The design of white crosses and zigzag lines framed by orange-buff vertical lines is painted over the red ground slip. The paste, where exposed at breaks, is black, like the interior. The vessel is badly smudged in several places.

The color combination of red, orange, and white appears on several sherds from site 13. The pattern is on the interior of specimen 8607 and the sherd shown in figure 14, *l*; on the exterior of specimens 8589, 8598, and the sherds in figure 14, *o*, *p*, *q*. On one sherd, the rim of a probably globose vessel (fig. 14, *q*), the parallel zigzags of orange, red, and white appear on the shoulder and just inside the rim. Three sherds (8591), all rim fragments with exterior pattern, are from one small vessel; one fragment is shown in figure 14, *p*. The red on these three is quite dark, and the orange verges on deep buff. The interior of the vessel has a polished white slip with dark-red border flanked on the rim edge with buffish orange.

Red, orange, and white sherds of the Early period were obtained at mixed-period sites 7, 11, and 16. The slip seems to be red, with orange and white added. From site 11 comes the beautiful rim sherd of a vertical-walled dish with exterior design, shown in figure 14, *n*. Its red paste has a gray core. Three body sherds (9035, 9036, 9040) from site 11 have interior decoration in the same three colors. Five examples from site 16 (fig. 15 *a-e*) are a variable lot. One, the rim fragment of a thick, shallow bowl or plate (fig. 15, *a*), has interior decoration with a cloudy interspersing of red and orange, which is represented by the convention for orange. The design on the exterior of a body sherd (fig. 15, *b*) is an attractive band-and-dot pattern. A rim sherd (fig. 15, *c*) from a small vessel with outturned rim and exterior decoration has red as the dominant color. The pieces illustrated in figure 15, *d*, *e*—the former a rim sherd, the latter a body sherd—are possibly from the same open bowl, since they have the same type of orange-and-white crosshatching.

The color combination of a red-and-white pattern on a brown field is exemplified by a bowl from the Matthews Collection (3627), in form like many of the bichrome bowls of the Early period. The pattern is on the exterior, the interior having a plain-red slip. Plate 17, *b-d* gives a bottom view and two side views, the latter showing the two patterns appearing alternately on the exterior. Early body sherds, red-and-white on brown, from site 10 (8358) and site 12 (9694) have panel designs.

White and buff painted over basic reddish brown appear on the exterior surface of a rim sherd from site 16 (fig. 15, *g*). The interior edge is buff with a band of reddish brown below. The rest of the inner surface has a bright-red slip, which has chipped off here and there, revealing the reddish-brown unslipped surface. The paste is reddish brown throughout, with some tiny black stony inclusions.

Brown and white on buff appear on the exterior of body sherds 8597 and 8214 from sites 13 and 15 (lower) respectively. The sherd from site 13, the rounded bottom of a small vessel, shows concentric rings of brown and white on the exterior.

A unique specimen (8604), a thin body sherd, 3 mm. thick, from a small vessel, also comes from site 13. It has a polished red design on a mat red surface, with traces of buff overpaint on part of the polished red.

Biface.—Biface polychrome sherds are polychrome on one side, bichrome on the other, and were found only at Early-period sites 1 and 16, near the northwest limit of the territory visited, and at site 13, near the southeastern limit.

Figure 15, *f* shows a specimen from site 13 with polychrome interior of reddish brown, white, and orange, and bichrome exterior of white on reddish brown.

One type of biface polychrome ware from sites 1 and 16 I found nowhere else. Ten specimens of this ware are from open bowls characterized usually by (1) a bichrome exterior of rich buff to tan, with red or reddish-brown parallel stripes or bars, and (2) interior decoration, either geometric or realistic or a combination of both, in red and brown on buff. An exception is the sherd shown in plate 18, which has an interior ground color of dark brown instead of buff, the superimposed pattern being white and dark red. The exterior has the usual red bars on buff. Plate 18 shows both interior and exterior of this piece.

The biface polychrome sherds, representing nine other vessels, are from site 1, except for one (8734) from the near-by site 16. These vessels with red-on-buff bars on the exterior show considerable variation in the three colors used in the interior patterns. Thus, brown varies from light to dark; red from vermilion to dark red; and in one piece the buff is replaced by white.

Interior and exterior of all nine specimens are shown in plate 19. All have buff slip with red-and-brown designs. The variation in shade of the red and the brown is indicated by the different tone values in the photographic reproductions. The vessels yielding these sherds were obviously all open bowls, since the trichrome patterns are all on the inner surface. No two patterns are alike, whereas the exterior appearance is generally similar, bichrome red-on-buff parallel bars covering the surface.

This ware definitely suggests the style of Dr. Kelly's Early Chametla polychrome¹¹ and may be synchronous with it. It is important in this study because its presence warrants the aligning of the wares of my Early period with Kelly's Early Chametla polychrome. As Kelly points out,¹² these Early Chametla wares were not

¹¹ Kelly (1938), pp. 11-14, figs. 1, 2, and 3. ¹² *Ibid.*, p. 38.

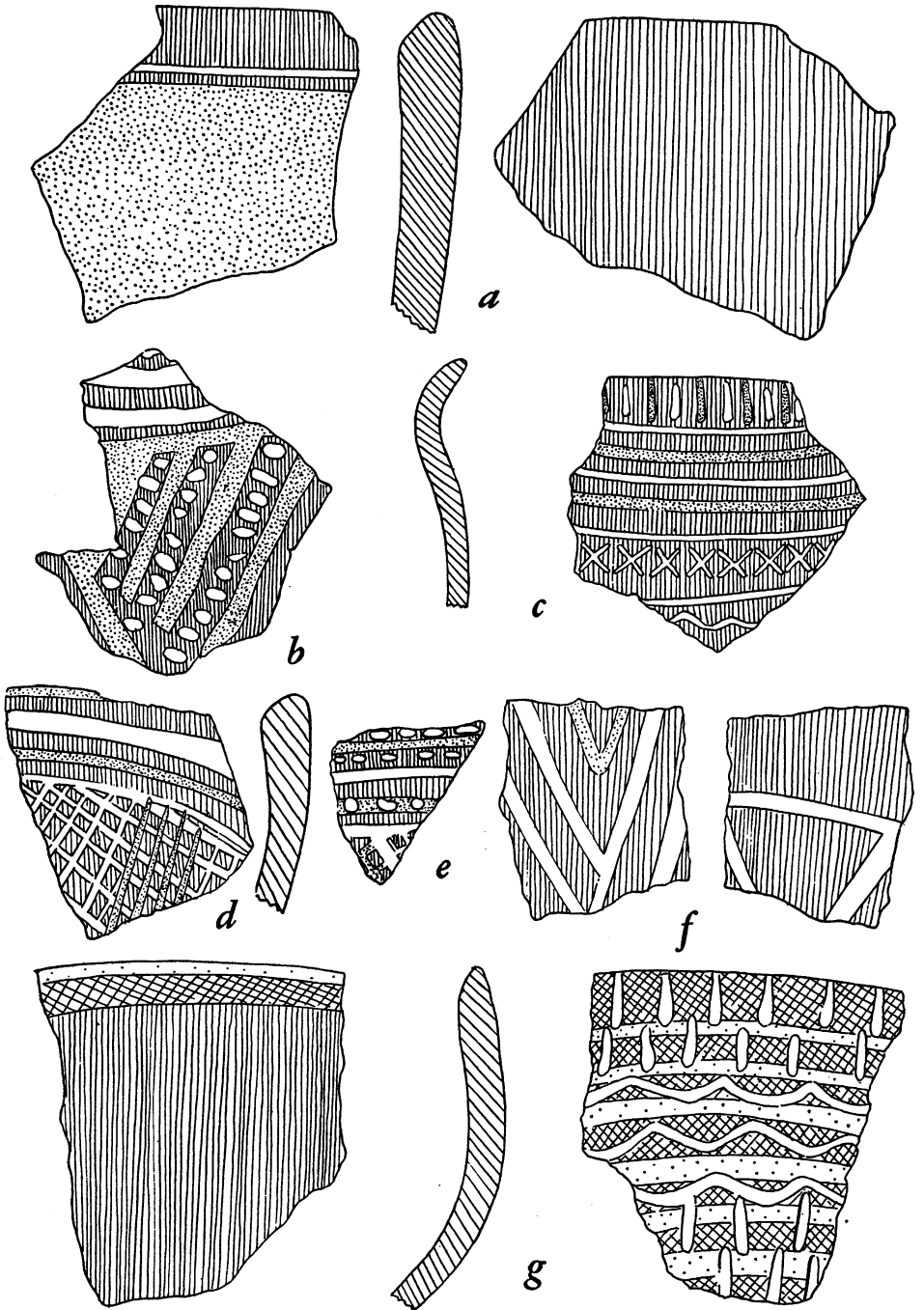


Fig. 15. Early polychrome sherds. Uniface, *a-e, g*: *a*, 8751; *b*, 8723; *c*, 8735; *d*, 8739; *e*, 8705; *g*, 8747. Biface, *f*, 8602. Provenience: *a-e, g*, site 16; *f*, site 13. Two-thirds nat. size.

encountered by Sauer and Brand¹³ in making a surface collection, since they do not occur on the surface at Chametla. I, too, should not have found the parallel ware in the Ixtlán region had it not been for its excavation by figurine hunters.

MIDDLE-PERIOD POTTERY

The Middle period in the Ixtlán region is characterized by the presence of artifacts of the Aztatlán complex.¹⁴ The absence of Aztatlán specimens in sites exclusively Early or Late seems to corroborate this statement. The Middle-period cultural inventory includes fine incised pottery, bichrome and polychrome pottery comprising certain types of brown-and-buff and red-on-buff wares attributable to the Aztatlán complex, molded or pressed pottery plaques, annular-base *molcajetes*, and *molcajetes* with gouged floors. Effigy axes and, probably, plain three-quarter grooved axes should perhaps be included in the cultural inventory of the Middle period, although the plain axes may have continued to be used in the Late period. Nubbin and flanged pottery may likewise occur in both periods.

INCISED WARE

Twenty-seven incised sherds of the Aztatlán type may be grouped by color as follows: black ware, red-on-white, red-on-buff, and plain red or terra cotta. Some of the plain pieces may once have been painted. One sherd has incising on the inner surface only; the rest have exterior incising, some have interior incising as well. I have therefore distinguished uniface (pl. 20) and biface (pl. 21) incised wares.

Black ware.—These sherds are black or nearly black. Seven sherds have incising on the exterior only; all are shown in plate 20 (*r* from site 4, upper; *s* from site 11; *p*, *q*, from site 12; *o*, *t* from site 14; *g* from site 15, upper).

Red-on-white.—Two red-on-white sherds are biface, with incising and paint on both exterior and interior: plate 21, *e* (*e'*) from site 11; and plate 21, *c* (*c'*) from site 14. On these there is a white slip with thick red overpaint.

Red-on-buff.—Two red-on-buff sherds (pl. 21, *d* [*d'*] from site 11) (pl. 21, *b* [*b'*] from site 14) are biface, with incising and paint on both surfaces. The slip is buff, with thick red overpaint. There are also six sherds with incising on the exterior only, shown in plate 20 (*f*, from site 3; *e* from site 10; *a*, *l* from site 12; *b* from site 14; *c* from site 16). The surface of the sherd shown in plate 20, *e* has a "satin" finish; the sherd in plate 20, *l*, a red-slipped interior.

Plain red or terra cotta.—It is possible that these sherds were once painted but that the paint has weathered off. Seven of them have incising on the exterior only: plate 20, *u* from site 6; plate 20, *i* from site 11; plate 20, *d*, *k*, *n* from site 14; plate 20, *m* from site 12; plate 20, *j* from site 15 (upper). One (pl. 20, *h* from site 14) has incising on the interior only. One with exterior incising (9844) was found at site 3.

PAINTED WARES

No sherds attributable to the Middle period and to the Aztatlán complex were found on Early sites 1, 2, 4 (lower stratum), 8, 9, and 13, or on Late site 5.

Sherds of Aztatlán ware are undoubtedly of the Middle period. Some painted sherds from mixed-period sites are not so easily attributable and may be either Middle or Late.

¹³ Sauer and Brand.

¹⁴ Cf. Kelly (1938), Aztatlán ware, p. 19.

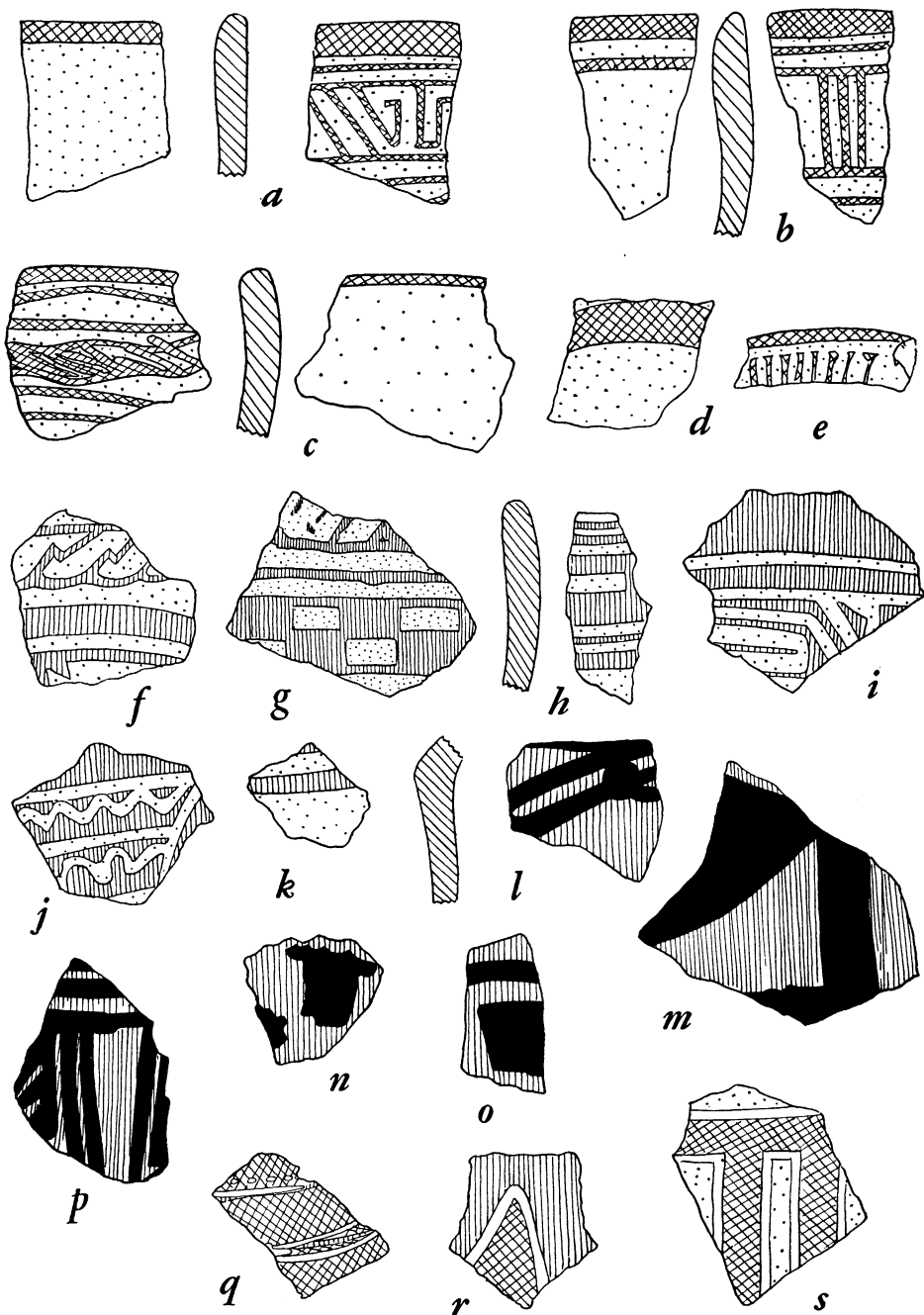


Fig. 16. Middle-period bichrome and polychrome sherds. Bichrome: *a*, 9162; *b*, 8726; *c*, 8017; *d*, 9649; *e*, 9647; *f*, 9411; *g*, 9412; *h*, 9034; *i*, 9175; *j*, 9174; *k*, 9173; *l*, 9045; *m*, 8205; *n*, 8023; *o*, 8020; *p*, 8019. Polychrome: *q*, 9161; *r*, 9168; *s*, 8022. Provenience: *a*, *i*-*k*, *q*, *r*, site 14; *b*, site 16; *c*, *n*, *o*, *p*, *s*, site 4, upper; *d*-*g*, site 12; *h*, *l*, site 11; *m*, site 15, upper. Two-thirds nat. size.

