Excavation of Mound 7
Gran Quivira National Monument / New Mexico

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The plain ware at Quarai and Abó, like the Las Humanas pottery, is smudged on the inside, and might well be considered the same type, but is distinguishable. The Quarai variety, tempered with calcareous sandstone (Warren, 1937), is a little thinner, is often more red than brown, and is sometimes lightly polished. Occasional more heavily polished pieces are difficult to tell from the Salinas Red ware made at Quarai. Abó plain jars generally have short, sharply everted rims like those on the Puaya and Kotsitini Glaze jars made at the same village, and the common temper is angular quartz and mica. Corona Plain at Tabirá and Pueblo Colorado, close neighbors to Las Humanas and Pardo, is identical upon surface inspection, but both are tempered with quartz rather than felsite.

It is interesting to note that at Tabirá and Pueblo Colorado, a change in temper occurred with the shift from textured surface to plain surface, just as it did at Las Humanas. Pueblo Colorado corrugated and rubbed pots contained calcareous sandstone (trade from Quarai?), and at Tabirá they were tempered with sandstone, crushed limestone, and sherds, and were probably locally made. Revié (1938) observed a change at Unshagi from tuff-tempered corrugated and rubbed pottery to andesite temper in the later smoothed variety.

Remarks:

Twenty of the Corona Plain specimens were discarded jars found in the trash. They were complete enough for some inference as to size and shape. Twenty-one jars and the base of another, apparently used as a bowl, were found on floors of the late rooms. Eight complete pots, found above the timbers in the fill, probably sat on the roof, and 17 others, along with three large sherds that probably served as containers, were recorded only as coming from “room fill.” They, too, probably originated on the roof. Five jars, including one of the miniatures, were burial offerings.

White Ware

Chupadero Black-on-white

For some three centuries, the only decorated white ware known to the southeast borders of Pueblo country was Chupadero Black-on-white. Although it has long been recognized as typical of the area and was first described and named by H. P. Mera in 1931, with subsequent additions and corrections by others, all observations to date have necessarily been based on relatively few sherds collected from the surface or have appeared as traded pottery in excavations in surrounding areas. The nearly 9,000 sherds and 13 restorable vessels from Mound 7—a site where it was manufactured and used in considerable quantity—afford an opportunity for a more detailed study.

As one result of his extensive surveys of New Mexican archaeology, Mera named and described Chupadero Black-on-white as the first ceramic expression of northern Pueblo influence on the heretofore brown-ware, northeastern Mogollon territory of Chupadero Mesa, as well as an influence derived from the Chaco via a still unidentified intermediary type on the Rio Grande. He listed the rough or brushed finish of the exteriors of bowls and the interiors of jars as a distinguishing characteristic. Later, he designated the “intermediary” as Socorro Black-on-white, at home on the west bank of the Rio Grande, where the parent type gradually evolved into Chupadero (Mera, 1935). At this time, he discussed a valley form of Chupadero that

“preserved the parental custom of smoothing the undecorated surfaces of all vessels, in direct contradiction to the exaggerated roughening or brushing of like parts which is so typical for the Chupadero type.” For the variety found in the valley, he used the working, laboratory name of Casa Colorado (sic) Black-on-white, but he did not formally propose it as a type name. He described it briefly as indistinguishable from Chupadero except for the lack of roughened finish.

While sorting the sherds from Mound 7, we separated the scored or roughened sherds from the others and made companions. Of a total of 15,064 sherds with Chupadero paste and paint, just 46 percent exhibited the scored surface. In no other feature were the two groups distinguishable, nor was there any observable change in this relationship from the earliest sources within the mound to the latest levels in which Chupadero was represented as a contemporary type.

A small difference in the two groups—scored versus unscored—does appear in the ratio of bowls to jars. Sixty-nine percent of the scored vessels are jars, as opposed to 77 percent of the smoothed pots. This may be explained by the narrow mouth of the local jars and by the steps taken in the process of Pueblo pottery making. The potter usually adds coils to the prepared base, pinching each to the coil below until the desired size and shape is reached, then she scrapes the surfaces with a piece of gourd rind to obliterate the marks of the coils and her fingers and to produce a uniform thickness to the vessel wall. After drying for a time, the pot is often scraped again (Colton, 1953; Guthe, 1925). The scratches on the undecorated surfaces of Chupadero were made after the scraping process, but while the clay was still wet. Although the additional step of scoring the scraped surface of a bowl could be taken with little danger to the still plastic, unfired pot, the act of reaching through the narrow neck of a deep olla to perform this step could be a delicate process that was often omitted. It is only incidental to the discussion, but the purpose of the scoring is puzzling. It might be considered a form of decoration on bowl exterior, but on the inside of a jar it is not only invisible (the inside of the neck is left smooth), but it would make cleaning more difficult. A final observation makes the conclusion inescapable that Mound 7 Chupadero and Casa Colorado as described by Mera are the same thing—numerous but uncounable jar sherds from Mound 7 have both roughened and unroughened sections (fig. 89, bottom row).

A loophole remains which may permit a Casa Colorado Black-on-white, perhaps as a variety of Chupadero. An examination of the sherd collections made by Mera from the Piro area of the Rio Grande, in which he had identified Casa Colorado
sherd s, revealed sherd s indistinguishable from Las Humanas Chupadero of the scraped variety, except for a slight tan cast to the color of the paste in some and a slip that seemed to be somewhat heavier than the typically thin wash that characterizes the pottery from Chupadero Mesa. We found 16 similar sherd s in the collection from the Mound 7 work and probably would have picked out more but for the fact that some of the sorting had been completed before we had seen the sherd s from the river valley. But until someone, through excavation, can demonstrate the error, I am content to consider these as Chupadero Black-on-white made from clay from a different pit.

Range:

The hearth area, the country in which the pottery was made, was apparently confined to Chupadero Mesa itself, the adjacent portions of the northern Tularosa Basin, the upper Jornada del Muerto, and probably on the Rio Grande between Belén and Socorro, but it was widely traded—in greatest quantity to the south, and in greatest distance to the east.

Chupadero is common on the later sites down to the southern limits of both the Jornada and the Tularosa valleys where it is associated with the brown, buff, and red wares of the locality. Lehner (1948) believed that it was mostly traded from the north, with the possibility that some was also made at a few scattered, short-term occupations. Stallings (1932), on the other hand, was of the opinion that the quantities found at sites in the vicinity of El Paso indicated that it was manufactured in that locality. Brand (1933a) found Chupadero on sites as far south in Chihuahua as the Rio Carmen south of Villa Ahumada, and described it as being the dominant type on some sites on the lower Rio Casas Grandes in the northwest corner of the state. Di Peso (personal communication) found "quite a lot" at Casas Grandes itself.

To the west, Chupadero Black-on-white is quite common in the Rio Grande and Puerco valleys, but occurs in decreasing amounts to the southwest, where a complete jar was found in the late fill of the Swartz Ruin in the Mimbres Valley (Cosgrove and Cosgrove, 1932), and sherds have been reported from sites in southwestern Hidalgo County (Osborne and Hayes, 1938; McCluney, 1962). In Arizona it has turned up on the Ringo Site on the west slope of the Chiricahua (Johnson and Thompson, 1963), on Whitewater Draw near Webb (Survey File, Museum of New Mexico), in Texas Canyon in western Cochise County (Fulton, 1934), and at Gila Pueblo on the outskirts of Globe (Gladwin and Gladwin, 1935).

Chupadero made up only 11 percent of the total sherd s collected by the Museum of New Mexico in a test trench through the older of the two houses at Quarai, in contrast to figures running from 64 to 75 percent from contemporary proveniences at Mound 7. This would seem to indicate not only that the northern limit of its manufacture was somewhere on Chupadero Mesa or in the vicinity of Abó Pass, about 10 miles to the south of Quarai, but also that it was a popular article of trade immediately north of its home ground. It is also common in surface collections from Chilili, Tajique, and Cedro Canyon to the north. At Paako, at the northeast corner of the Sandias, Lambert (1954) found Chupadero, if one also includes Casa Colorada in the count, to be second only to the Biscuit wares of the upper Rio Grande in importance as trade ware. But from this point, about 75 miles north of Gran Quivira, the popularity of Chupadero dwindles rapidly. In the Galisteo Valley, 15 to 20 miles northeast of Paako, it was a fairly common intrusive at Las Madres (Bertha P. Dutton, personal communication), and has also been collected at Pueblo Largo and at early Pueblo IV sites near Lamy and on San Cristóbal Wash (Smiley, Stubs, and Bannister, 1953). Only 12 sherds were identified from all the extensive excavations of the Peabody Foundation-Phillips Academy Expedition at Pecos and the vicinity. Chupadero was present in sherd counts from Tecolote Ruin near Las Vegas (Smiley, Stubs, and Bannister, 1953), in a small adobe pueblo near Watrous, New Mexico (Lister, 1948), and as far to the northeast as a campsite on the Purgatoire River in southeastern Colorado (Herbert W. Dick, personal communication). It is an intrusive of minor importance on several sites near Santa Fe and as far north as LA.171, near modern Tesuque Pueblo (Survey File, Museum of New Mexico), but surprisingly, considering the fact that Biscuit ware was the most popular white pottery traded into Las Humanas, no Chupadero has been reported in the Biscuit ware area north of Tesuque, nor from the Pajarito Plateau.

Chupadero Black-on-white reaches farthest from its place of origin toward the east, onto the plains and across them. In the Pecos Valley, it appears in the company of El Paso Brown and the various southern red types in small sedentary sites that are an eastern extension of the Jornada Mogollon farmers (e.g., Renaud, 1937; Jennings, 1940; Holden, 1955). True Chupadero appears to be intrusive on the Pecos, although certain varieties, Crosby and Middle Pecos Black-on-white, were made locally (Jelinek, 1967). Across the Pecos it is frequently found with El Paso Brown on the sandhill campsites of the Llano Estacado, and has been found in the sedentary, agricultural communities of the Henrietta Focus in north-central Texas between the Red and Brazos rivers, and in Fulton Aspect sites of the Caddo area in extreme northeast Texas (Kreger, 1946).

Paste:

Chupadero Black-on-white is a well-constructed, durable pottery, made of a strong, dense, paste that ranges from light to dark gray in which a carbon streak is never present. Warren found that over 90 percent of the Gran Quivira specimens she examined were tempered with cryptocrystalline calcite fragments and rounded pellets of shale, probably residual in the clay of the local San Andres Formation. Interestingly enough, about 9 percent contained the same quartz-mica schist of unknown source that was the temper of the Corona Corrugated. The calcite and shale temper also occurs in sherds from Abó, Tajique, and Quarai, indicating that the pottery was probably imported to those villages from Las Humanas and its close neighbors. Some of the Quarai sherds contained sand, a common temper at that site, and much of the Chupadero from Tabirá and Pueblo Colorado contained crushed sherd and/or sand.

