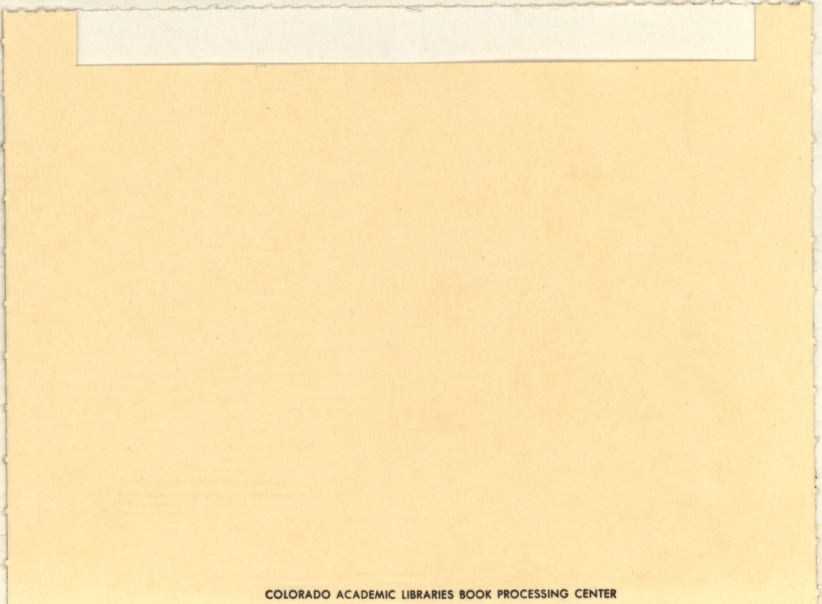


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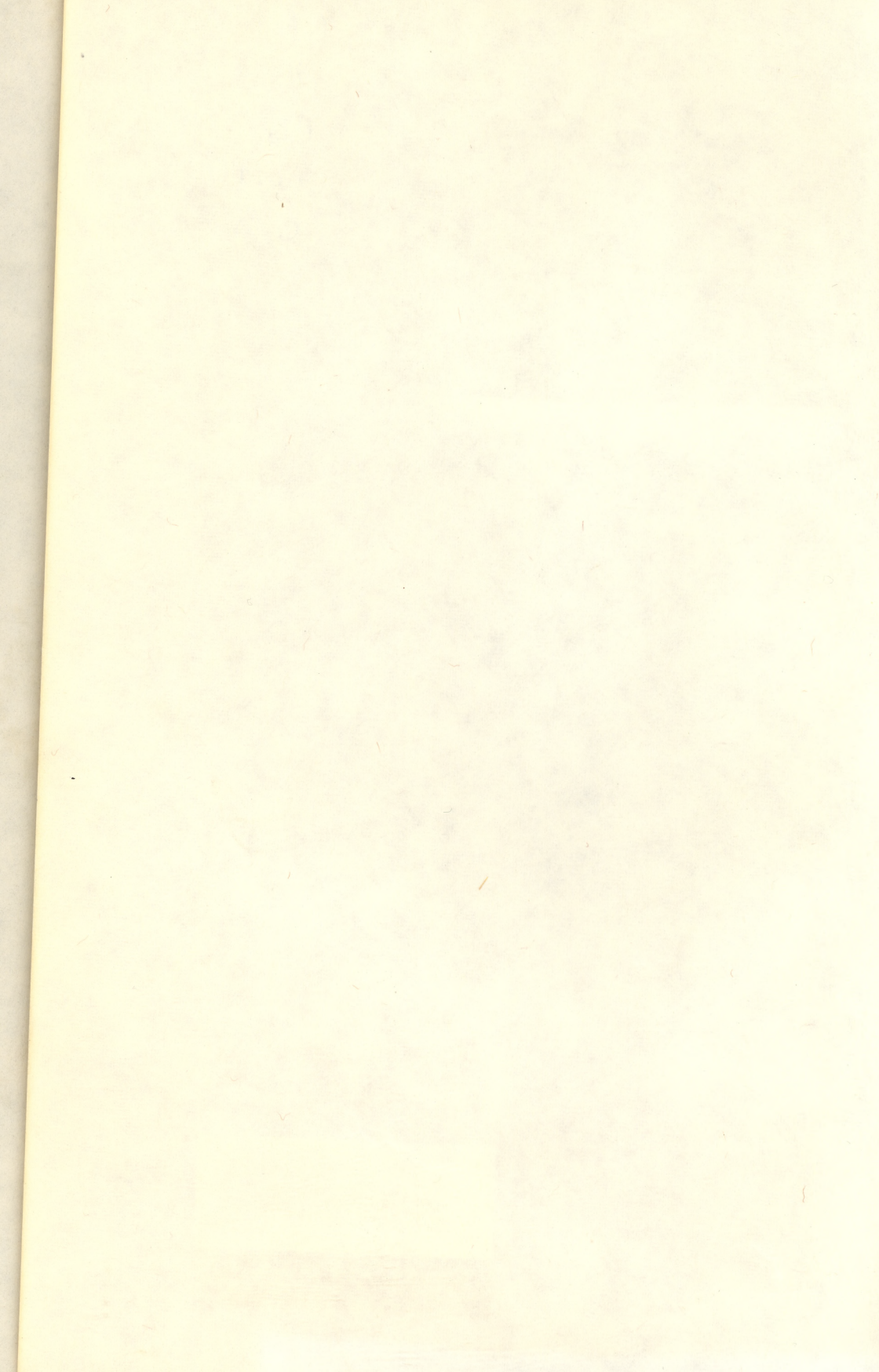
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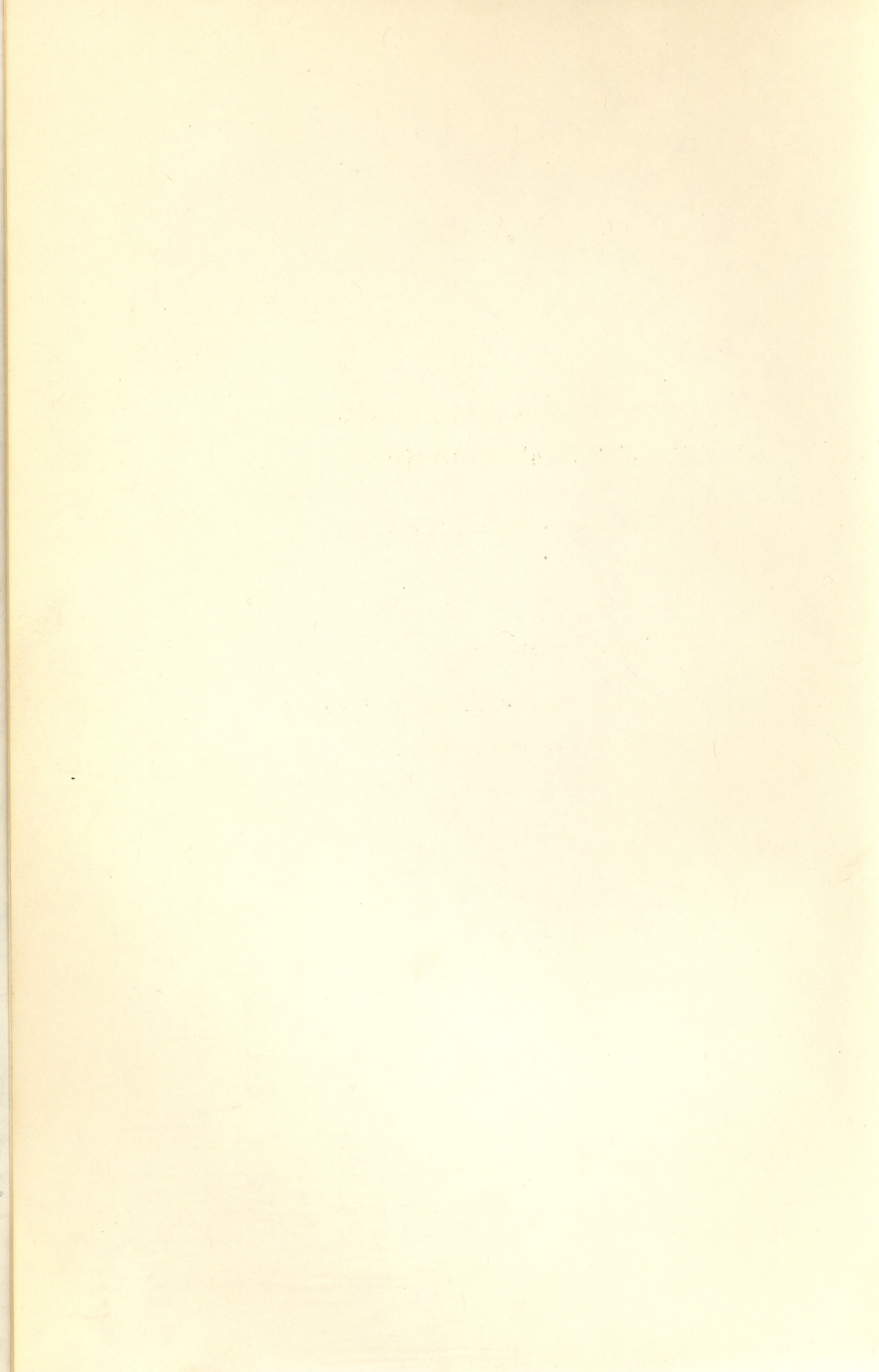
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EIGHTEENTH CENTURY NAVAJO FORTRESSES
OF THE GOBERNADOR DISTRICT

The Earl Morris Papers, No. 2

BY

ROY L. CARLSON

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UNIVERSITY OF COLORADO MUSEUM

UNIVERSITY OF COLORADO PRESS
BOULDER, COLORADO, JULY, 1965



106° 30'

36° 45'

36° 45'

108° 30'

map area
NEW MEXICO

0 1 2 3
MILES

contour interval 400'
● site
Navajo Reservoir

PREFACE AND ACKNOWLEDGMENTS

This report is the second in the series entitled "The Earl Morris Papers" which are based on archaeological materials collected by the late Earl H. Morris for the University of Colorado Museum. The financial support for this project given by the National Science Foundation is gratefully acknowledged. Without Joe Ben Wheat, curator of anthropology at the University of Colorado Museum, who initiated and directed this project, this report could not have been written.