Bichrome Wares

Brown-and-buff ware.—Of brown-and-buff sherds of the Aztatlán complex, seven have a brown pattern painted on a buff slip. Three have brown rim borders which extend over the rim into the interior. One specimen (fig. 16, *e* from site 12) is brown with a heavy exterior buff overpaint; its interior is brown.

Several sherds have a brown-on-buff exterior and a buff interior with brown rim border which, in the rim sherds, continues over the lip from the exterior: 8024 from site 4 (upper), 9176 and the sherds shown in figure 16, *a* from site 14, figure 16, *b* from site 16.

Red-on-buff ware.—Red-on-buff sherds of the Aztatlán complex were obtained at sites 7, 11, 12, and 14. These comprise the sherds shown in figure 16, *f-i* and unfigured specimens 8858 from site 7 and 9171 and 9172 from site 14. Specimen 9171 is a red-on-white rim sherd, with both edges of the rim red; the white is chalky, and even the paste is chalky white. The specimen strongly suggests some of Kelly's Aztatlán pieces from the north. The sherds mentioned in this paragraph have exterior decoration only.

Buff-on-red ware.—To the Middle period I tentatively assign three buff-on-red sherds from site 14, shown in figure 16, *i-k*. Two (fig. 16, *i, j*) have patterns somewhat suggesting the white-on-red ware of the Late period. The buff is slightly crackled. All three pieces have exterior decoration, with more or less rough interiors.

Black-on-gray ware.—A black-on-gray sherd from the upper stratum of site 15 (fig. 16, *m*) is assigned to the Middle period because no recognizable Late-period specimens, such as the characteristic white-on-red or plain-red ware, were found at this site, even on the surface. The design is on the exterior and consists of broad black bands over a light-gray slip. The interior is rough; its color a pale gray with a slight pinkish cast. The appearance of the exterior surface and of the gray paste suggests overfiring.

Black-on-red ware.—This ware is doubtfully Middle period. Three black-on-red sherds, from the surface of the upper stratum at site 4, are certainly not Early. Figure 16, *n-p* shows the exterior patterns of these three body sherds. One very thin sherd (fig. 16, *p*), only 3 mm. thick, has a reddish-brown paste. Figure 16, *l* shows a black-on-red body sherd with exterior pattern, from site 11.

Polychrome Wares

Again, the period is uncertain. Of the three polychrome body sherds in my collection one from the surface of site 4 (upper stratum) is unquestionably not Early, but it might be either Middle or Late. Two other pieces from site 14 are probably not Early, but might be either Middle or Late. All three have exterior patterns and unslipped interiors.

Figure 16, *s* shows the piece from site 4. It has a brown-and-white design painted over a dingy-buff slip. The white has a metallic character, like aluminum paint. Figure 16, *r* shows a piece with white and brick red painted over a dull brown. The interior surface and paste are brown. The sherd in figure 16, *q* has a unique color combination. Orange and white lines and dots have been painted on a maroon slip. In the figure the maroon is represented by the convention for brown (cross-hatching).

LATE-PERIOD POTTERY

The unique tripod *molcajetes* with two opposing perforations in the legs and cross-grooved floors are distinctive of the Late period. They are frequently associated on the surface with red utility ware (such as cantaros with rolled rims), with Late white-on-red ware with rolled rim, and with rim-ring handles, and this justifies our attributing them to the Late period. Similar types at Tuxcacuesco Dr. Kelly classifies as Late.

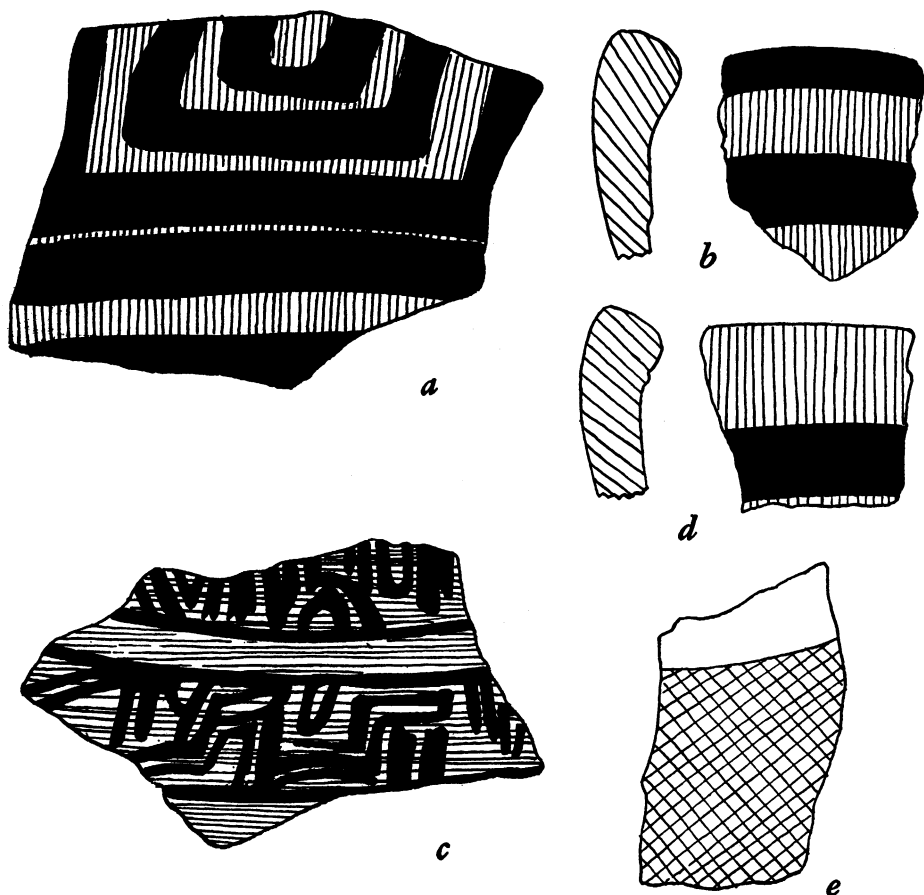


Fig. 17. Late-period bichrome sherds: *a*, 9167; *b*, 9642; *c*, 9651; *d*, 9766; *e*, 9166. Provenience: *a*, *e*, site 14; *b*, *c*, *d*, site 12. Nat. size.

Heavy, outward-rolled rims are characteristic of both plain red and white-on-red cantaros in our region. Of special interest are the Late-period rims from the surface of site 4, since they contrast with the Early-period rims found at this same site in the layer below the pumice.

PLAIN WARE

Plain-red cantaros with heavy, outward-rolled rims are of the Late period. In addition, large numbers of plain body sherds from sites not exclusively Early-period are probably from Late and Middle vessels; Late vessels seem to predominate.

The thickness of these sherds varies. Their color range includes red, brown, gray, and black—the black usually a result of accidental smudging during firing or use in cooking.

Only one fine polished black sherd (10037 from site 6), equally finished on both surfaces, warrants the designation *bucchero*—that is, ware intentionally made black. It has a brownish-red paste throughout, with a polished black slip on both surfaces. Its thickness is 6 to 7 mm. It is impossible to be sure of the period to which this unique fragment belongs, since all three periods are represented at site 6.

On certain large vessels rim-ring handles are formed by perforations through the vessel wall near the rim, with a loop of clay rising above the general level of the rim. They are practical only on erect rims, not on rolled ones. All such handles come from vessels with only the interior slipped. Dr. Kelly pictures a rim-ring handle or lug from Chametla.¹⁵ Plate 22, *a* and *b* of the present work shows handles that come nearest to being complete of any which I found; they are from sites 14 and 12, respectively. Additional fragments collected are listed as follows: 3 specimens from site 5; 3 specimens from site 11; 1 specimen from site 12; 10 specimens from site 14.

The rim-ring handle is apparently the feature described, though not illustrated, by Mason: "In another (No. 1) the raised section of the rim with the perforated hole that is characteristic of Chalchihuites is seen."¹⁶

Plate 22, *d* (upper layer of site 4) and *c* (site 10) shows angular rim pieces which may be parts of vessels with rim-ring handles, though of this I am not certain.

PAINTED WARE: BICHROME

White-on-red ware is the characteristic painted ware of the Late period; the overwhelming majority of the bichrome sherds are white-on-red. The painting is on the exterior, usually in linear patterns which contrast with the line painting and black patterns of the Early white-on-red interior decoration. Photographs of white-on-red rim sherds appear in plate 22, *e-q*. White-on-red body sherds are shown in plate 23, *a-n*.

Ixtlán white-on-red designs look very much like those of Autlán white-on-red.¹⁷ All Ixtlán sherds, however, are decorated on the exterior, whereas Kelly shows two Autlán sherds with interior decoration. The Late white-on-red and the red ware of Ixtlán, with outturned rolled rims, were probably manufactured at the time of the Conquest,¹⁸ like the Autlán white-on-red. The largest yields of Ixtlán white-on-red were from sites 12 (227 sherds) and 14 (61 sherds). This type was collected also on sites 3, 4 (upper), 5, 6, 10, and 11.

In addition to the white-on-red sherds, three black-on-red and one white-on-brown were obtained. The black-on-red are characterized by thick, lusterless black paint laid on over the red slip, on the exterior only. Figure 17, *a* shows a body sherd from site 14; its interior and paste are brown and unslipped. Two rim sherds, out-curved and thickened, both from site 12, are shown in figure 17, *b* and *d*. Both have polished red interiors. The first has a band of lusterless black on the outturned part of the rim. A white-on-brown sherd from site 14 is shown in figure 17, *e*. The brown,

¹⁵ *Ibid.*, p. 38, fig. 11, *e*.

¹⁶ Mason, p. 134.

¹⁷ Kelly (1945*b*), p. 42, fig. 5; p. 94, pl. 2, *i-r*.

¹⁸ *Ibid.*, pp. 32, 79.

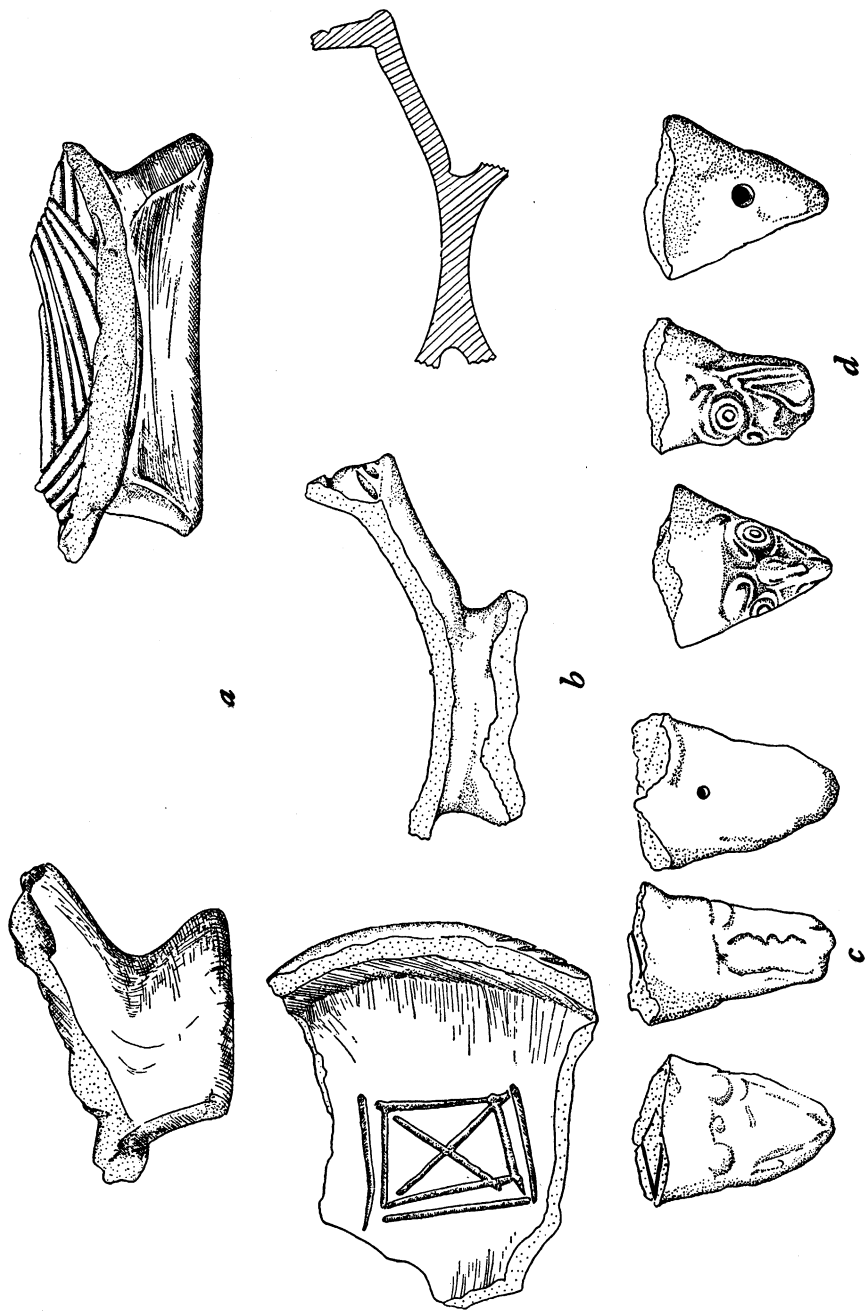


Fig. 18. Middle-period *molcajetes* and Late-period *molcajete* legs. *Molcajetes*: a, 8855; b, 8853. *Molcajete* legs: c, 8237; d, 9404. Provenience: a, b, site 7; c, site 5; d, site 12. One-half nat. size.

really terra cotta, is the slip laid on the gray surface of the sherd; the white is painted over this slip. The brown pigment has flaked in spots, giving evidence of its fugitive quality. There is no absolute assurance that these black-on-red and white-on-brown sherds are Late rather than Middle.

A black-on-gray sherd (fig. 17, *c*) from site 12 has exterior decoration of black lines on a gray slip. Its style vaguely suggests the style of Valley of Mexico Aztec ware; it is perhaps a trade piece attributable to the Late period. The interior surface and the fine paste are reddish brown.