Fire-clouds on the surface are rare, but they do occasionally appear. Walls were scraped to a smooth but uneven surface ranging from 4 to 7 mm. in thickness and averaging about 5.5 mm., with no difference between bowls and jars. A variation of 2 to 3 mm. is common in the wall thickness of a single vessel, so that in comparison with contemporary black-on-white pottery to the north, it is somewhat crude and bumpy. About half of the pots are scored on the unpainted surface as though brushed with a small grass broom, the resulting texture varying with the amount of moisture in the clay at the time of the treatment. A relatively dry clay produced a sharply etched line, while a wetter surface often settled back to a more blurred marking. This latter effect is most frequent on bowls where the surface probably was
remoistened before texturing. Bowl exteriors often appear to have been wiped with the hand after scoring, which if done with a wetted hand, nearly oblities the marks of the brush; but when done to a drier surface, it causes small separations in the surface of the clay and often small beads of rolled-up clay. If not brushed, the interiors of jars are scraped quite smooth, whereas bowl exteriors will range from the rough surface resulting from a hasty, careless scraping to a well-scraped and even polished surface (3 percent). On a small number of bowls, the coils, or a few of them near the rim, have been left unablated.

Slip:
The painted surfaces are coated with a white slip which occasionally attains a dense, even white, but far more frequently is a thin, streaky wash in which the basic color of the paste and the polishing marks show through. About 2 percent are not slipped at all, but on about 5 percent of the bowls, the interior slip is carried over the rim for an inch or more onto the outside, in rare instances to cover the entire surface. The partial slip on the exterior is seen on both scraped and scored specimens.

Shapes:
The forms in which Chupadero appears are remarkably stereotyped and unvaried, and nearly all were either flat-bottomed bowls (30 percent) or globular jars (69 percent). Both the open and the closed forms are quite distinctive in southwestern pottery. Bowls are invariably flat-based and were apparently made by adding coils to a prepared disk of clay. Toulouse (1949) has pointed out the singularity of the flat-bottomed bowl in the southwest and its closest parallel far to the south on the west coast of Mexico. Unfortunately our collection of measurable specimens was scant, but 15 restorable bowls or large sherds indicate that bowls were relatively small, steep-sided, and low in profile. They ranged from 83 to 250 mm. wide at the rim, averaging 197 mm., and from 36 to 113 mm. in height with an average of 81 mm. Rims are generally parallel-sided with no taper, and the lips are gently rounded or tapered with a frequent bevel toward the inside. A rare variation in shape and rim form, shown by the bowl in Figure 90d, is more rounded in outline with a sharply everted rim. I have no figures on the frequency of occurrence in the total count of Chupadero, but in the large collection from Kiva C Plaza, 12 percent of the bowl rims were of this kind. I believe this is probably far too high a count for the entire mound, however. This rim form is typical of the contemporary Biscuit wares of the Pajarito Plateau, and is fairly common on Galisteo Black-on-white, both of which were frequently imported to Las Hanumas. The everted-rim Chupadero, although always flat-based like the more typical bowls, is probably an attempt to copy the northern types. It is interesting, however, that exterior slip and decoration, features of Bandelier Black-on-gray, are seen most often on bowls with this rim, and that the trait occurs 100 years earlier on Chupadero than on the northern type.

Other open forms are extremely rare. Evidence of only three ladles was found: a sherd of a flat strap handle, a larger sherd of a small bowl with a strap handle attached to the flat base, and the oval bowl in Figure 91b with a broken rounded handle near the base that had been ground off flush with the surface. The absence of ladles is not remarkable on the Rio Grande, where they never attained the popularity they held on the San Juan and Little Colorado. The shallow scoop in Figure 91c, narrow at one end, probably served as a dipper, but it is an isolated example except for a single sherd of what may have been another. One large sherd is from a double bowl, and two sherds seem to be from shallow rectangular dishes divided longitudinally into two compartments.
by a long fin. One small, crude miniature was found with a rim diameter of 46 mm.

Closed forms show even less inventiveness. Squash pots are represented by only five rim sherds. The most common Chupadero Black-on-white vessel is a spherical jar with a short, narrow neck (figs. 92 and 93). The jars show considerable uniformity not only in shape, but in size. Only a single restorable pot and a large sherd from Mound 7, and two complete jars collected by Hewett in 1923, could be measured accurately, but the curvature of the sherds indicates that a diameter of about 300 mm. was almost standard. Height, including the neck, is equal to the diameter since the nearly spherical body is flattened at the base, as it is on the bowls. A jar this size could contain almost 15 quarts. Necks of 10 measurable specimens range from 20 to 45 mm., average 33 mm. in height, and have inside diameters of from 63 to 90 mm., with an average of 77 mm. Rims are flaring. Although some jars are without handles, most have a short, vertical loop attached just below the lip and a short distance below the neck. The handles are made of from one to four ropes of clay, but most often two. In many examples, the handle was made of a flattened strap of clay with rounded edges which was then incised longitudinally to simulate the double cylinder.

Paint:
The pottery is decorated with a mineral paint which occasionally attains a deep matte-black, but ranges to a paler reddish-brown, and is most often a very dark brown. The paint tends to spall off in minute flakes so that the slip or paste shows through. This has the effect at arm’s length of a paler tone than was intended. A few sherds have a glaze paint, possibly accidental, but I believe more likely in imitation of the contemporary Rio Grande glazes.

92. Chupadero Black-on-white jars collected by Hewett Expedition.

Design:
The style of design is typified by opposing serrate motifs, alternately hachured and solid, which meet at their species (fig. 94). This arrangement is used in a variety of ways as a filler for a panel of design that is usually divided vertically by one or more broad, solid lines into sections—usually 4 on bowls and often 5 on jars. The section is often further divided by a series of oblique lines from a lower corner to the opposite upper corner, with the lines commonly meeting at the center in interlocking scrolls. Smaller spaces are filled with cross-hachured or checkered motifs or solid-line scrolls. The framing lines of the paneled sections are frequently joined at their inside corners by a triangle or a rounding of the sharp angle (figs. 95c, h, and j; fig. 96a). A series of dots often serves as a border for framing lines.

Some variation on this theme is virtually the only decoration found on jars where it is applied in a broad panel around the belly, centered near the point of greatest diameter. The lower third of the vessel is left undecorated, and although the neck is occasionally left plain, it usually is embellished with a row of dots, two closely spaced lines, a pair of horizontal bars, or a series of chevrons. The so-called ceremonial break, a horizontal framing line that is unjoined or broken, is rare on Chupadero, and when it does occur it will be in the simple decoration on the neck. The lip of the rim is invariably painted black.

It was impossible to study all the sherds of a single type at one time, but a rather detailed study was made of all of the Chupadero from Kiva C Plaza (682 sherds), on which it was found that the opposed triangle motif was equally prominent on
both jars and bowls. Some trace of a hachured element appeared on 68 percent of the jar sherds, and hachure was present on 42 percent of the bowls, but there was considerably more variation in bowl design. Whereas solid triangles, checkers, or a series of broad lines were frequently employed as subsidiary motifs on jars, on bowls they often were used as the sole design (figs. 91b and c; 96a and g). Checkers were eight times more numerous on bowls than on jars. A popular motif, seen on 2 percent of the Kiva C Plaza sample, was the sun symbol, a circle with a series of from four to six rays at each of the four quarters (fig. 96h). This motif was sometimes centered at the bottom of a bowl with the rays projecting to the rim, but more often several suns were evenly spaced over the field to be decorated, and their rays joined in an interlocking pattern. The State of New Mexico adopted this motif (referred to as the Zia sun symbol) for its state flag, and while used at Zia Pueblo in mortuary ritual and on the Fire Society’s altar (White, 1962), it is not peculiar to that pueblo. For example, not only is it painted on the floor of the Town Chief’s house at Isleta (Parsons, 1962) and used in certain initiation rites at Jemez (Ellis, 1953), but it is probably known over most of the Rio Grande.

Representational design was seen on only seven of the 15,000 sherds—on two squash pots and five bowls. The monster depicted in Figure 96n resembles the Hopi ogre kachina, Nataska (Fawkes, 1903, pl. IX), whose representation is probably also intended by the figure in a Sikyatki Polychrome bowl illustrated by Martin and Willis (1940). The provenience of the sherd below the floor of Room 135 suggests a time of manufacture sometime before the mid-1500’s—not an unusually early date for kachina depictions.

The common layout of bowl design is in a broad panel, usually divided into four sections, which extends from the rim to the bottom of the sides, leaving the flat base plain or with a simple dot or cross at the center. A Maltese cross was often centered at the bottom. The panel of design is rarely framed by a line at the top, but is drawn to the lip, unlike the usual custom on western black-on-white types where the panel is marked at the upper limits by a line drawn just below the rim. The bowls, like the jars, are painted with a solid line on the lip.

**Dates:**

Excavation in central New Mexico has been limited, and the only tree-ring dates obtained so far are from the historic and late prehistoric levels of Mound 7. Therefore, in order to estimate the beginning date of the manufacture of Chupadero, we must rely on the dates of foreign types found with Chupadero in the few early sites excavated in this vicinity, or on dated sites in surrounding areas where Chupadero itself is intrusive.

There have been three excavations made in pre-Chupadero sites in the vicinity. Two of these (Green, 1955; Fenenga, 1956) were pithouses with no surface architecture, 2 miles northwest of Gran Quivira. The pottery was mostly Jornada Brown with some Alma Plain, and with Lino Gray present. The third was an excavation on Taylor Draw near Bingham and the south end of Chupadero Mesa. Here, jacial and adobe rooms were associated with pit structures, and Red Mesa Black-on-white pottery was common (Stewart Peckham, personal communication).

The two pithouses with Lino and Alma Plain sherds probably date not much later than A.D. 900 and are obviously earlier than the Taylor Draw site. Red Mesa Black-on-white, an early Pueblo II type emanating from the northwestern part of the state, was named and described by Harold S. Gladwin (1954) who estimated its period from A.D. 870 to 930. On the basis of much field work since Gladwin’s, the terminal date should certainly be revised. The participants of the First Ceramic Seminar held at the Museum of Northern Arizona in 1958 quoted Gladwin’s dates for Red Mesa, but redescribed Pueblo Black-on-white, a style presumably evolved from Red Mesa as dating from A.D. 1050 to 1150. Instead of the overlapping dates that one would expect during a transition, we have a gap of 120 years. The discrepancy can possibly be reconciled by referring to the Mesa Verde series where complementary types have been quite closely dated by dendochronology. In that area Cortez Black-on-white, with design styles identical to those of Red Mesa, appears to have been a contemporary of the latter, and is dated from A.D. 900 to 1000 (Abel, 1955) with the probability that it was still manufactured in ever-decreasing amounts until 1050 (Hayes and Lancaster, 1975). Although it is a broad jump from the Four Corners to central New Mexico, it is safe to say that on a site which was probably occupied for some time between A.D. 900 and 1050, Chupadero had not yet appeared.

The earliest sites on which Chupadero is found are surface pueblos of contiguous rooms made of coursed adobe blocks with small, unlined kivas or pithouses fronting them. The closest excavation of this type to Gran Quivira lies about 35 miles east near Corona, east of the Gallinas Mountains, where Chupadero was found with Jornada Brown, unnamed corrugated, Three Rivers Red-on-terracotta, Lincoln Black-on-red, Los Lunas Smudged, and St. Johns Polychrome (Wendell, 1956). Still farther away on the Peñasco River, near Hope and west of Artesia, New Mexico, in the southeastern part of the state, Chupadero was found on a similar site in association with Three Rivers, St. Johns, and also with El Paso Polychrome and Mimbres.
Black-on-white (Jennings, 1940). Identical assemblages found on sites surveyed in the northern Jornada del Muerto and Tularosa Basin by Lehman (1948) formed the basis for what he described as the Three Rivers Phase of the Jornada Mogollon with an estimated period of A.D. 1100 to 1200.

Three Rivers Black-on-red seems to be invariably associated with Chupadero on the earlier sites, just as Lincoln Black-on-red, a subsequent development of Three Rivers, is found with Chupadero on somewhat later sites. Both types, however, had a rather limited range of distribution and are even less susceptible to accurate dating. El Paso Polychrome was made for about 400 years with little change—both before and after Chupadero—so is even less help. The two types of particular interest here are St. Johns Polychrome and Mimbres Black-on-white. St. Johns was a widely traded pottery made in west-central New Mexico and adjacent parts of Arizona, and it has been dated by the Second Ceramic Conference of the Museum of Northern Arizona at A.D. 1150 to 1300. Mimbres Black-on-white, made in southwestern New Mexico, roughly from Las Cruces to the Arizona line, was made in its classic form from A.D. 1050 to 1200 (Danson, 1957). There is a period of just 50 years, from 1150 to 1200, when both types were being made (fig. 97). The consistent occurrence of the three types on the same sites suggests an approximate date of A.D. 1175 for the beginning of Chupadero.

Support for this line of reasoning is found in another direction, where at Cerros Mojinos on the Puerco River west of Los Lunas, New Mexico, and about 65 miles northwest of Gran Quivira, Chupadero was found as a scant intrusive in a predominantly Socorro Black-on-white site with architectural features like those described above (Frenenga and Cummings, 1936). Here, St. Johns Polychrome occurred, and Tularosa Black-on-white was a popular trade ware. Tularosa is dated by the Museum of Northern Arizona’s First Ceramic Conference at A.D. 1100 to 1200, and has the same half century of contemporaneity with St. Johns.

A terminal date is easier to determine. The manufacture of Chupadero Black-on-white at Gran Quivira ceased with the introduction of Tabirá Black-on-white and Polychrome in 1545.

Discussion:

The Chupadero style is a local manifestation of the ubiquitous Chaco II style that covered the Anasazi area in Pueblo II times. The common Pueblo II style, earmarked primarily by the use of hachured elements, evolved from Red Mesa and other related early Pueblo II types, but on Chupadero we find this style used in a relatively refined, rigid design without the transitional variations that are present to the northwest. The advance is too great for the local Red Mesa settlements to have been the direct source of inspiration, and there is a century to account for between the end of one and the beginning of the other. As we have already observed, Mera derived Chupadero from Socorro Black-on-white which, in turn, he saw developed from one of the Chaco types. Unfortunately, we know very little about Socorro. There are few complete pieces of it in museum collections, and, with the exception of the Cerros Mojinos excavation, it is only known from surface collections. Mera (1935) gives as its range the area west of the Rio Grande to the Rio San José or the vicinity of Acoma in the north, west to the lava flows south of Grants and including the Dulce Mountains, and south to an undetermined point down river from Socorro. He notes its constant occurrence with Los Lunas Smudged, and dates both only as “Pueblo III,” which could be any block of years between A.D. 1050 and 1300.

Lacking stratigraphic evidence to the contrary, I suggest that Socorro was contemporary with Chupadero in its beginnings, and that both owe more to the Cibola White Ware types. Reserve (placed by Smiley, Stubbs, and Bannister, 1953, at about A.D. 950–1125), and Tularosa Black-on-white, than to Pueblo Black-on-white or Chaco II. I must admit that my familiarity with Socorro Black-on-white is not as great as it might be, based as it is on two or three handfuls of sherds and Mera’s illustrations, but the design layout appears relatively sophisticated in the tradition shared by the late Pueblo III, Mesa Verde-influenced Santa Fe and Galisteo Black-on-white. This treatment of design may have been learned through the same channels that fed the Santa Fe area, or it may have been acquired even more directly through the settlements of late Mesa Verde colonists north of Magdalena in the heart of Socorro territory (Dittert, 1959). One would pause a while before accepting the evolution of the Pueblo II-looking Chupadero from the Pueblo III-appearing Socorro.

Certainly stimulus can be felt from two or more directions, but a case for the weight of Reserve-Tularosa impact on Socorro can be made on the fact that their areas overlap in the region of the continental divide, and the fact that Los Lunas Smudged is a frequent companion to Socorro Black-on-white. Los Lunas is a thin-walled, highly polished brown ware decorated with a few rows of fine corrugations under the rim. It is so similar to Tularosa Fillet Rim, a Mogollon-derived companion ware to Reserve and Tularosa Black-on-white, that the two are often difficult to distinguish. About 120 miles of imperfectly known archeology lie between Chupadero Mesa and the area where Reserve Black-on-white, and its successor Tularosa, were made. How a connection might have been made poses a question, but the similarities in design of Reserve-Tularosa and Chupadero are more striking than comparisons of Chupadero and Puerco Black-on-white. The employment of mirror-image serrate motifs, alternately hachured and solid, is an occasional feature of Puerco, but is the predominant design motif on Reserve-Tularosa and Chupadero. The use of these elements differs only in that they are interlocked or nested in the west, while in the east they nearly always meet with the tips of the triangles touching. Interlocking scroops are more than common on Chupadero and on both Reserve and Tularosa, but are rare on Puerco.

That there may be a relationship here, I am only suggesting, and I must admit to some confusion. A. E. Dittert (1959), who has made extensive surveys in the Cebolletta Mesa area between Acoma and the Grants lava flow, sees Socorro as starting in the Red Mesa Phase (A.D. 870–950) and continuing in that area until 1400, but the late Pueblo III-looking Socorro of Mera surely could not be that early. Contemporary with Socorro in the area in question, Cebolletta Black-on-white (Dittert and

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97. Estimated range of dates for several New Mexico pottery types.
Ruppec, 1951) is described as also arising from Red Mesa, and a later type in the series, influenced by Tularosa, is Kowina Black-on-white, made from 1200 to 1400. It is possible that the relatively sophisticated appearing Socorro from Mound 7 is actually this late Kowina. I have not seen sherds of the latter for comparison.

**Tabirá Plain, Black-on-white, and Polychrome**

At the time of the rebuilding of the rooms at the west end of Mound 7 in A.D. 1545, a new black-on-white pottery was introduced to the Pueblo de las Humanas, and Chupadero pottery Black-on-white ceased to be manufactured. This pottery is still relatively unknown to Southwestern archeologists despite 40 years of intensive study of prehistoric ceramics. In 1882, Adolf Bandelier made his first trip along the west border of the Estancia Valley. At Manzano, the postmaster showed him “the sculptured [sic] beams of the church at Quivira and some of the pottery. It is absolutely different from all that I have seen in New Mexico, gray, with black and red designs.” This first reference to Tabirá Polychrome was buried in a personal diary which was only recently published (Lange and Riley, 1960).

When H. P. Mera described Chupadero almost 50 years later, he did not have Bandelier’s advantage of whole pots to inspect, but he did note that on pure Glaze F, 17th-century sites on Chupadero Arroyo, there was “a large proportion of late Chupadero Black-on-white with some of the sherds having a decidedly modern design” (Mera, 1931). After further work with added surface collections, he amplified with the observation that late forms of Chupadero included a polychrome subtype. Although he did not attempt to separate the late forms from the early ones with a formal type name, he implied that it would be possible to do so (Mera, 1935).

The 1938–1939 excavation of the mission of San Gregorio at Abó provided what may have been the first view of a complete vessel of this style by an archeologist since Bandelier’s time. When Toulouse (1949) named and briefly described Tabirá Black-on-white, Polychrome, and Plain on the basis of two restorable pots and an unrecorded number of sherds. As a result of test excavations in Pueblo Pardo, where two more vessels and 409 sherds were recovered, the description was enlarged (Toulouse and Stephenson, 1960). Vivian’s excavations at Las Humanas produced another bowl, a few incomplete specimens, and more sherds to enable him to add more precise data on clay and temper (Vivian, 1964).

Although the published descriptions of the pottery have been adequate, the type remains little known to archeologists for two reasons. First, Tabirá was made in a small area in which to date there has been little excavation, with the result that the only specimens which I know of on public display are those few in the small museum at Gran Quivira National Monument. Second, the pottery was apparently not traded widely or in large amounts. There is some possibility, however, that because of the lack of familiarity with Tabirá, it was not always recognized in surrounding areas, or was classified as Chupadero or Casa Colorada Black-on-white, just as the lack of Tularosa in the sherd counts from Mound 7 may reflect my own small experience with that type.

The collection from Mound 7 may do something to make Tabirá more recognized, but the addition to already published descriptions that the 126 restorable pots and 5,046 sherds from the excavations can make lies mainly in the dating through stratigraphy and in a more detailed analysis of design.

Following the generally accepted system for classifying pottery (Colton and Hargrave, 1937), Toulouse named his three new types and saw them, along with Chupadero Black-on-white, as comprising a series or “ware.” There is justification in this as they are all white, made in the same place, and of the same clay; however, Tabirá temper differs from that of Chupadero. And, as I hope to demonstrate, there is a discontinuity of tradition. I may be missing the term “ware” in referring to Tabirá ware, but it will be more congruent to the facts to treat all three Tabirá types as an entity rather than separately.

To follow the pottery description format traditional in Southwestern archeology would require that Tabirá be discussed as three types: black-on-white, polychrome, and plain. But to do so would be to point up differences that are not particularly significant in this area. Polychrome differs from the black-on-white only in the addition of a third or fourth color, and much of the plain pottery differs from the other two types only in the absence of a painted design. However, the plain pitchers in the late, European forms are universally of crude manufacture and with such a thick paste that they were separated in the laboratory counts under the working heading of “Jumano Plain.” This becomes complicated when it was found that some of the pitchers were painted, although crudely, in typically Tabirá design. Rigid adherence to common practice might suggest that we have two new types—coarse plain and coarse painted. There is some justification for this treatment because the crude pottery was made primarily for the Spanish, either for trade or tribute. A neat division is not possible because the plain plates and ollas were intended for the same outlet, yet they are as thin and well-shaped as the black-on-white pottery made for home use. An inflexible and formal typology is bound to be misleading, or at least filled with so many exceptions as to be of little use in the case of Tabirá “ware.” Thus, I will treat the black-on-white, polychrome, and plain, as three variations within a single type.