I have failed to identify any polychrome ware from the Late period; however, some sherds discussed under Middle period may be Late.

MISCELLANEOUS POTTERY

Although most of the miscellaneous material can be assigned to periods (see table 2), it seems best to discuss it apart from the sherds already treated. Thus *molcajetes*, although occurring in both Middle and Late periods, are better understood if discussed as a group.

NUBBIN AND FLANGED WARES

The twenty pieces of nubbin and flanged wares collected are shown in plate 24. With one exception, a black piece (pl. 24, *s*), all are red or brown ware. They probably belong to the Middle and Late periods, and I have so listed them in table 2; I doubt whether any is Early.

Nubbin ware. The sherd shown in plate 24, *j* has an indented flange as well as appliqué nubbins; it is red inside and out and has a red paste. I suspect that the piece in plate 24, *j* is Late and that in plate 24, *s* is Middle. Late nubbin ware differs from that of the Early period in the technique of manufacture: the nubbins were appliquéd, whereas in the Early ware the nubbins were made by pushing out the clay from inside the vessel.

Flanged ware is commoner than nubbin, as plate 24 shows. The provenience of each piece is given in the plate explanation. Three pieces come from the upper stratum of site 4; 1 from site 5; 3 from site 10; 1 from site 7; 3 from site 14; 3 from site 12; and 4 from site 6. Most pieces have scraped interiors; none shows any trace of paddle-and-anvil technique of manufacture. A sherd from Late-period site 5 (pl. 24, *d*) is unique in having round pits in the slightly raised flanges. It is a ponderous piece, 17 mm. thick.

MOLCAJETES

Molcajetes, pottery dishes for grinding chili peppers, are instantly recognizable by their gouged or grooved floors; in the Ixtlán region only two specimens with gouged floors were found. The grooved floors here are parallel-grooved or cross-grooved; the cross grooves form a rectangular or a diamond-shaped pattern. See plate 27, *a-i*. So far as my collection gives evidence, the *molcajetes* with cross-grooved floors are supported on legs, presumably three. The legs are usually perforated on opposite sides near the top, and some of them enclose a ball rattle (pl. 25, *k*). The *molcajetes* with parallel-grooved floors usually have an annular base in three segments (fig. 18, *a*); a few are supported on legs (see pl. 26, *c, e*). No complete *molcajete* was obtained, and all fragments collected were surface specimens. The tripod *molcajetes* can be attributed to the Late period; the ones with annular bases, to the Middle period.

The *molcajetes* with legs commonly have a red-slipped rim, the slip being often applied to the exterior of the legs also. In some specimens this slip has mostly weathered away. The *molcajetes* with segmented annular bases are parallel-grooved, but the painted slip varies. The pieces show (a) red or buff with two concentric interior border stripes of dark brown, (b) buffish-brown paint, (c) white paint, (d) gray ware (probably smudged or overfired), (e) no paint. The pieces of type a are encircled by a low ridge, perhaps a reinforcement, on the exterior below the rim.

An exceptional specimen from site 7 (fig. 18, b), with a completely annular base, has grooving in the form of two squares, one within the other, with an X within the smaller square. The side wall of this piece rises vertically.

In Dr. Kelly's published material the type which comes nearest to the Ixtlán type with segmented annular base seems to be her Autlán "slab feet, terraced,"¹⁹ but her specimens differ from those in my collection. In describing Autlán polished orange ware, she mentions *molcajetes* with annular bases as "apparently common, with indications that they may have been ornamentally perforated."²⁰ Here, again, the Autlán type differs from that found at Ixtlán.

An interesting variant of the tripod *molcajete* is represented by two hollow legs portraying animals, each with a small hole in the back. One (fig. 18, c), from site 5, is an animal head so badly weathered that the species cannot be determined. A trace of the cross grooves of the *molcajete* floor is visible, and this, coupled with the associated sherds from the site, indicates that the piece belongs to the Late period. The second leg, apparently an eagle head, also shows a trace of the grooved floor, but it is impossible to tell whether it was parallel- or cross-grooved. The color of this specimen (fig. 18, d) is buff. It was found at site 12 and probably dates from the Late period.

At sites where I found fragments of *molcajetes* with annular bases, tripod types were present (table 2). The criteria of the latter are perforated tripod legs (pl. 25) and cross-grooved floors (pl. 27). Since none of the annular-base *molcajetes* found had cross-grooved floors, I have assumed that cross-grooved floor fragments, with no indication of type of base, are parts of tripod *molcajetes*. Yet I cannot make a similar assumption of the relation between parallel-grooved floor fragments and *molcajetes* with segmented annular bases, since some tripods have parallel-grooved floors (pl. 26, c and e). Two gouged floors (pl. 27, i and specimen 9114) are probably Middle-period; the first is from site 12, the second from site 14.

My surface collection has no *molcajetes* from pure Early sites and strata. Their absence seems to indicate that *molcajetes* were not included in the cultural inventory of the Early period.

SOLID TRIPOD LEGS

A few solid leg supports for vessels show no trace of floor grooving and may be from vessels which are not *molcajetes* (see pl. 26, except c and e). Most of them are probably from the Late, though some are from the Middle, period.

Some characteristic Early-period Ixtlán figurines of males in a "sitting" position are supported by a tapering "leg" extending down from the buttocks. None of the solid legs seem to be of this type; they seem rather to be the legs of vessels. Specimen 8935, the terminal 32 mm. of a leg picked up at site 7, probably belongs to this group. Moreover, no solid legs were found in Early-period deposits.

¹⁹ *Ibid.*, p. 38, fig. 4, m, n. ²⁰ *Ibid.*, p. 52; see also p. 53, fig. 14, s.

An interesting solid distal end of a leg support (8240) from Late-period site 5 has the peculiarity of three grooves at the tip. Specimen 8242 from site 5 is also a solid distal end. A solid leg (9930) from site 3, with traces of red slip on the exterior face, may be a *molcajete* leg.

A ponderous "foot" (8236) from the Late-period site 5 should be mentioned here, although the specimen is too incomplete for me to be sure of its true form. It is possible that it is part of a solid "ball" rather than a "tripod foot." At the fractured surface the diameter ranges from 53 to 58 mm. The core is black, with a diameter of 38 mm. at the fracture. The surrounding 10 mm. of paste and the outer surface are brown.

SPINDLE WHORLS AND ROLLER STAMP

Two spindle whorls (fig. 19, *a, b*), said to be from site 13 graves, date from the Early period and perhaps may be taken as representative of the whorls used in the initial stages of the manufacture of the garments represented on many of the Early-period pottery figurines. The large whorl with keeled edge (fig. 19, *a*) looks different from all the others, but figure 19, *b* looks so much like some of the site 14 whorls that I doubt the provenience suggested. All spindle whorls were gifts.

Ten spindle whorls from site 14 are presumably Middle or Late (fig. 19, *c-l; j* and *l* are stone).

The fine pottery roller stamp (fig. 19, *m*) was found by Mr. Paredes at site 14 when he was engaged in road construction.

PLAQUES AND SOLID FIGURINES

The objects discussed in this section are shown in plate 28. Four fragments of clay plaques were found on the surface: plate 28, *c*, site 12; plate 28, *d*, site 14; plate 28, *e*, site 15 (upper); plate 28, *f*, site 14. These plaques differ from Ekholm's three Guasave specimens²¹ in having their designs in low relief instead of incising. The design on the specimen in plate 28, *c* looks almost as though it had been made with a roller stamp; the pattern runs over onto the undamaged part of one edge. All four pieces are flat-backed. Pieces shown in *c* and *d* of plate 28 are 8 mm. thick, *e* is 12 mm., and *f*, 15 mm. through the "nose."

I think that these pieces date from the Middle period and belong to the Aztatlán complex. None was found in a pure Early site or stratum.

A small solid figurine head from site 12 (pl. 28, *b*) is tentatively attributed to the Middle period. It bears traces of white paint and seems foreign to the style of the Early period. The solid figurine shown in plate 28, *a* is Early; I found it in the riverbank at site 8 at a depth of 15 ft.

PROBLEMATICAL FRAGMENTS

From various periods and sites come sixteen miscellaneous problematical pottery fragments which I collected. A hollow ball on a constricted stem (9091) from site 14 was presented by Mr. Paredes. Specimen 9813 from site 3 is apparently part of an Early-period image; 8936 from site 7 may be part of a figurine or of a melon-shaped vessel, probably Early.

I picked up at site 14 a disk made from a potsherd (9104), a short cylinder

²¹ Ekholm, p. 90, fig. 17, *y, z, aa*.

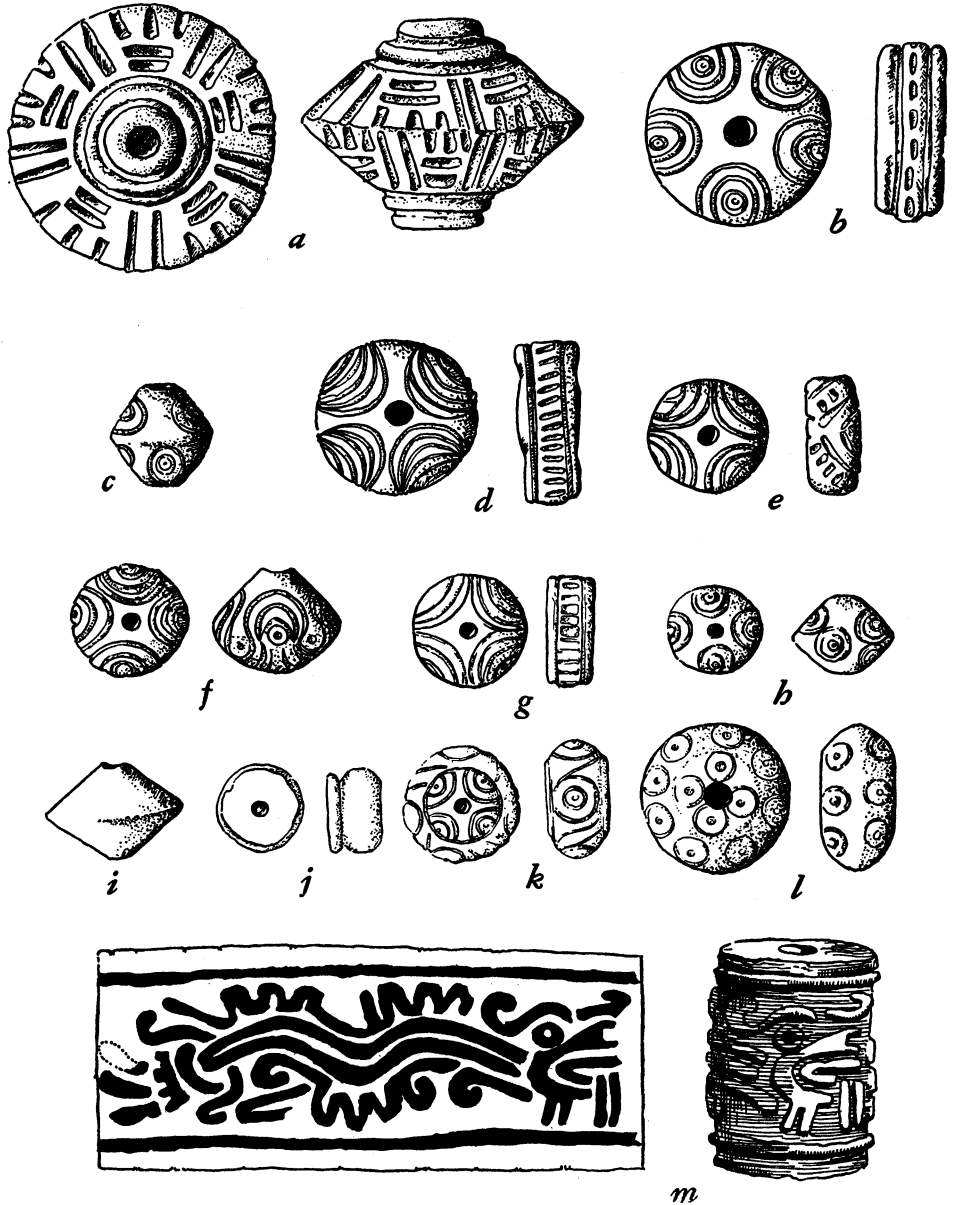


Fig. 19. Spindle whorls and roller stamp. *a*, 8620; *b*, 8621; *c*, 9084; *d*, 9080; *e*, 9079; *f*, 9081; *g*, 9086; *h*, 9085; *i*, 9082; *j*, 9078; *k*, 9083; *l*, 9077; *m*, 9076. *j*, *l*, stone; others pottery. Provenience: *a*, *b*, site 13; *c*-*m*, site 14. Five-sixths nat. size.

(9122), and a short, cylindrical piece with constricted center portion (9121) which was apparently a connecting link between two parts of some object. Site 16 yielded a sherd which may be part of a melon-shaped vessel (8740), site 15 (upper) the distal part of a tripod (?) support (8176). Two cylindrical fragments (8685, 8686) come from site 16. The one of lesser diameter resembles two objects from site 12 (9713, 9714) which Mr. Hugo Moedano has suggested may be parts of toy model

beds. From site 11 come four objects (9027, 9063, 9064, 9066) which may be parts of images; 9066 appears to have had a tapering spout, indicated by a perforation and converging walls.

STONE ARTIFACTS

Most stone artifacts collected were fragmentary pieces, chiefly obsidian. Two damaged, plain, three-quarter grooved axes were found at site 14: one (fig. 20, *b*) lacks a poll, the other (fig. 20, *d*) has a broad, flat poll. A third three-quarter

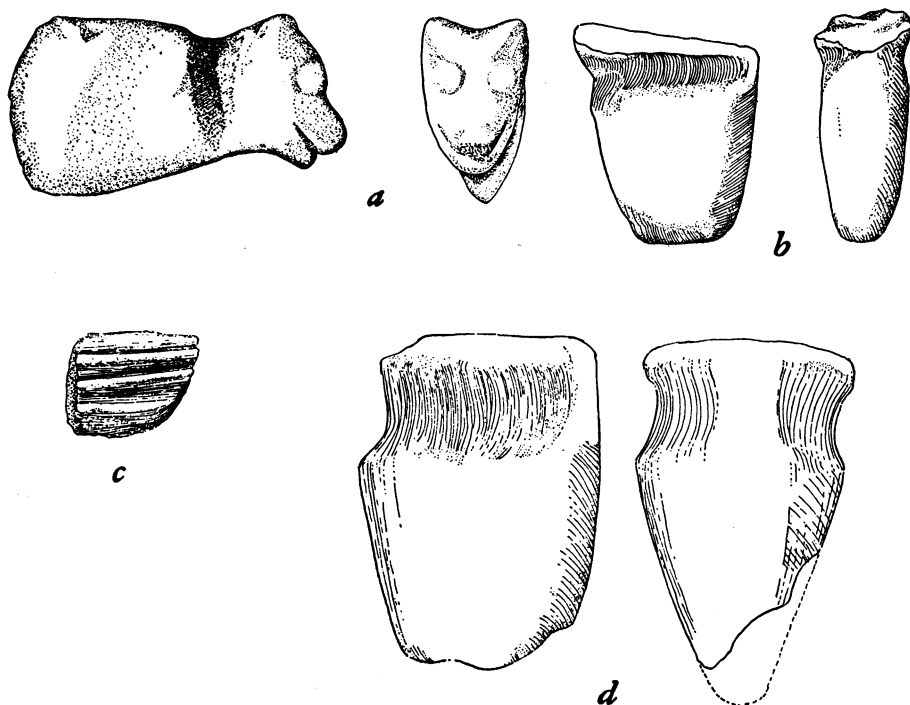


Fig. 20. Stone axes and fragment of bark mallet. Axes: *a*, 9092; *b*, 9094; *d*, 9093. Mallet: *c*, 9856. Provenience: *a*, *b*, *d*, site 14; *c*, site 3. One-half nat. size.

grooved specimen (fig. 20, *a*), found by Professor Parra at the foot of the north stairway of the Toriles pyramid, has a poll in the form of a mammal head. It belongs to the Aztatlán complex of the Middle period. According to Professor Howel Williams, all three axes are of porphyritic pyroxene andesite. Ekholm suggests that "the three-quarter grooved style probably came from the Southwestern United States, spreading down into Mexico."²²

A small, ribbed fragment of volcanic ash from site 3 (fig. 20, *c*) suggests the supposed Mexican bark mallets or shredders pictured by Kelly,²³ as well as two shown by Lothrop from Zacualpa, Guatemala.²⁴ It is also reminiscent of the tapa beater from Celebes pictured by Kennedy.²⁵

Two stone spindle whorls from site 14 are shown in figure 19, *j*, *l*.