**Range:**

Tabirá ware was made only in those three villages known to the Spaniards as the “Jumanos” Pueblos—Las Humanas, Tabirá, and Pueblo Pardo. From the mid-16th century it was the only indigenous pottery at Las Humanas except for the culinary brown ware, and presumably this was also true of the other two villages. In the fill and on the floors of the later house at Mound 7, Tabirá made up 70 percent of the identifiable white ware sherds; it was 73 percent of white ware at Pueblo Pardo (Toulouse and Stephenson, 1960), and in a surface collection of 228 sherds made at Tabirá, it was 86 percent. In contrast, all white ware, including a few Chupadero sherds, made up only 3.1 percent of the total sherds in the contorno at Abó. In the house mound at Quarai, although most of the black-on-white was Tabirá, all white ware together was less than 2 percent of the total.

Apparently Tabirá ware at Abó and Quarai was imported from one or more of the three “Jumanos” pueblos, and, as we shall see later, these two northern towns were the source of most of the glazed pottery of the same period that was found at Las Humanas. The situation at the other villages of the
Salinas Province is known only through relatively small surface collections, but Tabirá does appear at Chilli and Tajique as well as at a smaller site, LA:371, lying between those two. It is also found at LA:572, on the north edge of Jumanes Mesa about 7 miles east of Mountairn, and at Gypsum Spring Ruin (LA:9008), 8 miles southwest of Mountairn at the base of the north end of Chupadero Mesa. These may have been "Jumanos" pueblos abandoned early in the 17th century.

In the north end of the Jornada del Muerto west of Chupadero Mesa, from 15 to 30 miles west of Gran Quivira, Mera (1940b) surveyed 13 sites which had been occupied in the Glaze F period (17th century). In an examination of the collections from these sites through the courtesy of the Museum of New Mexico, I found Tabirá sherds in all but one—a small farm or seasonal site. It is significant that in three other sites in this area which had Glaze E sherds but no Glaze F, there was a lack of Tabirá. Present data is not sufficient for us to know if Tabirá was made in these Jornada settlements or if it were imported. Although one, LA:782, was a large pueblo, from the complete lack of any documentary reference to the Jornada villages, the early colonists seemedly knew less about them than we do today. The pottery indicates occupation into post-contact times.

An examination of sherd collections from 10 contemporary Piro villages, the southernmost of the pueblos, shows Tabirá to be much scarcer on the Rio Grande. It was definitely present at three, including the historic pueblos of El Alamillo and Sevilleta, and what probably was Tabirá was seen in collections from three others, and from a historic ranch at Ojuelas east of Tomé (Tommy R. Fulgham, personal communication). No Tabirá was seen in the sherds from five contemporary Tiwa villages on the river between the Piro Province and Isleta, and to date none has been reported from any of the sites on up the river nor in the Galisteo Valley. By this period, of course, all the country to the east and south of the "Jumanos" pueblos was unoccupied by sedentary groups.

Dates:
Tabirá was produced until the 1672 abandonment of Las Huananas. To arrive at a beginning date we can turn to both survey and the stratigraphic evidence of Mound 7.

We have already noted that there was no Tabirá in Mera’s collections from Glaze E sites on the Jornada, and that there was no classic Tabirá with the Glaze E at Pueblo Colorado.

In the long test trench north of Mound 7, Tabirá was not found with the San Lázaro Glaze Polychrome (Glaze D) in lots of sherd from undisturbed sections of the lower two strata. It was present in the middle strata which contained much Puaray Glaze and a little Koyiti (Glazes E and F), and of course, was abundant in the upper levels. There was no Tabirá associated with the San Lázaro sherds in the lower fill or on the floors of Kivas L and N which were presumably abandoned in the late 1400's.

Subfloor tests were made in 36 of the 37 rooms constituting Room Block 1 which was built about A.D. 1500 and rebuilt in 1545. Only 25 Tabirá, or 7 percent, out of a total of 340 classified local black-on-white sherds were found below the floors. There were three San Lázaro but no later glazed sherds, and five sherds were classified as Salinas Plain, of which three had Glaze E rims. Five of the 25 Tabirá sherds came from rooms with intrusive burials below the floors, and I believe all of it was probably intrusive into this level. Although it is not as clear-cut as one would like, the evidence from Room Block 1 suggests that Tabirá was not made before the reconstruction in 1545.

Sherd counts from similar subfloor tests in subsequently added room blocks to the east and north given in Table 13 and the graph in Figure 98, show an increase through time of Tabirá and a parallel increase of Puaray Glaze. I believe this indicates that the two types were used concurrently in 1545 by those people who resettled Mound 7, and that the subfloor sherds of those types from the later room blocks represent trash thrown out by the occupants of the earlier rooms. The absence of Tabirá at Pueblo Colorado where Puaray Glaze (Glaze E) was found, and its absence on the Glaze E sites in the Jornada, indicate that the new black-on-white was not known until after Puaray had become popular, but that it was introduced before Koyiti Glaze was developed. If we accept Mera’s dates for the glazed types, this would place Tabirá between A.D. 1515 and 1650. The stratigraphy of Mound 7 strongly suggests the contemporaneity with the 1545 reconstruction of the western block of rooms.

The suggested dates for Tabirá, A.D. 1545–1672, indicate a later invention than that proposed by Toulouse and Stephenson (1960), who, although they call it "late," list it as an attribute of their "Pueblo Colorado Focus," the type site for which, Site 2 (LA:2081), is not Pueblo Colorado itself, but another ruin nearby. The latest glazed type found in surface collections from this site is Largo Glaze Polychrome which was manufactured in the early 15th century. They also found "Tabirá" with Glaze A sherds in the early levels at Pueblo Pardo where it is tabulated as making up 73 percent of the total black-on-white from all levels, in contrast to a maximum of 34 percent in the unquestionably late fill of Kiva at mound 7. An explanation of the variance in their observations and mine may lie in the fact that Toulouse (1949) cites the smoothed interiors of Table 13.

Distribution of Tabirá Plain, Black-on-white and Polychrome by room blocks.
Tabirá ollas as one distinguishing difference between Chupadero and Tabirá. The fact that a large percentage of early Chupadero was scraped smooth on the undecorated surface had not yet been recognized. I believe that Toulouse and Stephenson, having originally separated Tabirá on the basis of design, and noting the invariably smoothed opposing surface on Tabirá, then perhaps mistakenly typed as Tabirá all the local black-on-white pottery that lacked the typical scored surface of Chupadero.

Black-on-white jar sherd s that seem to represent the first breaking away from the stereotyped Chupadero were found in some numbers in Mound 7 immediately below the floors of the rebuilt Middle Phase rooms and throughout the fill of the Feature 1 room below the floor of Room 98. This latter source was apparently still open at the time of the construction of Blocks 1 and 2 of the Late Phase house.

This early Tabirá was all in black-on-white. It was recognized in only two shapes: squat, wide-mouthed jars (fig. 99a) and small globular pitchers (fig. 110b). The pottery differs from Chupadero and foreshadows classic Tabirá in having unpainted rims, a more open and less involved design layout, in the use of double framing lines at neck and shoulder, and in the absence of diagonal line hachure. Line-work tends to be broad and rather carelessly applied. Although quite distinct from Chupadero, there were more distinctive changes yet to come. By the early 1600’s jars had acquired a typical wide-shouldered, flat-topped shape and a design layout in a rigid pattern. Later still, canteens were introduced.

Tabirá Plain did not appear until some time after the black-on-white variety was well established at Mound 7. It is relatively rare in subfloor locations. Table 13 enumerates the numbers of sherd s of the three varieties of Tabirá from the room blocks in Mound 7. Although plain sherd s are seen to be 15 percent of all Tabirá from these proveniences, they were only 4 percent of the subfloor Tabirá. Tabirá Polychrome was rare in all sherd counts, amounting to 2 percent of the Tabirá sherd s from the fill and floors, and only one sherd came from the subfloor test pits. In the gross counts for the entire excavation, Polychrome was also 2 percent of all Tabirá. It was found below the floors of several porches (which, of course, were added after completion of the room blocks). Two sherd s were found on the floor of Kiva J, and one came from between two floor levels in Kiva M.

Three areas of trash were excavated by two separate strata: Kiva C Plaza, Area IV north of Room Block 8, and Area V north of Room Block 10. Tabirá Black-on-white and Plain were found in both strata, but Polychrome only in the upper.

The relative occurrences in subfloor proveniences suggest that Plain preceded Polychrome, but the shapes of the former indicate that it was post-Spanish and possibly made for the colonists. If we allow a minimum of a year for the establishment of trade or encomienda after Oñate’s first visit to Las Huanaras, that would date the plain ware at no earlier than 1600, but more likely it did not occur until Letrado established his mission about 1627.

The presence of Tabirá Polychrome sherd s on and between floors of Kivas J and M and in the lower trash fill just above the floors of Kivas C and K indicates that it was being made before those kivas were razed. If I am correct in the assumption that the destruction was done at the orders of Fray Santander, this would put the date for the inception of the polychrome no later than the late 1650’s.

If asked for solid dates for ready reference—without any weaseling—I would suggest this:

- Early Tabirá B/W 1545
- Classic Tabirá B/W 1600
- Tabirá Plain 1625
- Tabirá Polychrome 1650

All, of course, expired together in A.D. 1672, unless future work on the Rio Grande can show some continuation in the Piro villages up until the rebellion of 1680.
Paste:
Tabirá, like Chupadero, was made by coiling and scraping and is made of the same clay. The paste is a uniform light-gray color with no carbon streak at the core. Black carbonized spots of ‘fire-clouding’ on the exterior are common. Without the aid of design or evidence of vessel shape, a small sherid of Tabirá cannot be distinguished from the earlier type except by inspection of the temper which is identified by Warren (1980) as biotite felsite from the igneous sills intrusive to the local San Andrés limestone. Vivian (1964) had identified the temper as andesite, but there is no real discrepancy, since both have identified the rock and the source, but use different names for it.

Surface:
Although vessel shapes are usually symmetrical, the paste itself has an uneven surface with dips and ridges. The usual careful scraping process was slighted, or eliminated, so that the imprint of the thumb and knuckle that pressed the coils together is often still apparent. The surfaces are fairly well polished with the marks of the polishing implement usually showing as narrow, shallow grooves, as though rubbed with the end of a stick or small bone. The interiors of the jars are most often quite rough and appear to have been smoothed only by the end of a thumb or the fingers. A few of the finer ollas were covered with a heavy, white slip which occasionally has a crackled texture, and a few specimens were not slipped at all, but the majority were treated with a thin, white wash that incompletely covered the surface, presenting a streaked or mottled effect. Even this half-hearted finish was often neglected below the shoulders of jars.

The uneven surface resulting from the casual attention to the scraping process makes for considerable variation in thickness from one part of the vessel wall to another. One otherwise symmetrical canteen shape exhibited a range in thickness of 0.6 to 1.1 cm. in a 3-inch span. The dimensions for thickness shown on Table 14 are averages of mean thickness.

<table>
<thead>
<tr>
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<td>5.4 - 11.7</td>
<td>8.4</td>
<td>7.9 - 19.0</td>
<td>13.3</td>
<td>2.3 - 6.0</td>
<td>4.2</td>
<td>0.4 - 0.5</td>
<td>0.45</td>
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<td>10.0 - 38.0</td>
<td>28.5</td>
<td>28.4 - 48.5</td>
<td>37.9</td>
<td>8.7 - 19.5</td>
<td>16.2</td>
<td>0.4 - 0.9</td>
<td>0.37</td>
<td>8/8 - 21/9</td>
<td>14/23</td>
</tr>
<tr>
<td>Cantoons</td>
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<td>37.5 - 43.0</td>
<td>40.4</td>
<td>6.4 - 9.5</td>
<td>7.5</td>
<td>0.4 - 0.9</td>
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<td>(1 spec.)</td>
<td>19/17</td>
</tr>
<tr>
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<td>11.0 - 35.7</td>
<td>20.0</td>
<td></td>
<td></td>
<td></td>
<td>0.4</td>
<td>0.7</td>
<td>0.55</td>
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<tr>
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<td>5.4 - 11.7</td>
<td>8.4</td>
<td>7.9 - 15.0</td>
<td>13.3</td>
<td>2.5 - 6.0</td>
<td>4.2</td>
<td>0.4 - 0.5</td>
<td>0.45</td>
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<tr>
<td>Plates</td>
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<td>3.7 - 6.8</td>
<td>4.5</td>
<td>12.2 - 25.6</td>
<td>18.8</td>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
<td>0.7</td>
<td>0.50</td>
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<tr>
<td>Pitchers</td>
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<td>20.2 - 26.7</td>
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<td>12.8 - 18.8</td>
<td>15.9</td>
<td>9.9 - 11.0</td>
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<td>17.5 - 18.2</td>
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<td>0.5 - 0.8</td>
<td>0.60</td>
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99. Tabirá jars, from early (top) to late.
Forms:
Although Tabirá occurs in a wide variety of forms, well over half of the vessels are either large jars or flat-backed canteens. Tables 15 and 16 list the shapes by sherd counts and as complete or restorable pots, or vessels complete enough to reveal basic shape and measurement. The variation in the percentages shown on the two tables for a specific form calls for some explanation.

Only 15 percent of the sherd s are listed as Tabirá Plain, versus 44 percent of the whole pots. In the sorting of sherds, nothing was counted as Tabirá Plain unless there was sufficient evidence of characteristic shape. Many Plain sherds that may have been from unpainted sections of black-on-white or polychrome vessels were tabulated as “unclassified.” Thus, the counts are artificially weighted toward the black-on-white, which were much more easily identified—and toward whole pots about which there could be no question. The tables also show that pitchers made up 87 percent of the plain sherds, but only 13 percent of the whole pots. It is tempting to use this as support for the theory that the pitchers were made for the Spaniards and that most of them left the village. There is also the fact, however, that pitcher sherds, because of a characteristic crudity and thickness, are the most easily recognized of the plain forms. Apart from errors in sorting sherds, another factor accounts for the differences in the two tables. The sherds represent the entire century during which Tabirá was made, whereas the whole vessels, which were nearly all from the roofs and floors, represent the pots that were still in use up to the time of the exodus. Thus, the whole vessels reflect the situation of the 1670’s, while the sherds are an aggregate. The late introduction of polychrome can be seen in the increase from 2 percent of the sherds to 10 percent of the restorable pots. But even here, one finds holes in statistical deductions—undoubtedly many sherds from the backs of polychrome canteens or from the bases of jars were unidentified. Counts and tables reflect as much of archeological method and the investigator’s bias as they do of aboriginal activity.

Jars:
Jar and canteen sherds could not be separated from one another without rims, or large body sherds or canteen handles, but there is little doubt that jars were the most common form. Tabirá jars are wide-shouldered with tapered bases, and are tapered upward to a wide, low neck and a slightly everted lip. Figure 99 (from left to right, top to bottom) illustrates the increasing exaggeration of the wide-shouldered tendency. The early Tabirá jar at the upper left, with a somewhat narrower mouth and with a handle, is not typical, but still differs radically from the spherical, narrow-mouth Chunado jar. The extreme version of the flat-topped olla at the bottom, right (fig. 99g) has a contemporary parallel only in Sikyatki Polychrome and post-conquest pottery from the Hopi mesas, and in a few examples of Mátasí Polychrome from Zuñi. Most of the Mound 7 Tabirá jars are in the style of the examples shown in Figures 99f and g. This shape is shared with the Hopi Jeddito Black-on-yellow, with the Zuñi Kechipawan Polychrome, and also with the late Biscuit Ware from the Pajarito Plateau west of Santa Fe.

The considerable range of jar size shown in Table 14 is misleading, and is due to one unusually small jar and two large ones. The mode and the majority are very close to the average dimensions listed, holding a little short of 4 gallons. They are universally a little wider than high, and all have rounded or slightly flattened, unindent ed bases. Seldom will they stand upright unaided. They were found in all three varieties: Plain, Black-on-white, and Polychrome.

Thirty-nine ollas were found in place in the rooms. Nineteen sat on floors, two were buried under floors to use as cists, and 18 were found in room fill. Eleven of the latter were recorded as lying above the roof timbers, and it is probable that all of this group sat on the roof.

Canteens:
Large, flat-backed canteens were typical of Tabirá and were perhaps peculiar to it. The red-fired modern Hopi canteens, with deeper bellies and smaller necks, are similar, but the time of their inception is unknown. Martin and Willis (1940, pl. 54) illustrate a small version of a canteen of Sikyatki Polychrome from the Hopi country that may have been contemporaneous with those from Las Humanas, and J. Stevenson (1883, figs. 368, 365, 387) collected small, 8 to 12-inch canteens at Zuñi, Cochiti, and San Ildefonso, but these were relatively recent. In the 1600’s, the large capacity canteen seems to have been confined to Tabirá made at Las Humanas and its immediate neighbors.

Neither Vivian nor Toulouse list canteens as a form of Tabirá, but neither had come across a complete enough vessel to recognize the shape. Toulouse and Stephenson (1964) describe bilobed lugs from the Pueblo Pardo material, and Vivian (1964)

| Table 16. |
| Tabirá: Whole, restorable or nearly completed vessels. |
| Shapes | Plain | Dw | Poly. | Totals |
| Jars | 18 | 25 | 43 | 11 | 11 | 85 | 54 | 43 |
| Cannons | 4 | 7 | 11 | 18 | 2 | 15 | 17 | 14 |
| Bowls | 7 | 13 | 2 | 3 | 9 | 7 |
| Squash pots | 8 | 3 | 5 | 3 | 2 |
| Loops | 8 | 14 | 1 | 2 | 9 | 7 |
| Pitchers | 7 | 13 | 10 | 17 | 17 | 14 |
| Rectangular pots | 2 | 4 | 2 | 1 |
| Cups | 4 | 7 | 4 | 3 |
| Miniatures | 5 | 9 | 6 | 10 | 11 | 5 |
| Totals | 55 | 44 | 58 | 46 | 13 | 10 | 125 |
mentions horizontally placed handles as being an occasional feature of ollas from House A. None of the 54 jars from Mound 7, however, had horizontal lugs, and only the early Tabirá jar in Figure 99a had any handle at all. With complete canteens to work back from, it is possible to identify canteen handles in the House A sherds stored at the Southwest Archeological Center, and from surface collections made at Pardo. There can be no doubt that the lugs or handles from the other sites were from canteens.

The canteens are remarkably uniform in size and will hold between 4 and 5 gallons. The heights given in Table 14 include the short necks; widths are exclusive of handles. The bodies, exclusive of necks, are round (fig. 100). The bulging front was made by building the base of an olla-shape up to the height of the shoulder and riveting handles in place near the top. A flat plaque of clay with a slightly raised edge was then inverted over the open top, and the still plastic edges were joined by working through a hole cut for the neck. The juncture of the two pieces is indicated on many canteens by an imperfectly smoothed area on the inside. The depth of the complete vessels, from front to back, ranges from 22.8 to 27.0 cm. and averages 25.8 cm.—a little more than half of the diameter. Handles were sometimes one, but more often two, ropes of clay. On some specimens, a single fillet of clay was flattened, then incised longitudinally to give a bilobed effect. Handles were usually placed a little above the horizontal axis. Necks are short and narrow and are set to tilt slightly to the front. Lips are gently flared.

Eleven canteens were found in situ in the late house. Two of these were buried under floors with the mouths flush with the floor surface to serve as subfloor cists, and three sat on the floors. Six were found in the room fill, and of these, four were found above the decayed timbers and must have sat on the roof. The provenience of the remaining two was listed only as "fill," without reference to position above or below the ceiling. They, too, may have been on the roof, or possibly were suspended from a viga.

The flat back and the paired handles suggest that the canteen was made to carry on the back with a suspension cord, and perhaps after a trip to the well, to hang against the wall from a peg. This would be in contrast to the usual Pueblo practice of carrying water in jars balanced on the women's shoulders. Gallegos, in his account of the Chamuscado-Rodriguez expedition of 1581, was apparently describing conditions in the Tiwa Province when he said, "The manner of carrying loads . . . is the same as that of the Mexicans, for both men and women, except that they carry water in a different way. For this the Indians make and place on their heads a cushion of palm leaves, similar to those used in old Castile, on top of which they place and carry the water jar" (Hammond and Rey, 1966, p. 85). No European had yet seen the southern Salinas pueblos, and Gallegos would not have known if the practice differed there. The interesting implication is that water was carried on the back in Mexico. Since the canteen was a late development at Las Humanas, there is a possibility that the idea was introduced by the Spaniards or their Mexican retainers.

Spherical water bottles, with a capacity of little more than a quart, and equipped with loops near the neck for a suspension cord, are common in Pueblo III sites on the Little Colorado and San Juan drainages, and they also occur in Chupadero Black-on-white. These were probably carried over the shoulder or in the hand, but their shape would preclude back-packing, and the small size would make it unnecessary. The large, flat-backed vessel seems to be a different concept. There were no canteen sherds in the early Tabirá from those proveniences below the west end of the mound where the special note was made of that design style. Although jar and canteen sherds were not
counted separately, identifiable canteen sherds were definitely fewer than jar sherds, and my unverified impression while sorting was that they were decidedly scarcer in subfloor lots. I suspect that canteens were not made before A.D. 1600, and possibly later still.