²² *Ibid.*, p. 107.

²³ Kelly (1938), p. 61, fig. 27; (1947), p. 133, fig. 76, pl. 19.

²⁴ Lothrop, fig. 56.

²⁵ Kennedy, fig. 2, *a*.

A lava hammer with a girdling groove was found in the hilltop area near Chapallilla which I have called site 16. It was a large piece, the size of two fists.

Metate and mano fragments were scarce; because of their weight none were brought home. At site 16 I found part of a lava metate with two cylindrical legs only 25 mm. long. It is probably of the four-legged type shown in Kelly's Chametla.²⁶ On the surface of site 4 a lava metate fragment without trace of legs was seen; it was not apparent whether the complete metate had legs or not. A couple of metate fragments were also seen at site 11.

A mano fragment of vesicular lava was found at site 11. The fragment was probably between one-half and two-thirds of the original length of the mano; the width was 83 mm., the thickness in the center 38 mm. It was flat on one face, convex on the

TABLE 3
STONE ARTIFACTS

Artifacts	Sites																		
	1	2	3	4l	4u	5	6	7	8	9	10	11	12	13	14	15l	15u	16	
Retouched obsidian points.....							x			x	x		x						
Prismatic-flake knives, obsidian.....							x	x	x			x	x	x				x	
End scraper, obsidian.....														x					
Three-quarter grooved axes.....																			x
Spindle whorls.....																			x
Bark beater.....				x															
Lava hammer, encircling groove.....																			x
Metates.....																			x
Manos.....													x	x					

other. Both sides were smooth, the convex face being especially so; perhaps both faces had been used. One small, nearly square, lava mano was seen at site 12.

Fragments of obsidian were seen at all sites. Definitely identifiable artifacts of this material comprised (1) fragments of prismatic-flake knives and two cores (9096 and 9097) from which such knives had been struck (site 14); and (2) retouched points, all two-edged, ranging in size from a probable arrow point to a large knife point or spearhead. Most obsidian artifacts were incomplete, lacking base or point or both. Three end scrapers were found at site 12; a complete one is shown in plate 29, *d*. Plate 29, *g* shows the basal portion of a large obsidian knife, plate 29, *h* a smaller knife; both are from site 12. Plate 29, *e* shows all but the base of an allover chipped point, whether of knife or projectile is not clear; it is from Early site 9, the gift of Professor Parra. The fragment from site 12 (pl. 29, *f*) has basal side notches, although the proximal portion of the base is missing. One worked flake of red obsidian (specimen 8309) was obtained at site 10.

It is interesting to note that none of the pure Early sites (sites 1, 2, 4 [lower], 8, 9, and 13) yielded prismatic flakes or three-quarter grooved axes. Perhaps these absences are of temporal significance. In her Chametla paper Dr. Kelly speaks of the "single-blow blades" as "apparently a later vogue" than the retouched blades.²⁷ Probably the retouched blades in the Ixtlán region are to be attributed to Middle or Late periods. The blades show two types of transverse cross sections, triangular

²⁶ Kelly (1938), pl. 22, *h*, *i*.

²⁷ *Ibid.*, p. 61.

and trapezoidal, with some pieces showing both types. I am inclined to think that these differences are a matter of the nature of the material and the fracturing technique. Both triangular and trapezoidal types are represented in 16 specimens from site 14; 4 specimens from site 10; 4 specimens from site 12; and 2 specimens from site 11. A single specimen from site 5 is trapezoidal; single specimens from sites 6 and 7 are triangular.

Plate 30 shows two small stone figurines in the Matthews Collection. Specimen 3650 (pl. 30, *a*) is attributed to Ixtlán in the collector's list; for specimen 3651 (pl. 30, *b*) no provenience is given, but it appears to be of the same type as 3650. Both are carved in hard volcanic stone, presumably andesite. My guess is that they date from the Early period and that they are the stone counterparts of the pottery figurines.

In the chamber of commerce in Ixtlán del Río are three stone specimens (pl. 29, *a, b, c*) said to have been excavated from the earth fill between the two circular walls of the pyramid at site 14. Two are ponderous "spearheads," the larger 500 mm. in length and 50 mm. in maximum thickness (not width). Mr. Paredes stated that these were made of sedimentary stone. The third specimen at the chamber of commerce is a whitish stone piece 50 mm. thick, perhaps representing a squirrel. Unfortunately, the muzzle is broken off. The front paws are held close together against the chest with the "hands" down.

CONCLUSION

In 1932, Noguera mapped the Ixtlán region within his Tarasca ceramic area²⁸ but remarked upon the ceramic varieties in various regions, such as Nayarit and Colima. Kirchhoff²⁹ also recognized these local differences, especially in the types of pottery figurines; for example, those from Nayarit, Michoacán, and Colima.

The following chronological alignment seems warranted by the comparison of Ixtlán material with the cultural horizons of Guasave, Culiacán, Chametla, and Autlán, described in various publications. The area included in the following tabulation extends from Guasave, Sinaloa, in the north, to Autlán, Jalisco, in the south.

My three Ixtlán periods may possibly be equated elsewhere with more periods than I have indicated. Only excavation in the Ixtlán region will settle this. Thus, Late Ixtlán may correspond to Late, Middle, and (or) Early Culiacán 1; Early Ixtlán may correspond to Middle, as well as Early, Chametla. My alignment of the Late period at Ixtlán with that of Autlán is primarily based on the co-occurrence of the white-on-red ware and of rim types which Kelly states prevailed down to the Conquest. My alignment of Early Ixtlán and Early Chametla is based primarily on the biface polychrome wares.

The Aztatlán alignment in four areas speaks for itself. The Aztatlán complex has indeed a wide distribution, as Sauer and Brand suspected. It is now reported from Guasave on the Río Sinaloa in the north, through coastal Sinaloa and coastal Nayarit, to the Río Grande de Santiago in the south, thence across the divide into the hill country of the Río Ahuacatlán around Ixtlán del Río. Dr. Kelly, moreover, writes: "Along most of the Jalisco coast there is an assemblage of wares which, although far from identical, may relate to the Aztatlán complex."³⁰ The wide distribution of the Aztatlán complex may imply a correspondingly long period for

²⁸ Noguera, map, p. 18.

²⁹ Toscano, Kirchhoff, and Rubín de la Borbolla, pp. 49-69.

³⁰ Kelly (1945a), p. 120, n. 52.

the spread of its characteristic traits, although Ekholm thinks that this spread began no earlier than 1300 A.D.³¹ and that "the Aztatlán complex culture existed in Sinaloa at about 1350 A.D." The place of origin of this complex is not apparent, but its absence from the pure Early-period sites and strata of the Ixtlán area is chronologically significant. Presumably it appeared about the same time in the Ixtlán region and in Sinaloa. This would align it chronologically with the Aztec II period, which Vaillant states began "at 1299 A.D." The presence of the Aztatlán complex in

TABLE 4
RELATIONS OF IXTLÁN CULTURE HORIZONS

Guasave	Culiacán	Chametla	Ixtlán	Autlán
Aztatlán complex	Late Culiacán		Late Period	Late Period (Autlán complex)
	Middle Culiacán			
	Early Culiacán 1	Late Chametla 1 (El Tase-Mazatlán)		
	Early Culiacán 2 (Aztatlán complex)	Late Chametla 2 (Aztatlán complex)	Middle Period (Aztatlán complex)	
		Middle Chametla		
		Early Chametla	Early Period	

the Ixtlán region confirms Ekholm's theory of the route by which the bearers of this culture may have entered the west coast region, if there was an actual migration.

My alignment of Early Chametla with Early Ixtlán also corresponds to Ekholm's findings. He states: "At Ixtlán, Nayarit, we found a few sherds with decoration resembling that of Early Chametla polychrome,"³² and he tentatively fits Early Chametla into the central Mexican sequence thus: "Early Chametla is perhaps contemporary with the Late Teotihuacán phases of Central Mexico." Therefore, by implication, Early Ixtlán with its figurine complex may be considered contemporaneous with Late Teotihuacán.

Thus it appears from my comparisons that the culture of the Ixtlán del Río region is linked with the Nayarit-Sinaloa coastal cultures of the north and with the Autlán-Tuxcacuesco cultures of the south. Ixtlán connections of the Early and Middle periods are with the north; of the Late period, with the south. Ixtlán, however, possesses much that is unique.

³¹ Ekholm, p. 130.

³² *Ibid.*, p. 125.

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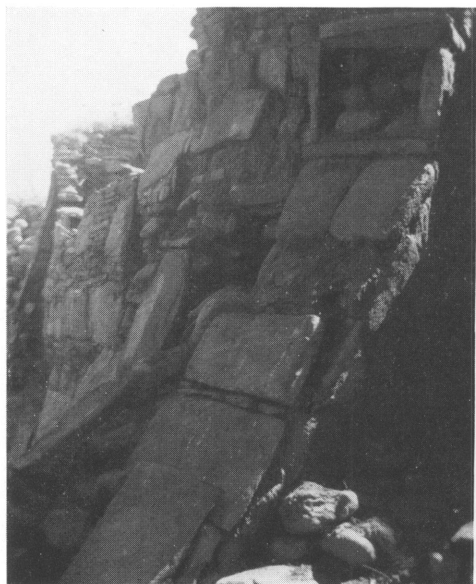
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PLATES

PLATE 1

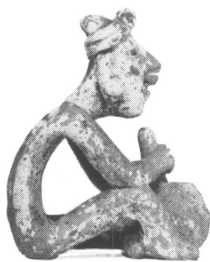
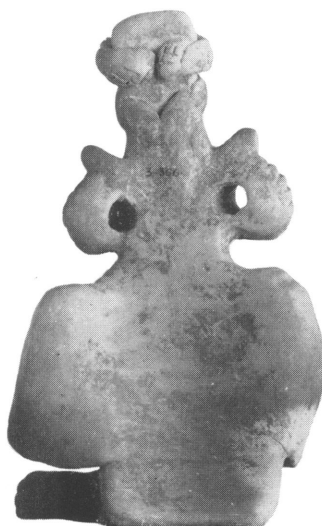
Site 9 and pyramid at site 14. *a.* Villita, a stratified site (site 9) on the west side of the south end of Francisco I. Madero Street, Ixtlán del Río. The separation between the pumaceous overburden and the brown lower stratum is plainly shown. The building at the upper right is a tannery. *b.* Terraces of the pyramid at site 14, viewed from the west. The modern roof protecting the stairway appears at the left. *c.* The left side of the stairway at site 14. *d.* The right side of the stairway at site 14. An engraved slab of red lava, now cracked, rests against the bottom of the balustrade.

*a**b**c**d*

Site 9 and pyramid at site 14

PLATE 2

Early monochrome figurines. *a*, 3676, height 121 mm.; *b*, 3603, height 268 mm.; *c*, 3664, height 272 mm.

*a**b**c*

Early monochrome figurines

PLATE 3

Early bichrome figurines. *a*, 3672, height 239 mm.; *b*, 3601, height 224 mm.

*a**b*

Early bichrome figurines

PLATE 4

Early bichrome figurine, 3606, height 549 mm.



Early bichrome figurine

PLATE 5

Early bichrome and trichrome figurines. *a*, 3607, height 215 mm.; *b*, 3609, height 122 mm.; *c*, 3590, height 159 mm.



a



b

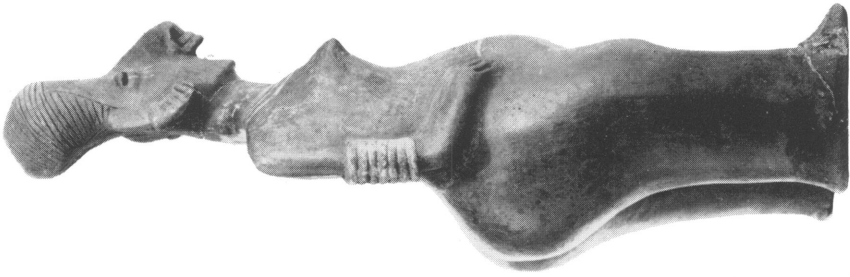
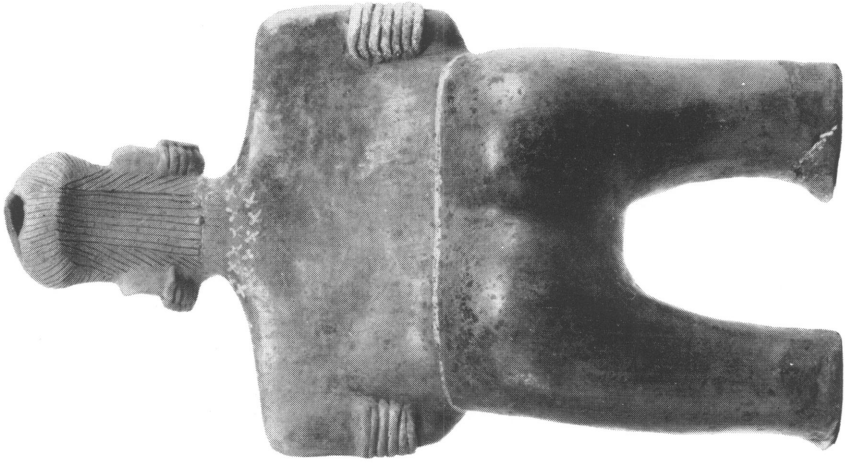


c

Early bichrome and trichrome figurines

Early trichrome figurine, 3611, height 525 mm.

[GIFFORD] PLATE 6



Early trichrome figurine

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PLATE 7

Early trichrome figurines. *a*, 3595, height 193 mm.; *b*, 3671, height 341 mm.; *c*, 3605, height 399 mm.



a



b



c

Early trichrome figurines

PLATE 8

Early trichrome figurines. *a*, 3608, height 314 mm.; *b*, 3666, height 185 mm.; *c*, 3596, height 141 mm.

*a**b**c*

Early trichrome figurines

PLATE 9

Early tetrachrome figurine, 3602, height 192 mm.