**Bowls:**

The Tabirá potters rarely made bowls, and it is evident that they relied on the makers of the glazed red ware to supply them with this form. Bowl sherds were only 2 percent of all Tabirá (Table 15). We have seen that 30 percent of Chupadero Black-on-white were bowls, and the graph in Figure 101 illustrates the decrease in bowl sherds from 36 percent of all black-on-white in the earliest levels of the trash-filled cisterns to 5 percent in the late fill of Kiva K, as the percentage of red ware to all pottery increases. Virtually all of the imported Rio Grande glazed pots were bowls—96 percent of the classified red ware sherds from Mound 7—whereas an examination of some 30,000 sherds from Quarai (the source of much of the Las Humanas red pottery [Warren, 1960]) shows bowl sherds to be only about a third of all red forms.

Bowls exhibit a greater range in size than any other Tabirá form (Table 14). They are hemispherical in outline with rounded bottoms, in contrast to the universally flat-bottomed Chupadero bowls. Although many rims, particularly on the smaller bowls, are simple and direct, nearly half are carinated or shouldered. The “Glaze C” rim shown in Figure 102b may have been an imitation of Espinico Glaze Polychrome or Bandelier Black-on-gray. It was common on Tabirá Black-on-white bowls, but rims that duplicated Kotyiti Glaze bowl rim, as in Figure 102a, c, and d, were more common.

Bowls occurred in the three varieties of Tabirá, but polychrome is represented by a single sherd. Again, there is a discrepancy between counts of sherds and whole pots. Two-thirds of the bowl sherds are black-on-white, while seven of nine complete bowls are plain. And again the differences can be explained in two ways. Many plain bowl sherds could not be typed without inspection of temper. Since this was seldom done, they ended up in the “unclassified” column. But the predominance of plain bowls in the collection of whole vessels may be valid and may reflect the relatively late introduction of the plain variety. The popularity of the Glaze F rim bears this out. As plain ware increased during the last half-century of the life of Las Humanas, so did locally made bowls—mostly plain ware. Figure 101 shows a slight drop in imported red ware between the fill of Kiva N late in the Middle Phase, and the fill of Kiva K in the Late Phase. Not shown on the graph, there was a corresponding drop in the percentage of imported bowls to other red ware forms in the two proveniences—from 93 to 86 percent.

Two Tabirá Plain bowls were among the lot of broken pottery thrown into the lower fill of Kiva C, a small black-on-white bowl was an offering with a cremation burial, three plain bowls sat on roofs, two more were on the floors of living rooms with fireplaces, a black-on-white bowl sat in the fireplace of Room 222 in the convento, and a plain one was buried with a cremation.

**Squash pots:**

Subspherical vessels with a constricted opening at the top, sometimes called “seed jars,” are a common Pueblo III form but are rare in Tabirá. Three sherds were identified, and three whole vessels collected. Except for one plain sherd, all were black-on-white.

Squash pots are squat, with a diameter not quite twice the height and with flattened bases. All three bore some variation of the cloud terrace design, and two (figs. 103 and 104) were notched at the rim before firing.

One was found on the floor of an interior room, and another on the floor of a porch facing Kiva C Plaza. The smallest (not illustrated) contained a quartz crystal and several Conus shell tinklers, and was found with an iron axe in the fill of Room 13. Its position among the timbers suggests that it was wedged in the ceiling between a viga and the latillas.

The squash pot is probably the first step in the evolution of the ceremonial, rectangular, sacred meal bowl with terraced sides that is in current use in the Rio Grande Pueblos and at Zuñi.
The terraced clouds in paint on these specimens are seen as raised applique plaques on the late glazed pot in Figure 122. A similar development from squash pot to "kiva jar," which probably had the same function, is seen in the Mesa Verde area.

**Soup plates:**

These are a typically Spanish shape, smaller versions of Don Quijote's bowl helmet, and were patterned after a common form of majolica imported by the priests. They are flat-based, shallow bowls bordered by wide, slightly sloping rims. The bottoms of the bowls are less than half of the total diameters (fig. 105). One sherd and one nearly complete plate were crudely and sparsely decorated in black paint. All others were plain. Four of the plates were found on floors of rooms with firepits, and all others were nearly complete fragments found in trash.

Identical vessels occur in Salinas Red ware, in small numbers at Las Humanas, and abundantly at Quarai where that ware was manufactured.

**Pitchers:**

Pitchers were second in number only to wide-mouthed jars in sherd counts of Tabirá, and nearly so in the collection of restorable vessels. The figures do not reflect the true state of affairs, however. Pitchers were heavily built of thick paste and were not as easily broken as canteens, thus accounting for the larger number of nearly complete pots. In addition, because of the thick vessel walls and consequently larger pieces, pitcher sherds were more easily recognized and counted than the more friable and less easily-distinguished canteen sherds.

None of the pitchers were in a polychrome, and although black-on-white outnumbers plain in the whole pots, the plain sherds are two to one over the decorated pieces. I believe that plain pitchers were probably the more numerous and that they, like the predominantly plain soup plates, were initially made for trade or tribute. Pitchers rise from flat bases to stand taller than wide, and were equipped with paired vertical loop handles just below the mouth (fig. 106a) The mouth and base tend to be of nearly equal diameter and are about half the greatest width at the belly of the vessel.

Since there is no pouring spout, perhaps the term "pitcher" is not well chosen. In the scant literature on this form it has already been referred to as "jug," "vase," and "jar," none of which seem to be more apt.

Included in the counts of pitchers in Tables 15 and 16, but listed separately in Table 14, is a more finely-made but similar form (fig. 106b). This differs from the pitcher described previously in having a rounded bottom, a wider mouth with a somewhat everted lip, and a spherical body. The height, exclusive of the short neck, is equal to the width. The paste has a thickness of about 5 mm., in contrast to about 7 mm. on the coarser pitchers, and the character of the neck, rim, and base is the same as on Tabirá ollas. These pitchers are decorated in black-on-white in the unsophisticated early style. The form was not seen in plain

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103. Tabirá Black-on-white squash pot.
104. Tabirá Black-on-white squash pot.
105. Tabirá Plains soup plates.
were or polychrome. There are similarities in the two forms: both have small, vertical handles at each side of the mouth, both have equal average capacities of about 3 quarts, and both apparently filled the same function.

The aboriginal cast to the more finally shaped pitcher and the fact that the decoration has an early look suggest that it may be a relatively recent, but indigenous, form that was modified to fit Spanish specifications. The two restorable specimens were both found with burials: Burial 50, a young adult female, and Burial 38, a cremated adult.

Of the heavier, flat-based pitchers, seven came from relatively late trash. Three were found on the floors of living rooms in Room Block 10, and two fragmentary pitchers were in the pile of broken pottery in the kiln (Feature 10). Two more restorable pieces came from the fill of rooms that contained no evidence of roofing, and these too may have been in trash. It may be significant that the two spherical pitchers were both associated with aboriginal, but late, burials, and that only three of 13 of those presumably made for trade to the Spanish were found in a location that indicated use by the Indians.

**Cups:**

Four cups were made in the shape of the bottom half of a pitcher (figs. 107 and 108). All were Tabirá Plain and had narrow, flat bases. Rims were both squared off and tapered at the point of maximum diameter. One had a mug handle of a single rope of clay. Although flat-bottomed mugs with relatively narrow mouths are an aboriginal form in the San Juan region, the shape neither spread to the Rio Grande Valley nor survived the exodus from the San Juan about 1300. The Mound 7 cups were all in a late context, and their shape is identical to that of the bottom half of late pitchers. Their introduction, too, may be attributed to the Europeans.

One complete specimen was found on a floor with a pitcher in Room 120. Half of a broken cup in the fill of Room 111 may have been a complete cup on or in the roof, or may have been no more than a sherd in the trashy earth of the roof. A third specimen, also fragmentary, was in the fill of a porch, Room 163.

**Rectangular pots**

Two deep, rectangular dishes of Tabirá Plain are also probably Spanish forms, but their purpose is obscure (fig. 109). They are 11.6 and 13.0 cm. long, 7.7 and 9.2 cm. high, and 6.8 and 8.2 cm. wide. Both are unslipped, and both are perforated near the rim at the ends. The vessel illustrated, from the floor of Room 133, is of typically heavy Tabirá Plain paste. 0.8 cm. thick. The other dish is thinner and bears a higher polish. It was found in the upper fill of Room 164, along with the remains of metate bins in place on the roof.

Similar dishes of Salinas Red were numerous in the convento at Quarai, and a similarly shaped pot in Puaray or Kotyití Glaze was found in the lower fill of Kiva C.

**Miniatures:**

Eleven miniature or replica vessels of Tabirá Plain and Black-one-white were found. A small dipper (the only dipper of Tabirá seen) measuring about 3.0 cm. across, two tiny bowls 2.5 cm. high, and a vase 3.5 cm. high were all undecorated and were found in trash. The most common form was a crudely painted pitcher or water bottle. These were of remarkably uniform size, ranging from 8.2 to 10.8 cm. high and from 6.8 to 8.2 cm. wide. Only in the mouth openings, which ran from small jug-like apertures about 1 cm. across to wide jar mouths up to 6 cm. wide, was there much variation. One miniature flat-backed canteen (fig. 110c) bore notched appendages at the sides and bottom, suggesting wings or fins and tail of bird or fish. Unfortunately, the neck was missing, and one cannot tell if any animal effigy was intended.

The miniature pitcher in Figure 110c was an offering with cremated Burial 52. A brown ware jar and glaze-on-red bottle in miniature — also found with cremations — may have been
offered as symbolic of the larger articles. The amphora-shaped pitcher at Figure 110d was on the floor of Room 64, and fragmentary specimens, including the one at Figure 110b, were found in the trash. The wide-mouthed pitcher at Figure 110a and the miniature canteen have more intriguing proveniences. The pitcher was buried in ashes in the firepit of Kiva C, and the canteen lay at the bottom of an earlier remodeled firepit in Kiva E. Still another canteen, containing a shell pendant and a sandstone concretion, was found during the 1968 stabilization work in the east entry to Kiva F. Miniature jars of Salinas Red ware were uncovered in the firepit of Kiva M and in the subfloor pit next to the firepit of Kiva K. The high incidence of miniatures with both kivas and cremations indicates that they were more than toys.

That may not be true of the peculiar object in Figure 111, which seems to be in a class by itself. Although it vaguely resembles the familiar, modern outdoor oven, the high sill below the door is an anachronism, and the dish-like area in front of the door does not belong to an oven. Further, there is no evidence that this European introduction had yet appeared in New Mexico. It may be a child’s toy, a model of a house with a typically small door with a high sill and a low walled “porch.” It is so crudely finished that it is possible to trace the steps of construction. To a flat, subrectangular plaque of clay 9.8 cm. long, a single coil of clay was added, which made a wall 3.3 cm. high. Two short sections of clay rope were set vertically inside the wall to form the jambs of the doorway. Coils were then added to the first to build up the back and sides of the “house,” and finally, small pieces of clay were pinched flat to form the roof and sill. Five very similar replicas of plain black ware found at Pecos had more rounded, beehive-like tops (Kidder, 1936, p. 295).

Candlesticks:
Vivian (1964) describes elaborate candlesticks as a form of Tabirá, and were it not for the complete, restored specimen he found in House A, an exhibit in the museum at Gran Quivira, I would not have recognized the few sherds from Mound 7 for what they were. We found no restorable candlestick, but did count seven sherds of plain and polychrome. An additional sherd, discussed with the worked sherds, was ground down to form a miniature jar or vase, and another candlestick base was inverted to make a cup.

Design:
Decorated pottery was painted with a reddish brown to black mineral paint made of magnetite and other iron oxides (Warren, 1980). A polychrome effect was attained by adding red and/or yellow to fill in the design motifs after firing. Warren believes that the pigments used were a powdered form of limonite, jarosite, and hematite, which made a chalky, matte finish that was often ephemeral. Reds range from a rusty, earthy color to a bright brick red. When the paint was “fugitive,” it left, in some cases, a pale salmon pink where some of the pigment had penetrated the slip. Yellows ran from bright lemon yellow to orange, and also often left a residue of a paler shade where the powdery pigment had eroded. Yellow was the only additional color on two of our jars, and only red was added to another. Both red and yellow were added to the rest of the nearly complete polychrome vessels, and both colors appeared on many of the polychrome sherds. The collection is too small for convincing conclusions, but it seems that black-white-red-yellow was the popular combination.

Although Tables 13, 15, and 16 indicate relative frequency of polychrome and black-on-white, I believe the original situation was more heavily weighted toward polychrome. On many surfaces, only faint traces of color are now apparent. In Figure 114c, for example, the stylized bird at the bottom is tinted with red, but the bird at the top is not; one of the paired motifs in the panel to the left is shaded, the other is not. In Figure 114b one of the pendant, open, step motifs on the jar is yellow, while all
the rest are clear. It seems unlikely that an artist with such a nice sense of balance in line-work would not also apply that balance to color. One of the two identical birds on the olla in Figure 114d has a yellow neck and breast, but only a pale trace of yellow now covers the same part of the opposite bird. It is obvious that both were originally the same. Either the vessel was more exposed to wear or weathering on one side than the other, or the character and consistency of the paint varied with different dips of the brush. An organic medium or binder may have been used with the colors, and the variability in adhesiveness of the paint may reflect the amount, or kind, or care in mixing.

There are numerous instances like that of the yellow bird neck, where a white area enclosed by black lines contains only a trace of paint, but where the entire area was certainly once colored. The linework of the polychrome vessels differs in no way from that of most of the black-on-white pots, and it is probable that many, if not most, of the latter were originally polychrome.

A revolutionary change in concept of decorative design is seen with the introduction of Tabirá. Although layout of design varied on different forms or vessels in accordance with the contours of the area to be covered, certain characteristics were common to all shapes. Contrary to the Chupadero style in which the painted area was laid out as a continuous band filled with a few interlocking, space-filling elements—a custom requiring an almost mathematical technique of the artist—Tabirá potters placed a single motif on each of from one to four separate unrelated panels, and usually employed numerous smaller, unconnected elements of design. Two philosophies seem to be revealed. The Chupadero artist saw all apparently disparate things neatly joined in a single totality. Her later counterpart was a divider, a classifier, who examined each discrete object as a whole thing unto itself.

In Tabirá design, there is considerable rigidity of format in the layout of the area to be decorated. Eliminating the shapes of minor importance, which are few in number or rarely decorated, the area to be painted is enclosed by a broad line bordered by a narrow one just inside it. On jars and pitchers, the border is at the shoulder and neck, and on canteens, it is around the perimeter. An occasional pitcher or canteen was unbordered, and frequently the broad line on a pitcher appeared only at the neck. No exception was noted on any of the two broad framing lines, although sometimes the narrower line is omitted at the shoulder, or is drawn below the broad line rather than above it, or is doubled. The horizontal framing lines are almost invariably broken at some point on the circumference. Sometimes the breaks are in line at the same longitude, but most often they are staggered with no apparent relationship.

On ollas, the framed band on the upper half of the pot is then subdivided into four panels by vertical broad lines joining the horizontal ones (figs. 112–114). These vertical framers are also bordered with narrow lines—most often two on each side, sometimes one or three, and occasionally, as on the unusual pot in Figure 113e, the four vertical dividers are all different. Of 24 jars complete enough for a determination to be made, 21 were divided into four panels of approximately equal size, and three were cut into only three panels. Only one exception was seen to this division—the early Tabirá jar in Figure 112a. But even here the concept is foreshadowed by the repeating of four identical motifs equally spaced around the body.

On some canteens, the convex outer face of the vessel was decorated with a single, balanced motif much like a bowl would be or a shield (figs. 115a and b), but the more common practice was to divide the field with a horizontal band placed a bit above the midpoint. Figures were often appended above or below the band.

Once the formality of layout was accepted by the potter, she apparently felt free to become as innovative as possible and to practice such variation as her imagination would permit. Twenty-four ollas, excepting the 'early' jar are complete enough to make a valid observation. On none do all four panels contain the same motif. On two, there are just two motifs, with like designs opposing each other. On one, there are three motifs on four panels with like designs on opposite sides, and another had three patterns on four panels with like designs side-by-side.

Each of the three-paneled pots has a distinct motif in each panel. Twelve of the jars have different designs in each of four panels.

Many of the small elements of design appearing on Tabirá, such as cross-hatched, stepped triangles, stepped terraces, checkers, frets, scrolls, and the key or bird figure (top of fig. 112), have their roots deep in the Anasazi past and are duplicated on other contemporary types. With the advent of Tabirá, plain hachure, the dominant style of almost 600 years in the Southwest, was dead.

The striking innovation is in the use of representational designs. These appear in some form on nearly all specimens of Tabirá, either highly stylized or frankly pictorial. Animals, plants, and items of material culture, as well as human figures—both lay and religious—are depicted.

The most common single figure is that of a feather, which, not counting arrow fletchings, is seen on 70 percent of the restorable vessels and on about 17 percent of the sherds. Several of the variations of feather depictions are shown in Figure 116. The black-tipped white tail feather of an immature golden eagle is easily identified, and its importance to the Indians is well known. The next in frequency of appearance is a barred feather with dark midrib. This is characteristic of several hawks and owls, and strikingly resembles the tail of an immature Redtail—one of the most common birds represented in the refuse bone from Mound 7 (McKusick, 1980). The square boxes at the side of the feather near the right end of the upper row in Figure 116 are characteristic of the wing feathers of several species of owls.

Figures of birds were sometimes highly stylized, as in Figure 114c. More often a picture was drawn that was meant to represent a specific bird. The birds in Figure 113e and Figure 114d and e have three characteristics in common, and possibly were meant to depict the same species. All are raptors with banded tails and crests. The combination fits only two birds of prey that are found in New Mexico: the caracara and the osprey. The former is a long-legged, ground-dwelling hawk, presently restricted to the southern border where it is uncommon. The osprey also is rare because its fish-eating habits are generally difficult to satisfy in the dry Southwest, but a tubular bead made of an osprey ulna was found in Mound 7. It is frustrating, and probably futile, to try to identify the species from these illustrations—hawks are difficult enough with a modern bird guide. When I found that the strong-tailed bird most closely resembled the curassow of central Mexico, it seemed time to drop the subject and get back to solid ground.
112. Design: Tabri jars.
Although he has a man's head, the rattlesnake in Figure 114e is certainly *Crotalus viridis viridis*, the prairie rattler that infests the rubble of Las Humanas today. He is distinguished by round dark patches on the back, each surrounded by a lighter colored ring. On the opposite side of the same pot is a blacktail jackrabbit identifiable by the black tips to tail and ears. Three probable bears and what appears to be a centipede also appear on the same jar. A stylized dragonfly is seen on the upper right of the olla in Figure 112k, and possibly an Awanyu, or plumed serpent, in Figure 114h.

Recognizable plants were frequently used as symbols or decoration. Several instances of tasseled corn stalks were seen (for example, fig. 115j) and what is probably a fir branch topped with a feather appears on the jar in Figure 112g. The most popular plant in Tabirá art, however, is the common sunflower which is seen on six of the restored jars and canteens and on numerous sherds. There is an oriental stamp to the symbolized sunflowers in Figure 113b, but so representational is the drawing of the plant in Figure 115j, that one can recognize the same *Helianthus* that covers the ruins after the summer rains.

Several articles of material culture are represented, providing some ethnographic information that otherwise could...
115. Design: Tabiri carreens.

116. Feather motifs from Tabiri Black-on-white vessels.
only be inferred. Arrows or parts of arrows are drawn on six of the jars and canteens. The broken arrow in Figure 115g indicates that cane arrows with separate hardwood foreshafts were used. None of the four arrows in Figure 112i is completely shown, but the tips are thinner than the butts and they probably represent the same two-part arrow. Fletching was apparently in line with the shaft of the arrow rather than spiraled, and as Figure 112g and h suggest, feathers from two birds may sometimes have been used on a single arrow. The arrows in Figure 112g are carried in a mountain lion skin quiver, which is still a common Pueblo trait (e.g., White, 1962, p. 172).

The only bow illustrated is a recurved, or reflex bow, dropped by the hunter with a painted face in Figure 114e. Obregon's chronicle of the Chamuscado expedition (Hammond and Rey, 1928) describes the Rayados on the Rio Grande above the Conchos as using the "Turkish" bow, and one is tempted to identify this fleeing hunter as a Jumano. The simple self-bow, straight or slightly curved to "follow the string," is the common Pueblo type of bow, but the recurved bow was not unknown in the pueblos. Gifford's Zuñi informant stated that both styles were made at Zuñi (Gifford, 1940, p. 29), and a sketch made at Walpi in the 1880's illustrates a recurved bow used as a standard on the Snake Kiva (Parsons, 1939, p. 663). Another depicted on a kiva mural at Awatovi is certainly valid (Smith, 1952, pl. A). There are numerous illustrations of simple bows in the Hopi villages, and in fact, the Snake Kiva standard may have been traded from another people. Parsons (1939, p. 34) reported that Apaches and Paiutes traded bows and arrows to the Hopi, and the Northern Tonto Apache did use a recurved bow (Gifford, 1940, p. 29).

Other weapons shown are a large shield on the sherd in Figure 118, and what appears to be a curved, flat-bladed rabbit stick on the canteen, Figure 115g.

Specific items of religious paraphernalia are illustrated by tironis shown on the jars in Figure 112d and g. This is a fetish made from an ear of corn wrapped in cotton string and topped by feathers. Ethnographic descriptions are numerous and are summarized by Parsons (1939, p. 319).