[GIFFORD] PLATE 9



Early tetrachrome figurine

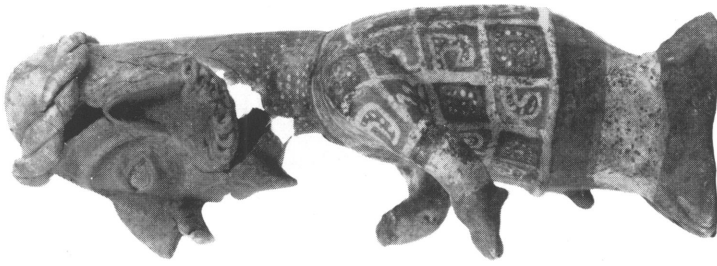
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PLATE 10

Early tetrachrome figurine, 3599, height 413 mm.

[GIFFORD] PLATE 10



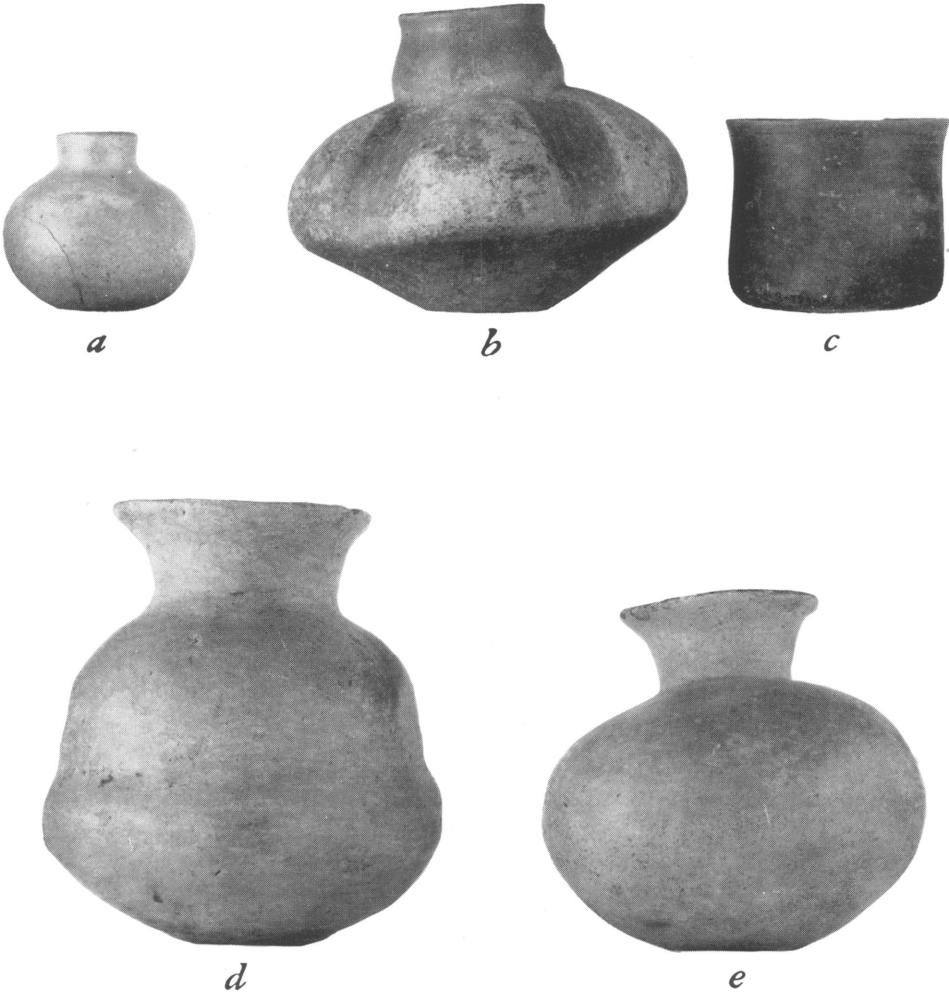
Early tetrachrome figurine



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PLATE 11

Early plain and bichrome pots. *a*, 3648, height 85 mm.; *b*, 7936, same scale as *c*; *c*, 7932, height 92 mm.; *d*, 7935, same scale as *e*; *e*, 7937, height 168 mm. Provenience: *b-e*, site 9.



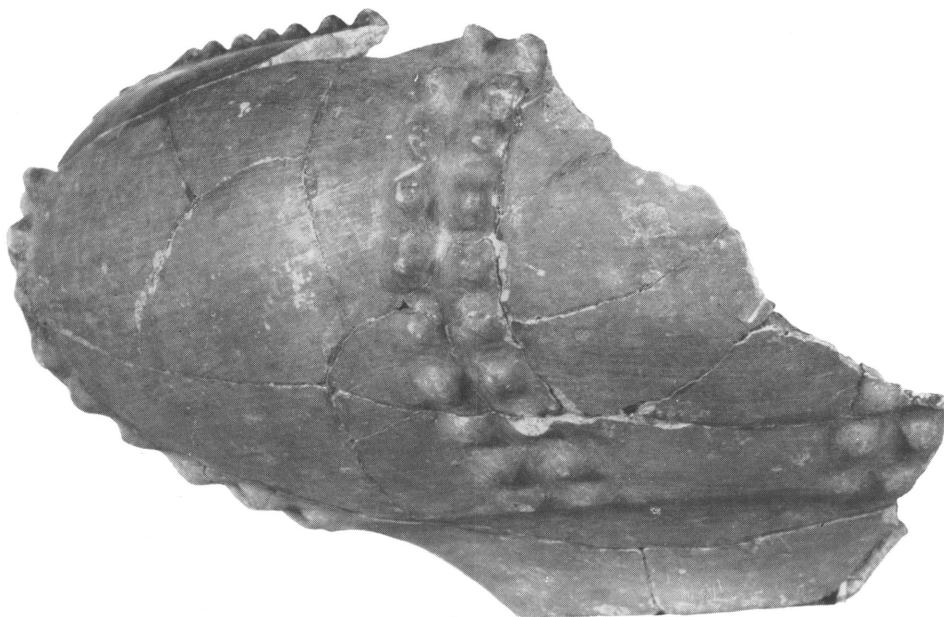
Early plain and bichrome pots

PLATE 12

Early nubbin ware. *a*, 3649, height 60 mm.; *b*, 8646, height 131 mm. Provenience: *b*, site 1.



a



b

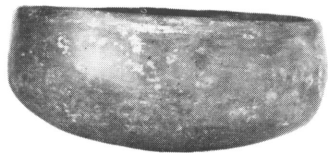
Early nubbin ware

PLATE 13

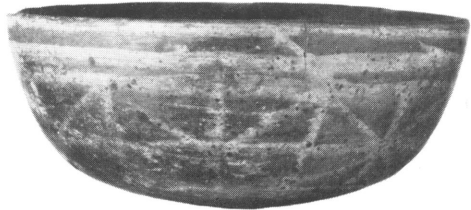
Early buff-on-red bowls. *a*, 3629, height 52 mm.; *b*, 3622, height 49 mm.; *c*, 3645, height 67 mm.; *d*, 3634, height 81 mm.; *e*, 3646, height 82 mm.



a



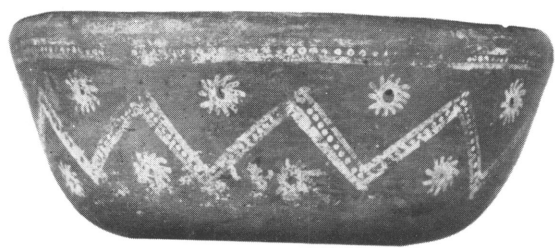
b



c



d

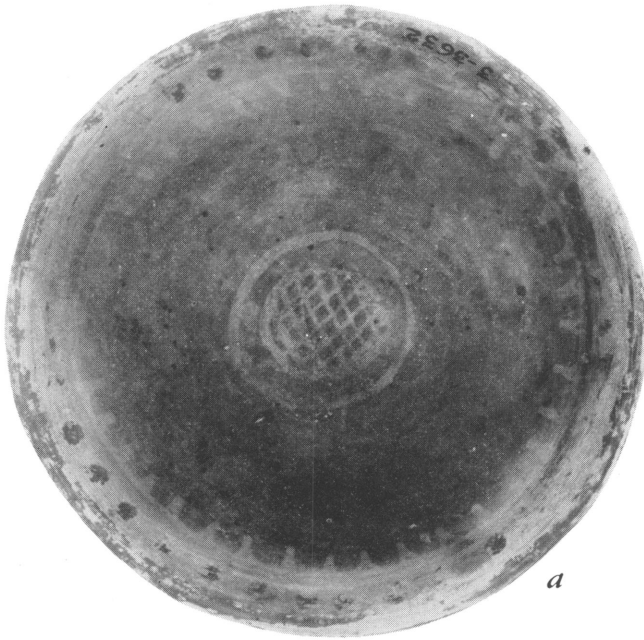
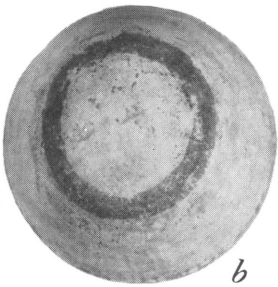
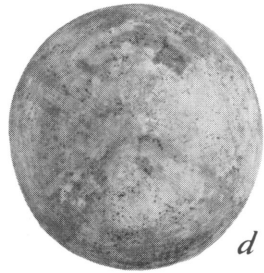
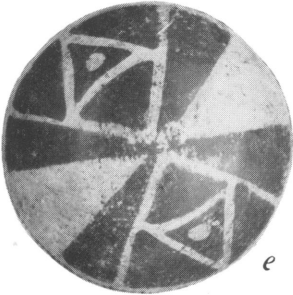
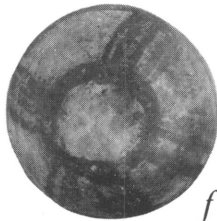
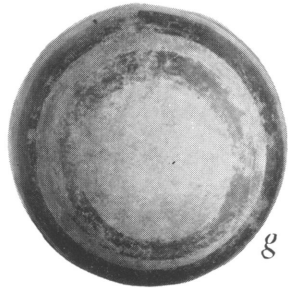


e

Early buff-on-red bowls

PLATE 14

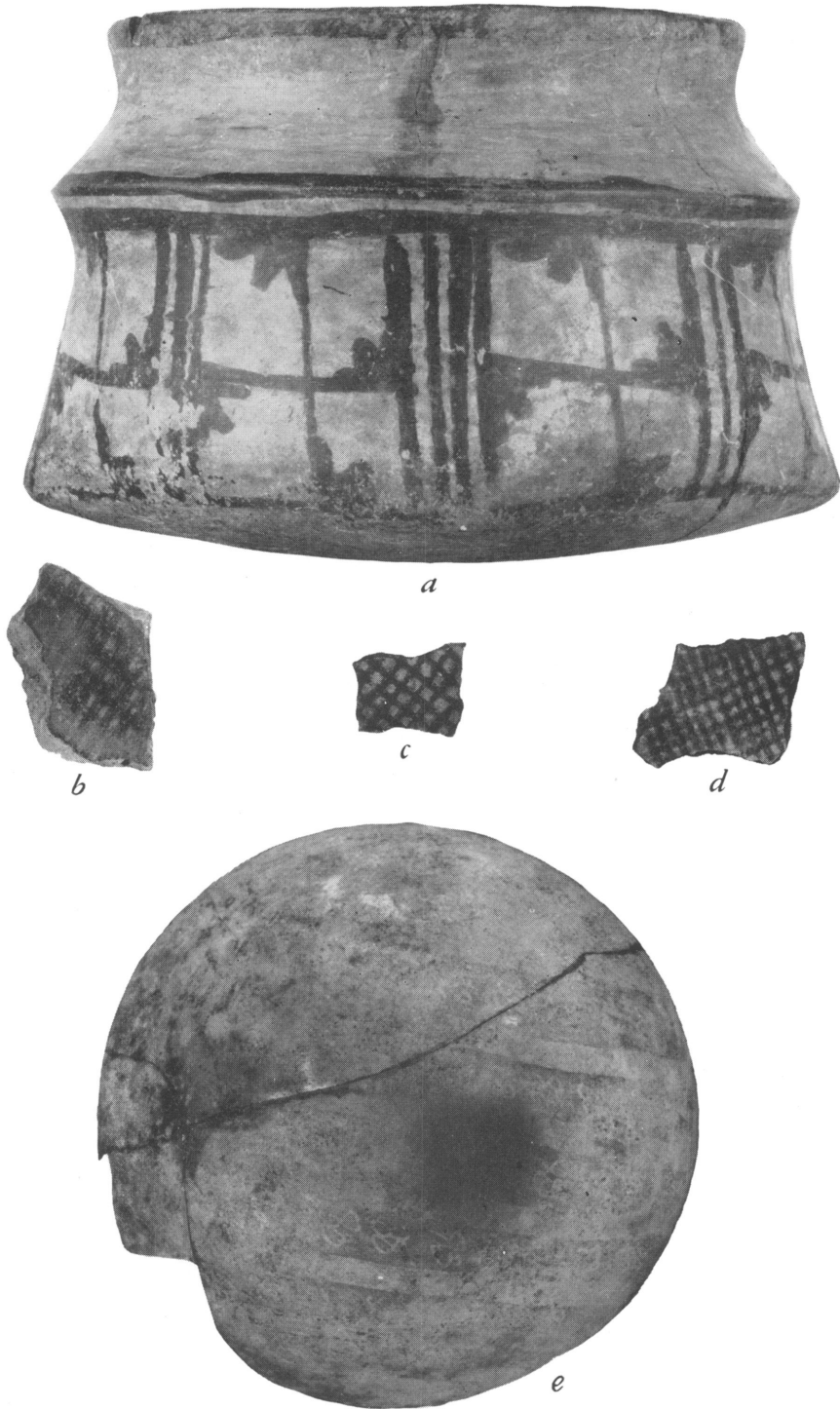
Early red-on-buff bowls. *a*, 3632, diameter 116 mm.; *b*, 3617;
c, 3644; *d*, 3623; *e*, 3614; *f*, 3615, diameter 93 mm.; *g*, 3625.
 Diameters of *b-e*, *g*, same scale as *f*.