Other items of ethnographic interest are seen in elements of dress or adornment on several secular anthropomorphic figures. The crossing-stripes painted on the arms and legs of the running individual (fig. 114e) and on the sherd in Figure 117 were also seen on a kilted person on one of the Kuaua murals, and they are still commonly seen on ceremonial dancers in the Rio Grande pueblos. The runner also wears a bandolier over his right shoulder, and the horned kachina in Figure 113e seems to wear a choker of beads.

The warrior on the sherd in Figure 118 wears in his hair a feathered staff-like object that closely resembles warrior feathers, or "hūrünkwa," worn by the Hopi warrior kachinas (Dockstader, 1954, p. 160 and pl. XII). The device, made of eagle wing feathers combined with down and duck feathers fastened to reeds, is the badge of the Bow, or Warrior, Society at Zuñi (Bunzel, 1932b, p. 864). Hair worn in the still-familiar clubbed chongo is shown by the inverted man on the canteen in Figure 115i. Above him hangs what seems to be a painted or embroidered kilt or dance sash.

The painted knee on the sherd in Figure 117, which symbolizes speed, is characteristic of "runner" kachinas in the western pueblos. The knees of stick-race runners at Zuñi are painted (Bunzel, 1932b, p. 868).

The head shown on the small sherd in Figure 118 must be the earliest known depiction of a white man in New Mexico. He wears a broad-brimmed hat over what appears to be a hood or cowl. Although the soft felt hat with a wide brim was known in

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117. Anthropomorphic figures from Tiibirá Black-on-white sherds.

118. Human or kachina faces on Tiibirá Black-on-white sherds.
Pottery as early as about A.D. 1600 (Laver, 1951), it was about 30 years later before it became popular in Spain (Köhler, 1963).

Kachinas were depicted more often than secular figures. All of them show attributes that can be found on modern kachinas, but unfortunately, not in the combinations that make them identifiable. This is not surprising since kachinas with the same name and mythological identity vary from village to village in the ways in which they are represented—and vary from decade to decade within the same population.

The kachina shown in Figure 118, both in profile and full-face, was painted on a pitcher sherd. His distinguishing feature is a handprint on the face. A pair of Zuni kachinas, Anahoho, wear white masks with red handprints on the cheeks rather than on the forehead—according to the myth acquired by dipping their hands in Navajo blood (Bunzel, 1932b). Bloody Hand, a guard or side-dancer kachina at Cochiti with similar markings (Lange, 1959), is probably the same character as Anahoho—and possibly is identified in the Las Humanas figure as well. The crucifix hanging from the neck of the latter is a touch seldom seen on modern kachinas.

The central personage on the canteen in Figure 115b wears on his head four long feathers from which most of the vases have been stripped. This is a form of headdress common to several kachinas in both eastern and western pueblos. The smaller characters flanking him bear some resemblance to the Hopi Tumac White Earth or White Chin Kachina (Fowkes, 1903; p. 104).

The one individual that can be identified with near certainty is not properly a kachina, but one of the several deities—Morning Star, seen with upraised arms on the canteen in Figure 115a. A common symbol for a star, particularly in the west, has four points whose tips are often rounded (Bunzel, 1932; Colton, 1949). The device is seen in two rows across the center of the vessel, and the god's head is made of another. Morning Star is associated with war on the Rio Grande (Parsons, 1923; p. 166), and here he wears arrowhead pendants, another arrowhead at his neck, and seven more scattered over the chest area. The same character in a more stylized form appears with one raised arm on an olla in Figure 113c. Both representations bear a double-lobed symbol on the arms which may be indicative of this particular individual, since it is not seen elsewhere.

Several symbols appearing on Tabirá have a decidedly modern cast. In addition to the four-pointed device referred to, stars are represented as simple right-angled crosses (see Smith, 1952; Colton, 1949), and are seen on several of the vessels illustrated here. The star was also used with less frequency on contemporary glazed ware. An “X” with the arms forming acute angles, as on the canteen in Figure 115b, may be a carelessly drawn star, but it is sometimes interpreted as a roadrunner track. The bird makes a characteristic track with two toes pointing ahead and two trailing to the rear and one cannot tell in which direction he was moving. Thus, the roadrunner becomes important as a symbol of deceit and can mislead unwanted spirits. According to a Zuni informant of M. C. Stevenson (1904; p. 582), the bird can carry messages and “the enemy cannot tell from his footsteps from whence he came.” The “X” is also common on Mátsaki and Hawikuh Polychrome from Zuni during the same period, and on the Hopi Jeddito and Sikyatki.

Two short parallel bars were often used in a series around the rims of jars (i.e., fig. 112a, h, k, and l), and less often on the body of a pot (fig. 112b and fig. 115h). This element, which seems to be peculiar to Tabirá when used on pottery, is a common facial decoration on Hopi kachinas where it is said to be the mark of a warrior and to represent his footprints (Colton, 1949).

While there is an increased use of symbolic design on Tabirá, it does occur on other contemporary types of pottery, and while Tabirá is remarkable in the eastern pueblo territory for the wide use of representational figures, it shares this trait with Jeddito Black-on-yellow and Sikyatki Polychrome from the Hopi mesas. The pictorial story-telling on two panels of the Tabirá Polychrome jar in Figure 114e, however, must be unique. In one panel a man has been caught in a sapling, which bends under his weight, by a bear followed by two cubs. His hunting partner, dropping his weapons, flees, looking back over his shoulder in terror. The hazards of survival are also illustrated in a second panel where a jackrabbit, blood dripping from his wounded back, is gripped in the talons of a large bird of prey, who flies with him to a perch in a tree.

We have seen that there is little about Tabirá that reflects anything in the earlier tradition of the eastern periphery. But pottery types, no more than species, do not appear through some spontaneous creation. We must look elsewhere for their origins, but the various attributes of a piece of pottery appear, blend, and vanish in an exasperating way. Three aspects of pottery are useful to consider here: shape, design layout, and the elements of the design.

The Tabirá canteen seems to have its closest parallel in the large red ware canteens of modern Hopi, but since this form had still not appeared in Awatovi by the time of its abandonment in A.D. 1700 (Watson, Smith, personal communication), the people of Los Humanas were more likely the source than the borrowers. Tabirá ollas, however, are quite reminiscent in shape to those of Sikyatki Polychrome, which was made during the same period in the Hopi country. Mátsaki and Hawikuh Polychrome are also of a like form in the body of the vessel, but these Zuni types lack the short neck and everted lip of Tabirá. Kechipawon Polychrome (a predecessor to Mátsaki), which the Woodburys (1966) date at A.D. 1375 to 1475, does have a neck and rim like Tabirá, and in some vessels, the exaggerated shoulder. Whether it was Zuni or Hopi potters that were the inspiration, both Kechipawan and Jeddito seem to hold the beginnings of the wide-mouthed, squat shape of Mátsaki, Sikyatki, and Tabirá—and the Mátsaki and Sikyatki were both earlier than Tabirá. The form has a western origin.

The hallmark of Tabirá layout—the broad and narrow framing lines dividing the field of design into three or four panels of equal size—is an occasional trait on the western types with which we are concerned (Martin and Willis, 1940; pl. 30, fig. 3; Smith, Woodbury, and Woodbury, 1966; fig. 66f; Smith, 1971; fig. 145), but it appears only as a variation rather than the law. But it is interesting to see the same rigid format applied with almost no deviation to the Biscuit ware bowls illustrated by Kidder (1931) in his Pottery of Pecos. The layout of this northern New Mexico type differs from that of Tabirá only in uniformly having three panels instead of four, and in the repetition of the same design on all three panels. Since Kidder's work was published, Biscuit ware has been brought into the binomial system of classification under the names Abiquiu and Bandelier Black-on-gray, with a combined range of dates of about A.D. 1400 to 1550 (Smiley, Stubbs, and Bannister, 1953). Some modification of the Abiquiu-Tabirá style of framing lines is sometimes seen on the
glazed pottery of the middle period, Esponoso and San Lázaro Glaze polychrome, but it is not a feature on Puaray, which was contemporaneous with the introduction of Tabirá. Therefore, if there is a connection, it was more likely to be directly from the Chama River-Pajarito Plateau region of Abiquiu Black-on-gray than through the intermediary of one of the middle Rio Grande Glazes. There was certainly contact between the two areas. Bandelier and Abiquiu were the first and second most numerous non-glazed types in the Mound 7 trade sherds, and the many fibrolite axes with spiral grooves were also made in the Biscuit area.

The ubiquitous feather motif exhibited on Tabirá has precedence in both the Biscuit area and in the west, but in the Biscuit area its use was slight, and probably concentrated toward the latter end of its time range. But feathers were used extensively, and there was much preoccupation with life forms on Kechipawan Polychrome at Zuñi, which continued on the subsequent Matsu, a common crematory vessel at Hawikuh, which was made into the late 1600s. Both traits are also featured on late Jeddito and Sikyatki on the Hopi mesas. These two types were both manufactured into the early 1600s (Colton, 1956).

If the estimated dates of the western types are reasonably correct, one could argue that the Cibola area was the hearth of the style that was borrowed or imported by both the Tusayan and the southern Salinas Provinces. A route of influence or travel, however, can be a two-way street. Hodge relates a Zuñi tradition that the Tansy Mustard Clan migrated from the Rio Grande in late prehistoric times and, after spending a short spell in Cibola, went on to the Hopi country (Smith, Woodbury, and Woodbury, 1966). He reports that the same tradition is heard from the Hopi.

**Rio Grande Glazes**

About a third of the pottery used at Las Humanas was made somewhere else, and nearly all of that was Rio Grande Glaze ware. In the late 1200s black mineral paint, which glazed on firing, was developed in east-central Arizona. The trait spread rapidly throughout the Zuñi country to the Rio Grande where it went through many diverse experiments and lasted for 200 years longer than in the territory of its invention.

The profusion of types and the overlapping of at least five systems of nomenclature of the eastern glaze-paint ware has understandably bewildered archeologists who are not completely at home in the Rio Grande Valley. Rio Grande pottery is less well described than that of most Southwestern districts, despite the fact that the first American effort to establish a taxonomy for stratigraphically excavated potsherds was applied to these glazes. From material excavated at San Cristóbal and other Galisteo Valley sites, Neis C. Nelson (1916) described the sequence as Types I through IV. Peabody Museum's expedition at nearby Pecos during the same period had a larger body of material, equally good stratigraphy, and a longer period of time represented. With this, Alfred V. Kidder at first defined the glazes with a series of descriptive names (Kidder and Kidder, 1917), and later in his monumental *Pottery of Pecos*, with a series numbered as Glazes I through VI (Kidder, 1936). The extensive surveys of H. P. Mera provided information from a wider area, and the recognition that Kidder's basic types varied from locality to locality. Not presuming to apply the numbers that described just Pecos pottery to the entire area, he proposed an alphabetized series, A through F, which corresponded closely to Glazes I through VI, and described local varieties under each larger heading in the binomial system already in use in Arizona (Mera, 1933). Mera's work was largely taxonomic, and Kidder's descriptions, although they deal primarily with Pecos, remain the