*a**b**c**d**e**f**g*

Early red-on-buff bowls

PLATE 15

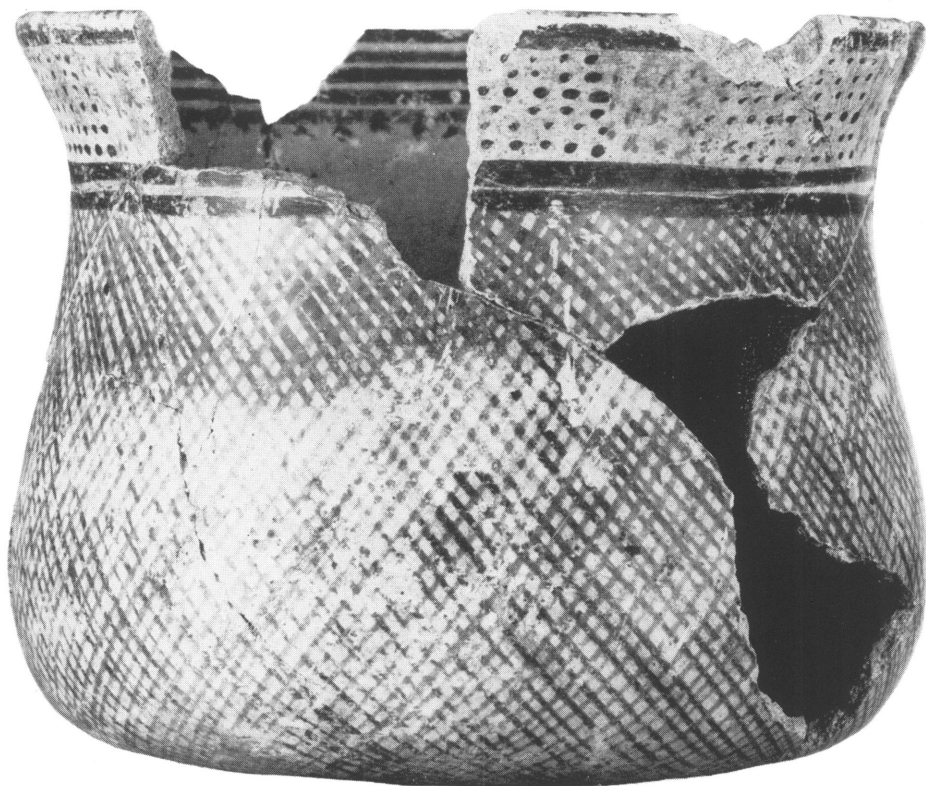
Early red-on-buff and negative-patterned wares. *a*, 8173, height 111 mm.; *b*, 8659, greatest length 64 mm.; *c*, 8593, same scale as *b*; *d*, 8594, same scale as *b*; *e*, 3619, diameter 150 mm. Provenience: *a*, site 2; *b*, site 1; *c*, *d*, site 13.



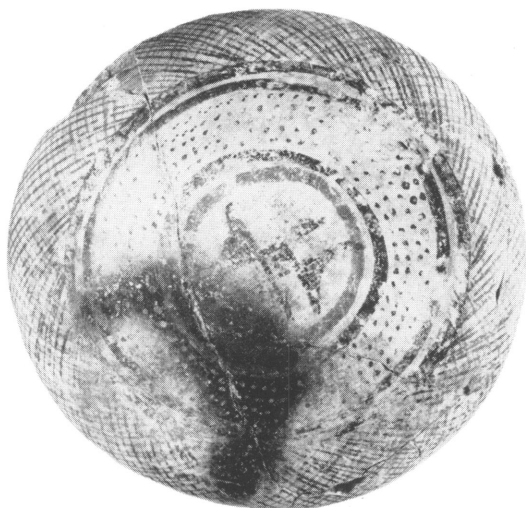
Early red-on-buff and negative-patterned wares

PLATE 16

Early uniface polychrome pot, 8645, height 151 mm., diameter 183 mm. *a*, exterior; *b*, bottom. Provenience: site 1.



a

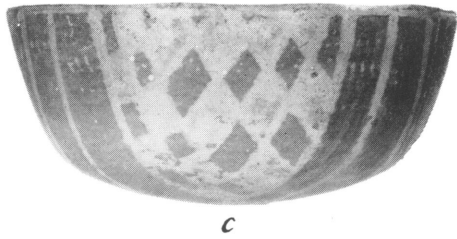
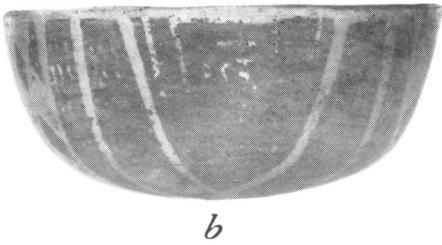
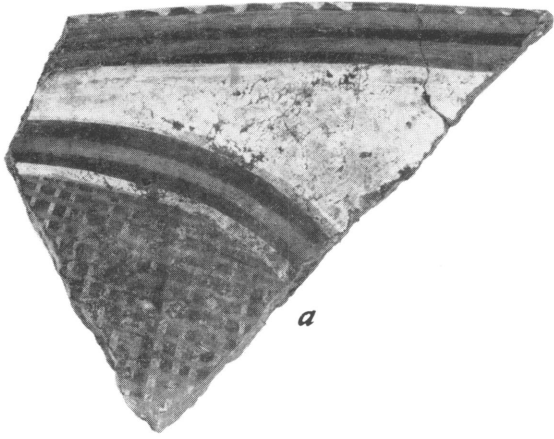


b

Early uniface polychrome pot

PLATE 17

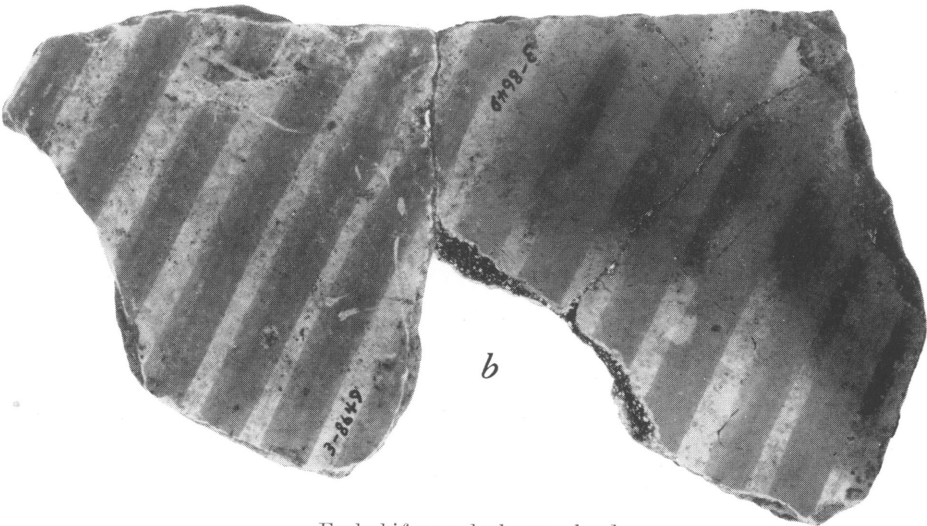
Early uniface polychrome sherd and bowl. *a*, 8675, length along rim 169 mm.; *b-d*, 3627, diameter 117 mm. Provenience: *a*, site 1.



Early uniface polychrome sherd and bowl

PLATE 18

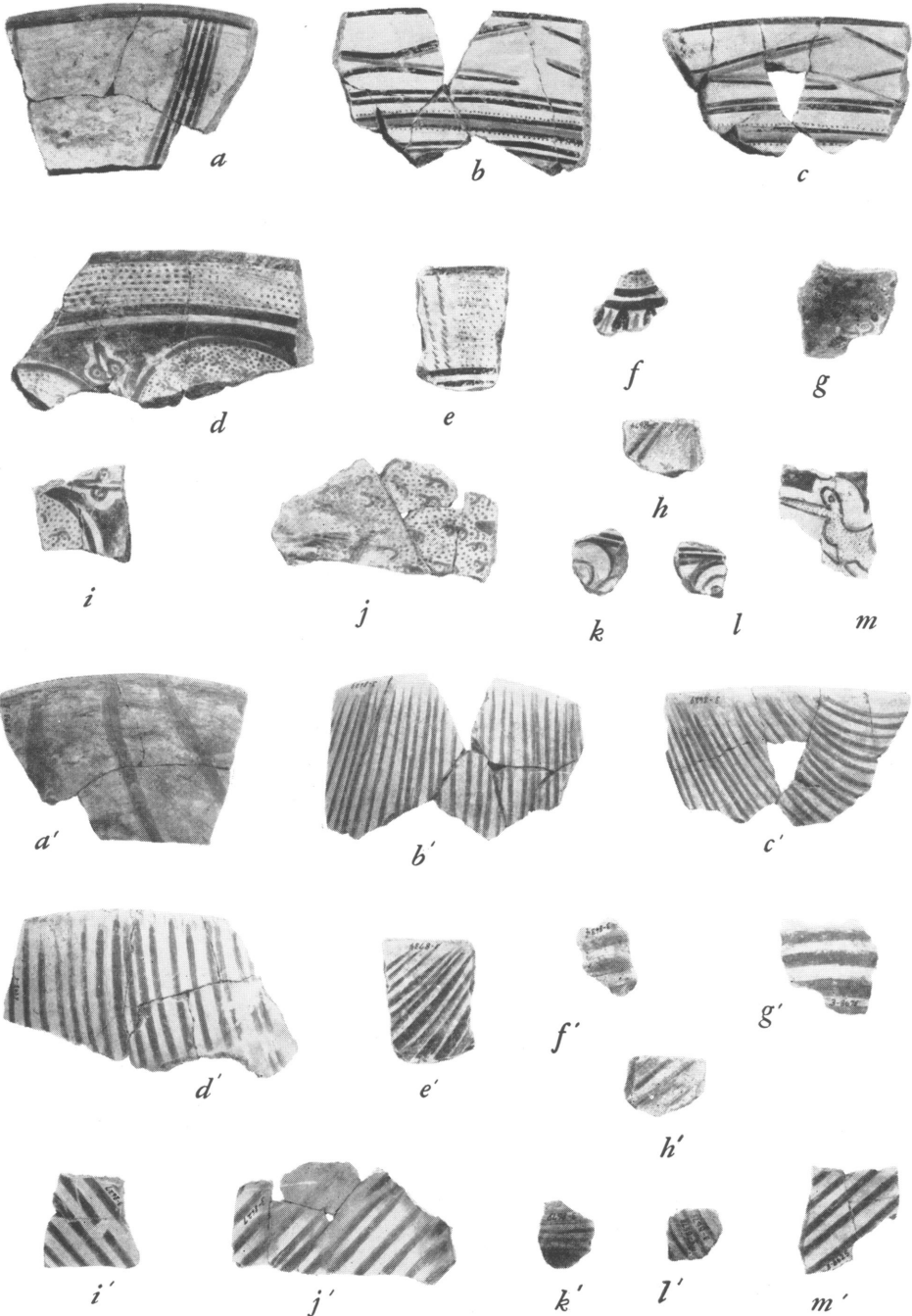
Early biface polychrome sherd, 8649, maximum width from top to bottom 88 mm. *a*, interior, *b*, exterior. Provenience: site 1.



Early biface polychrome sherd

PLATE 19

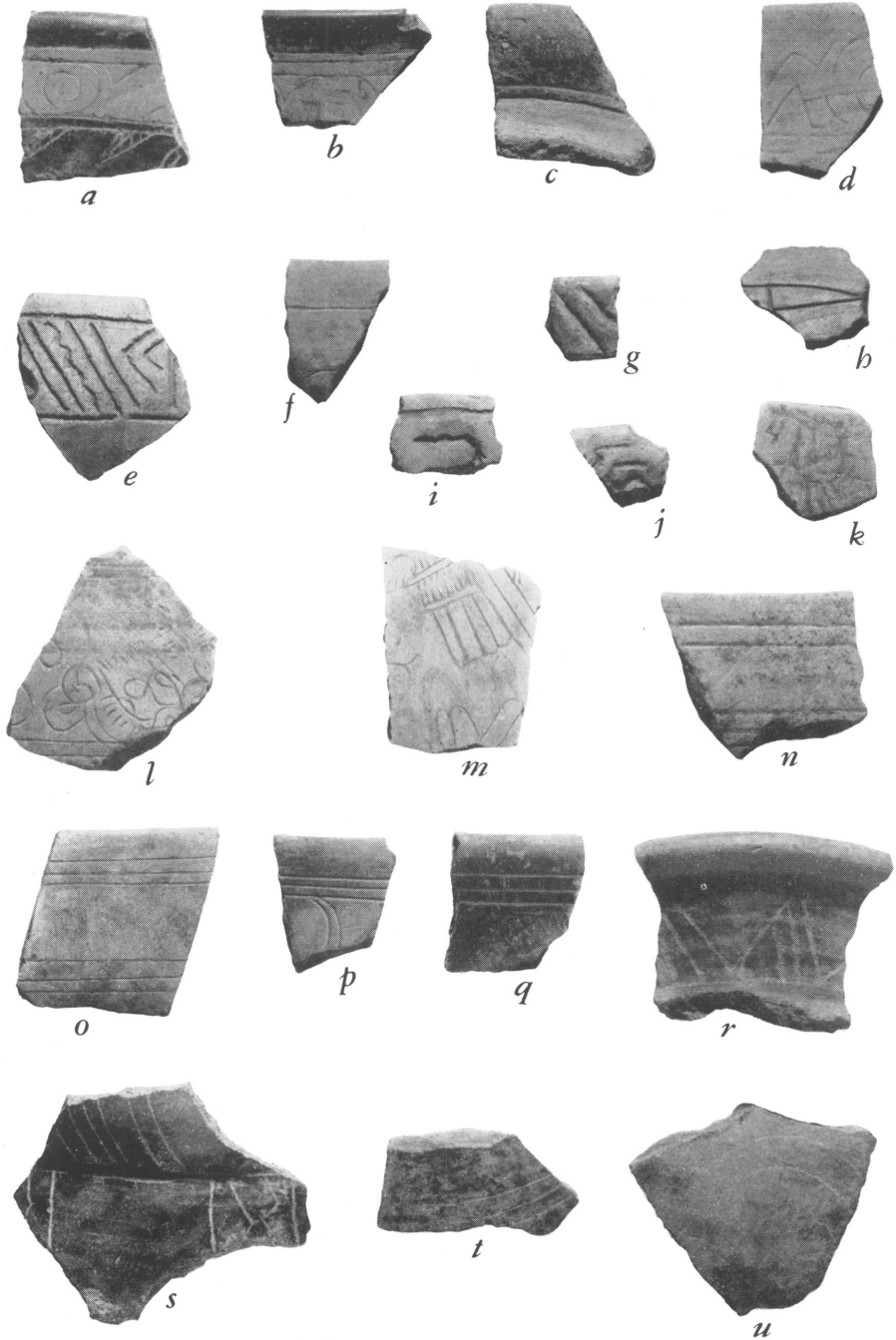
Early biface polychrome sherds. *a-m*, interior. *a'-m'*, exterior.
a, a', 8628, width from rim to inner broken edge 70 mm.; *b, b', c, c'*, 8629; *d, d', i, i', j, j'*, 8627, three sherds; *e, e'*, 8734; *f, f'*, 8634; *g, g'*, 8678; *h, h'*, 8674; *k, k', l, l'*, 8679, 2 sherds; *m, m'*, 8625. *b-m, b'-m'*, same scale as *a, a'*. All sherds from site 1 except *e, e'* from site 16.



Early biface polychrome sherds

PLATE 20

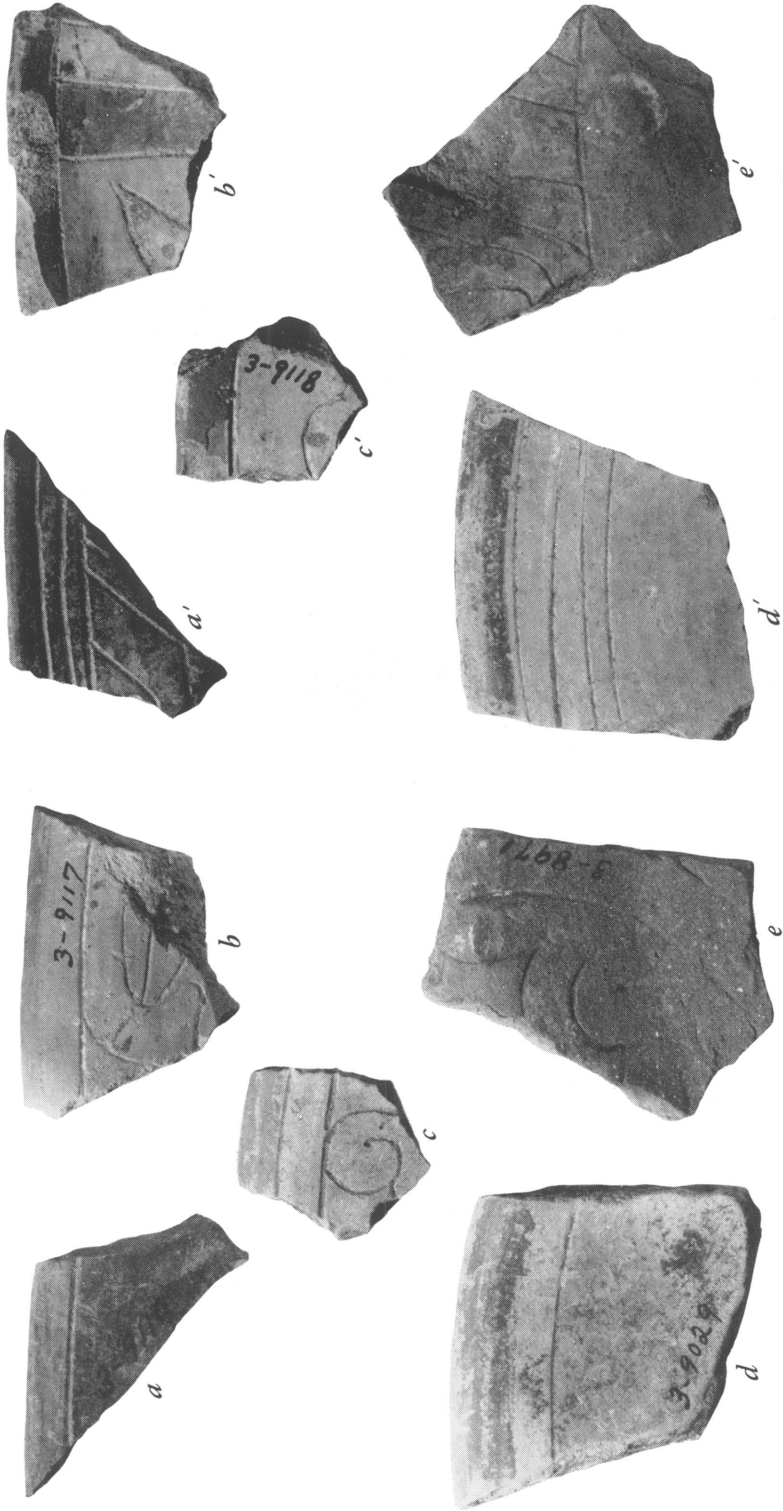
Middle uniface incised sherds. *a*, 9405; *b*, 9116; *c*, 8727; *d*, 9107; *e*, 8353; *f*, 9844; *g*, 8179; *h*, 9113; *i*, 9059; *j*, 8207; *k*, 9112; *l*, 9407; *m*, 9406; *n*, 9115; *o*, 9109; *p*, 9408; *q*, 9409; *r*, 8027; *s*, 8972; *t*, 9111; *u*, 10040. Distance from rim to lowest tip of *e* is 39 mm.; all others to scale. Provenience: *a*, *l*, *m*, *p*, *q*, site 12; *b*, *d*, *h*, *k*, *n*, *o*, *t*, site 14; *c*, site 16; *e*, site 10; *f*, site 3; *g*, *j*, site 15 (upper); *i*, *s*, site 11; *r*, site 4 (upper); *u*, site 6.



Middle uniface incised sherds

Middle biface incised sherds. *a-e*, interior; *a'-e'*, exterior. *a, a'*, 9110; *b, b'*, 9117; *c, c'*, 9118; *d, d'*, 9029; *e, e'*, 8971. Distance from rim to lowest tip of *e, e'*, is 27 mm.; all others to scale. Provenience: *a (a')-c (c')*, site 14; *d (d'), e (e')*, site 11.

[GIFFORD] PLATE 21

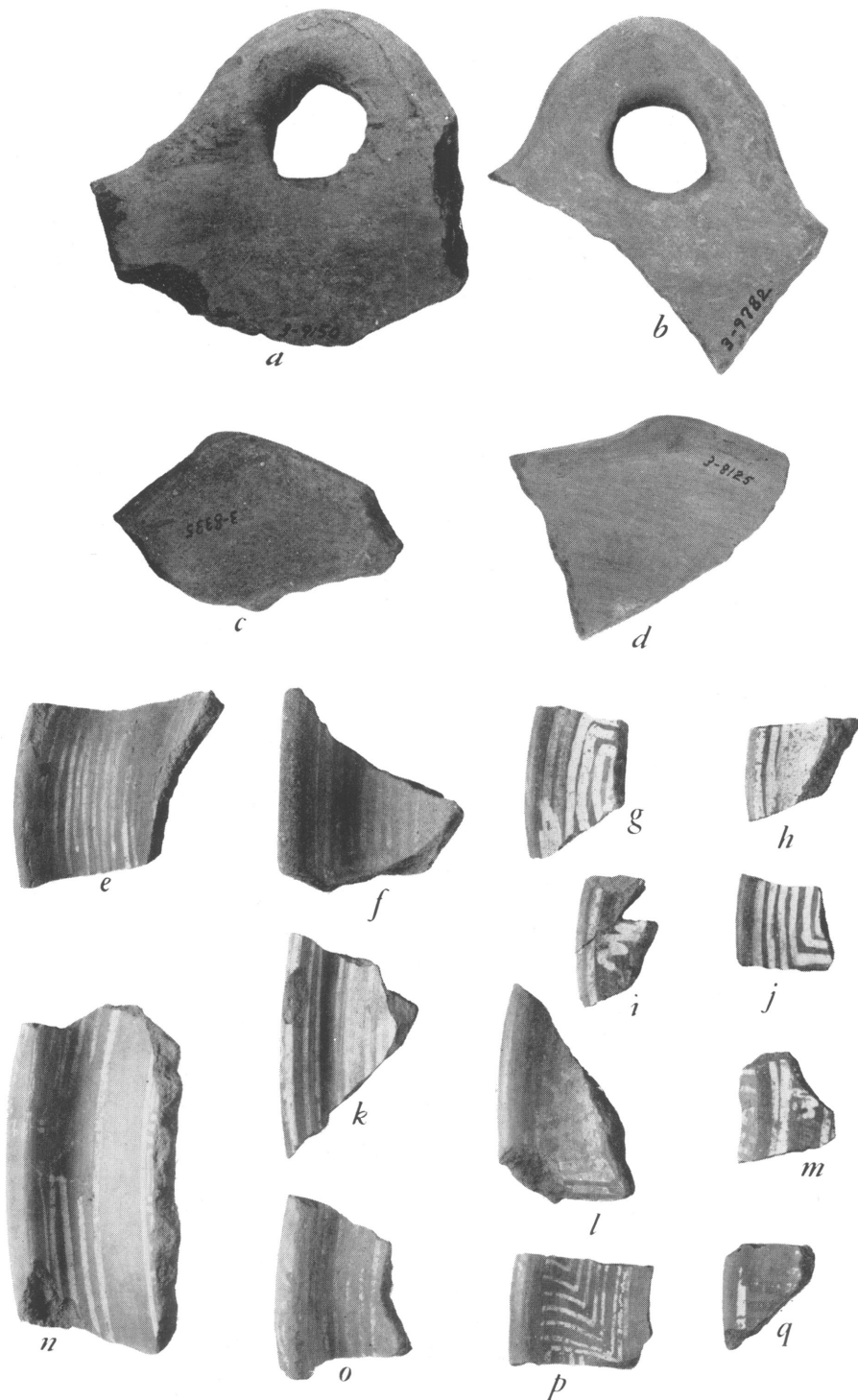


Middle biface incised sherds

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PLATE 22

Late rim sherds. *a*, 9150; *b*, 9782; *c*, 8335; *d*, 8125; *e*, 9180; *f*, 8280; *g*, 9631; *h*, 9189; *i*, 9627; *j*, 9184; *k*, 9031; *l*, 8352; *m*, 9629; *n*, 9982; *o*, 9179; *p*, 9632; *q*, 9635. Distance from top to lowest edge of *a* is 81 mm.; *b-d*, same scale. Provenience: *a*, *e*, *h*, *j*, *o*, site 14; *b*, *g*, *i*, *m*, *p*, *q*, site 12; *c*, *l*, site 10; *d*, site 4 (upper); *f*, site 5; *k*, site 11; *n*, site 6.

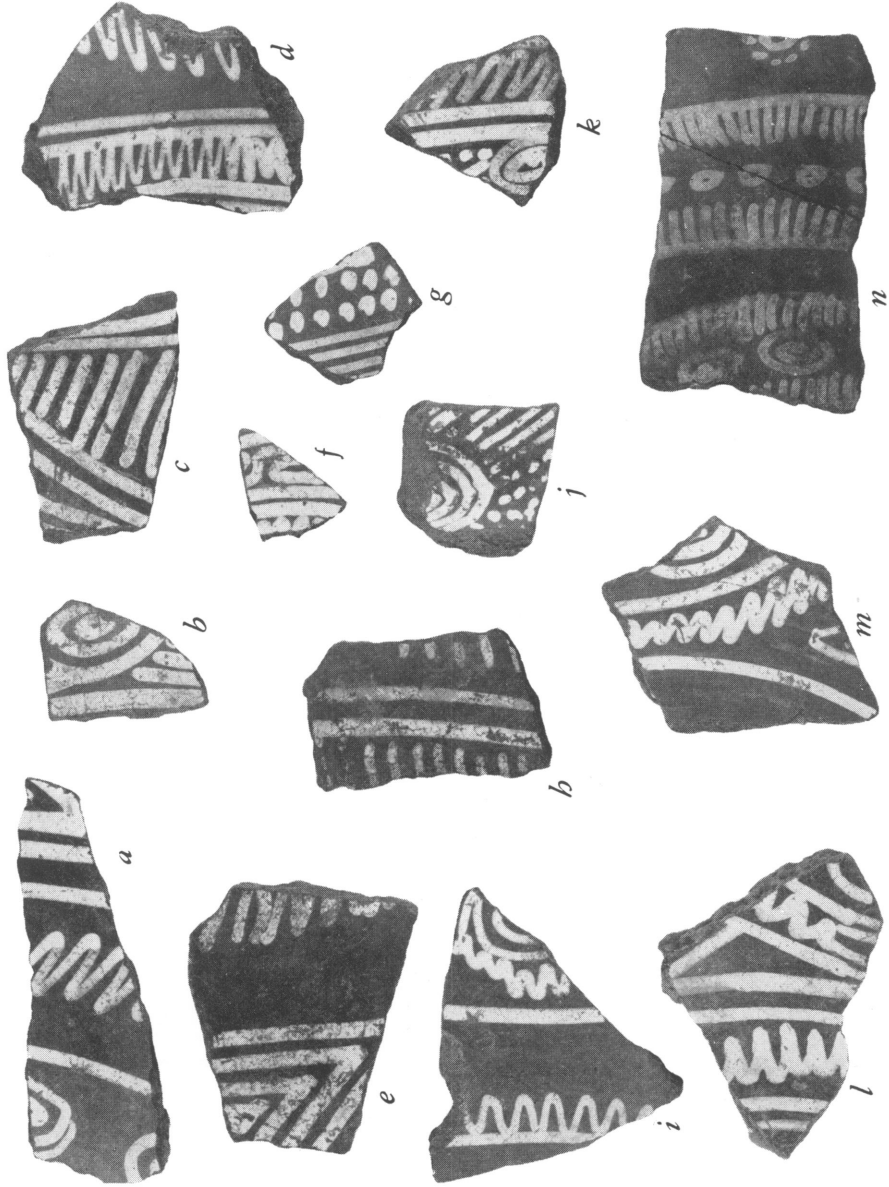


Late rim sherds

Late white-on-red sherds. *a*, 9470; *b*, 9191; *c*, 9549; *d*, 9429; *e*, 9498; *f*, 9192; *g*, 9534; *h*, 9997; *i*, 9433; *j*, 9187; *k*, 9186; *l*, 9515; *m*, 9461; *n*, 9587. Length of *n*, 59 mm.; *a*-*m*, same scale. Provenience: *a*, *c*-*e*, *g*, *i*, *l*-*n*, site 12; *b*, *f*, *j*, *k*, site 14; *h*, site 6.

[GIFFORD] PLATE 23

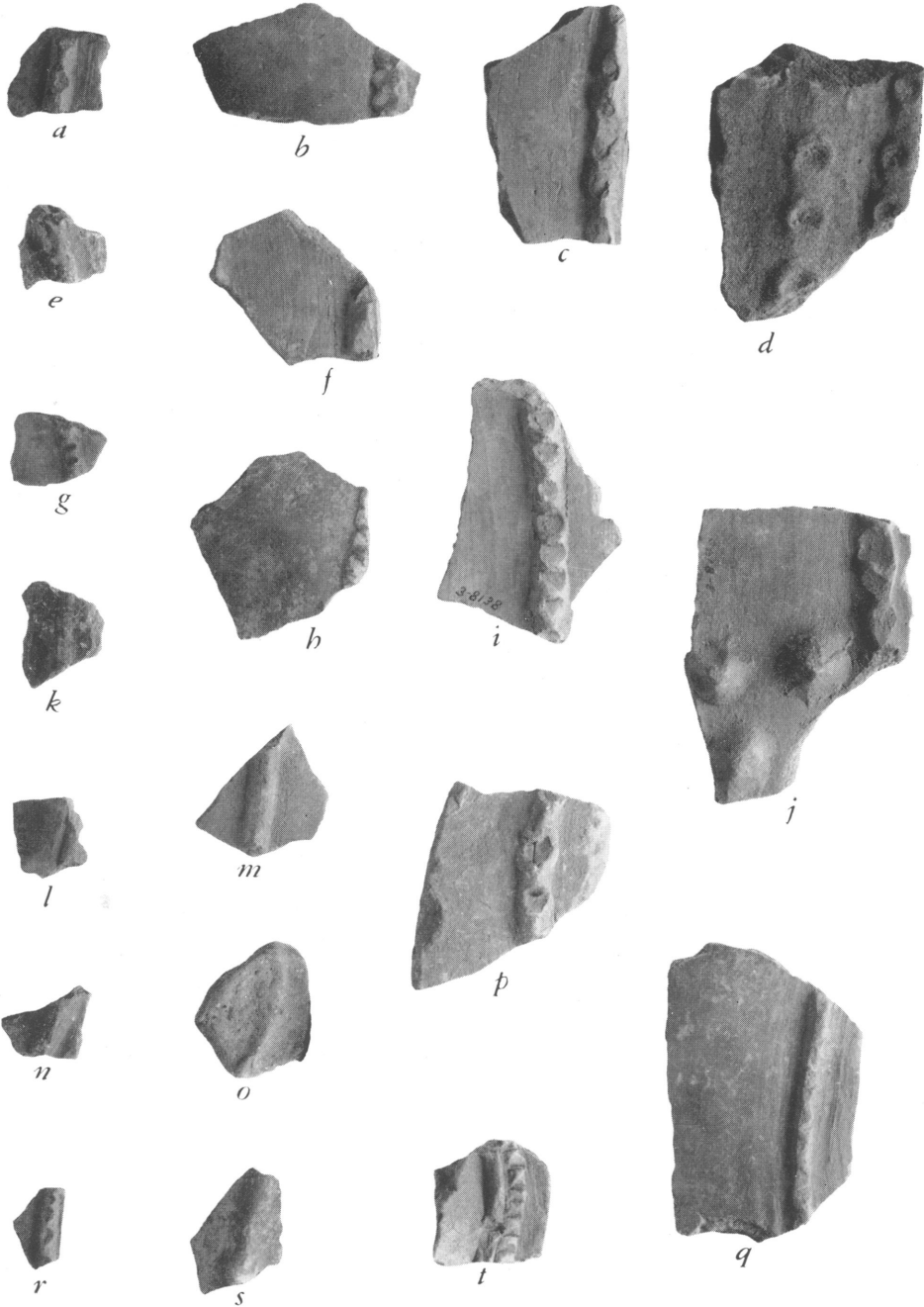
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Late white-on-red sherds

PLATE 24

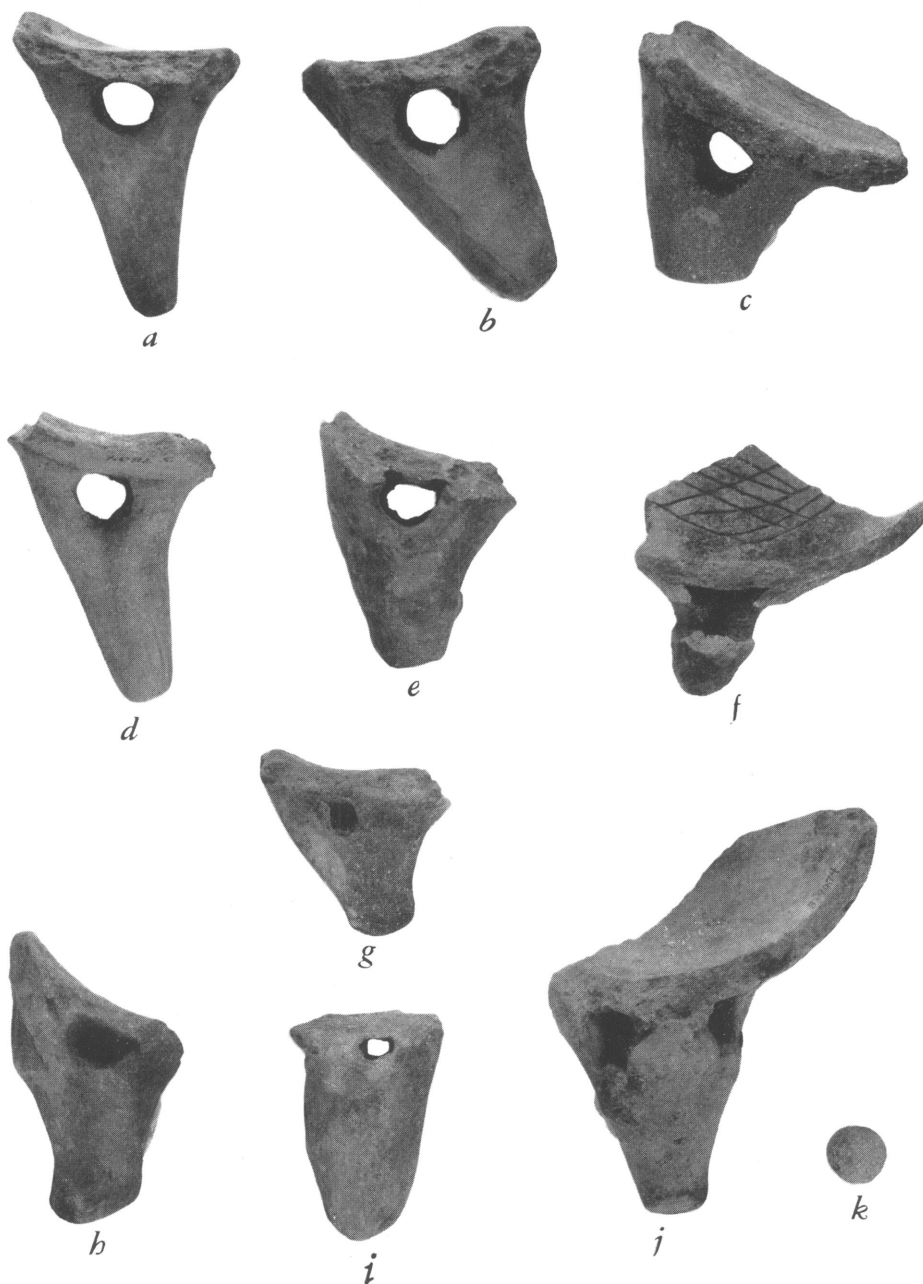
Middle and Late nubbin and flanged sherds. *a*, 10009; *b*, 10006; *c*, 8851; *d*, 8299; *e*, 9717; *f*, 10009; *g*, 8360; *h*, 8139; *i*, 8138; *j*, 8140; *k*, 9661; *l*, 8079; *m*, 8361; *n*, 9239; *o*, 9238; *p*, 9716; *q*, 10007; *r*, 8362; *s*, 8959; *t*, 9119. Distance from rim to lowest edge of *j* is 72 mm.; all others, same scale. Provenience: *a*, *b*, *f*, *q*, site 6; *c*, site 7; *d*, site 5; *e*, *k*, *p*, site 12; *g*, *m*, *r*, site 10; *h*, *i*, *j*, *l*, site 4 (upper); *n*, *o*, *t*, site 14; *s*, site 11.



Middle and Late nubbin and flanged sherds

PLATE 25

Late *molcajete* tripod legs, perforated. *a*, 9947; *b*, 9952; *c*, 9144; *d*, 9804; *e*, 9626; *f*, 9070; *g*, 9808; *h*, 9073; *i*, 8243; *j*, 9074; *k*, 9130 (ball rattle). Length of *i*, 51 mm.; others, same scale. Provenience: *a*, *b*, site 6; *c*, *k*, site 14; *d*, *e*, *g*, site 12; *f*, *h*, *j*, site 11; *i*, site 5.



Molcajete tripod legs, perforated

PLATE 26

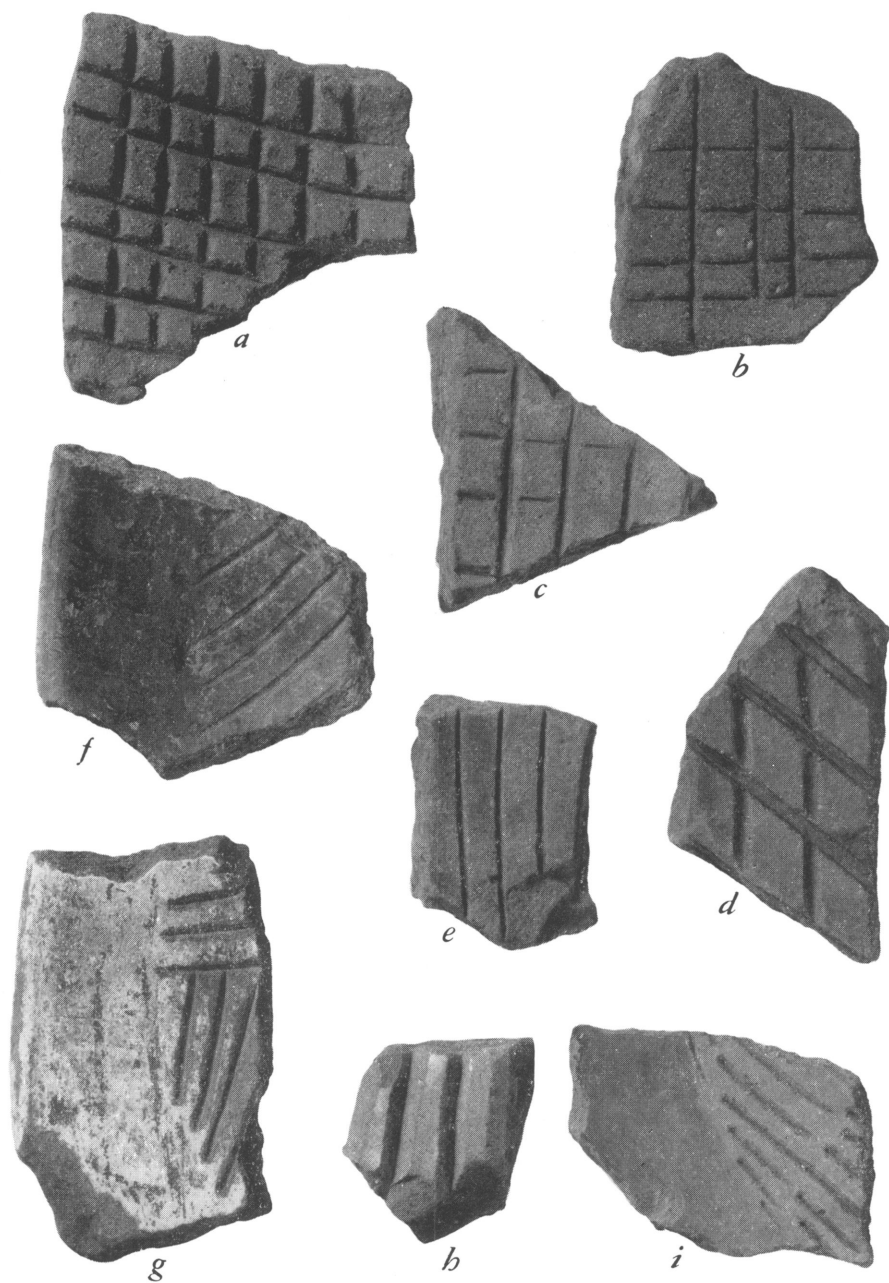
Late and Middle tripod legs, solid. *a*, 9145; *b*, 9950; *c*, 9955; *d*, 8175; *e*, 9953; *f*, 9806; *g*, 9956; *h*, 9784; *i*, 8311; *j*, 9783. Length of *b*, 67 mm.; others, same scale. Provenience: *a*, site 14; *b*, *c*, *e*, *g*, site 6; *d*, site 15 (upper); *f*, *h*, *j*, site 12; *i*, site 10.



Late and Middle tripod legs, solid

PLATE 27

Molcajete floors. *a*, 9937; *b*, 9942; *c*, 9936; *d*, 9798; *e*, 9939; *f*, 9941; *g*, 8857; *h*, 9940; *i*, 9799. Length of *a*, 60 mm.; others, same scale. Provenience: *a-c*, *e*, *f*, *h*, site 6; *d*, *i*, site 12; *g*, site 7.



Molcajete floors

PLATE 28

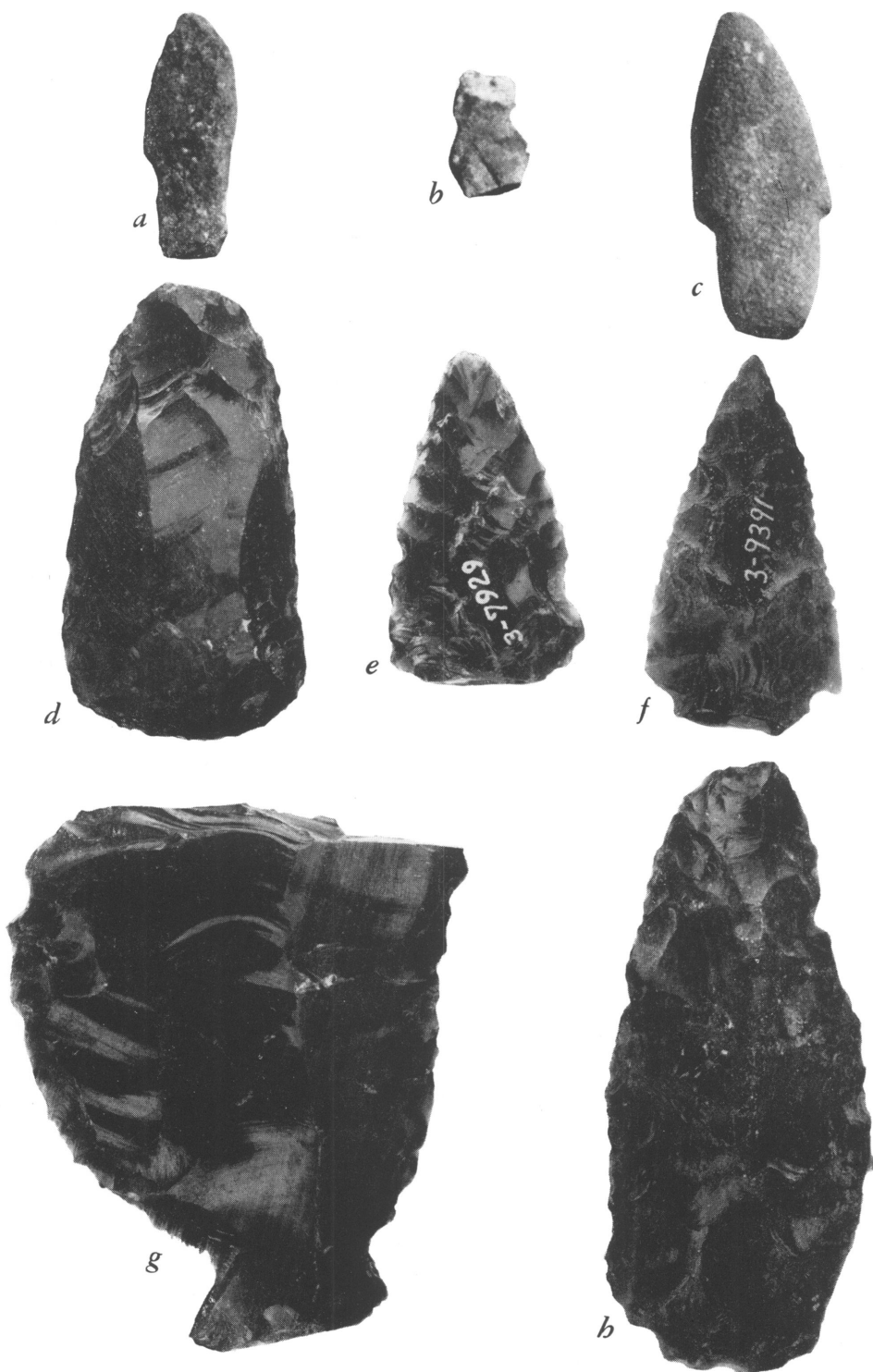
Pottery plaques and solid figurines. *a*, 8583; *b*, 9403; *c*, 9402; *d*, 9105; *e*, 8177; *f*, 9106. Height of *f*, 41 mm.; *a-e*, same scale. Provenience: *a*, site 8; *b*, *c*, site 12; *d*, *f*, site 14; *e*, site 15 (upper).

*a**b**c**d**e**f*

Pottery plaques and solid figurines

PLATE 29

Stone pieces and retouched obsidians. *a, c*, "spear" heads; *b*, "squirrel" figure, facing right; *d, 9387; e, 7929; f, 9391; g, 9400; h, 9388*. Length of *e*, 53 mm.; *d, f-h*, same scale. Provenience: *a, b, c*, in chamber of commerce, Ixtlán del Río; *d, f-h*, site 12; *e*, site 9.



Stone pieces and retouched obsidians

PLATE 30

Early stone figurines. *a*, 3650, height 90 mm.; *b*, 3651, height 135 mm.



a



b

Early stone figurines