In 1915, the year in which the sites in this report were excavated, southwest archaeology was young. Methods of excavation and types of data gathered have changed considerably since that time. Similarly, transportation has improved and it should be kept in mind that while the Gobernador sites are fairly accessible today, in 1915 it was necessary to use a horse and wagon. The Gobernador expedition under the direction of Morris was financed jointly by the University of Colorado Museum and the American Museum of Natural History. The collections were to have been divided equally between the two institutions, but in 1923 the American Museum of Natural History's interest was obtained by reimbursing that institution for its part of the expenses. Livingston Farrand, the anthropologist of Jessup North Pacific Expedition renown, was president of the University of Colorado at the time of the Gobernador excavations and was influential in getting the archaeological program underway.

Morris prepared a partial manuscript that consisted for the most part of a description of the nonceramic artifacts. These descriptions have been used to a limited extent in the present report. H. P. Mera used a portion of the pottery collection from these excavations in his *Style Trends of Pueblo Pottery* and identified a portion of the other vessels in the collection prior to 1939. Most of these identifications have been retained in the present study. Additional use of a portion of the material was made by J. J. Hester for his *Early Navajo Migrations and Acculturation in the Southwest* published in 1961, but the material as a whole and the specific associations have never previously been reported. E. A. Dittert recently identified the glaze ware sherds from the sites, and the U.S. National Museum identified the faunal remains in 1932. Arthur Woodward identified the glass trade beads and

examined a number of the other European artifacts. Clarence J. McCoy identified the shells used for beads and pendants. The appendices on tree-ring dates by Jack Hanna and on textile remains by Kate Kent add material to the report. Morris, in 1915, sent a number of wood specimens to A. E. Douglass, and these formed part of Douglass' original H-series in his development of tree-ring dating. The following people have also contributed to the preparation of this report in one way or another: Bryant Bannister, Douglas Bucy, Edna Eddy, Frank Eddy, Jim Hester, Alfred Johnson, Sue McCabe, Virginia Nelson, Ann Perry, Patricia Robinson, Hugo Rodeck, Kurt Schaafsma, Pauline Schaafsma, Al Schroeder, Lowell Swenson, and Tex Williams.

A small grant from the University of Colorado Council on Research and Creative Work enabled the preparation of some illustrations.

I wish to thank all of these individuals and institutions for their assistance.

ROY L. CARLSON

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INTRODUCTION

The Gobernador District (Fig. 1) is just south of the San Juan River in north central New Mexico between La Jara Creek on the northeast and Canyon Largo on the southwest. The major canyons and creeks of this locality—La Jara Creek, Carrizo Creek, Canyon Frances, Canyon Gobernador, and Canyon Largo—are actually only dry washes which drain northwestward into the San Juan River. The terrain is rugged and the steep canyons widen in places into small valleys whose walls rise in a series of step-like terraces to flattened mesa tops. The main life zone is transitional, although both upper Sonoran and Canadian zones are present. The area is heavily wooded with juniper and pinyon with occasionally yellow pine and Douglas fir in the higher reaches. The valley bottoms are grass covered with occasional cottonwoods, and sagebrush is common on the lower slopes and in the valleys. The Gobernador District today is sparsely populated. There are a few cattle ranches, but the most common features of the modern cultural landscape are the pumps for natural gas which dot the area. The town of Gobernador is inhabited only by ghosts, and the area seems a wilderness in spite of the many gas pumps and Highway 17 which runs through the central and upper reaches of Canyon Gobernador. A little over two centuries ago, the cultural landscape was markedly different.

A considerable amount of archaeological research has been accomplished within the Gobernador District in sites belonging to the historic period. Kidder (1920) reported on survey work done by himself in 1912 and by Nelson in 1916. Kidder visited three sites, two in the Gobernador drainage and one in Canyon Largo. Farmer (1942) surveyed Largo and Blanco Canyons and their tributaries in 1938 and located 29 sites. C. O. Erwin and M. W. Kelly surveyed portions of Canyons Frances and Gobernador in 1934 and the sites they located are recorded in the Laboratory of Anthropology at Santa Fe. In 1940 Keur (1944) located some 50 sites in La Jara, Frances, Muñoz, Gobernador, San Rafael, Compañero, and Pueblito Canyons, and excavated 19 of 273 hogan-like structures. During the same year Deric O'Bryan collected dendro specimens at some of these same sites for Gila Pueblo. Hall (1944, Fig. 1) has published the only survey map for the

district which shows the distribution of historic sites. Hall also collected dendro specimens from some of the larger sites. More recent work has been carried out by the Museum of New Mexico (Dittert 1958; Dittert, Hester, Eddy 1961) in the Navajo Reservoir district on the San Juan River proper rather than in the canyons themselves. The field work in the Gobernador District on which the present report is based was actually carried out in 1915 by Earl H. Morris for the University of Colorado Museum. The author, however, visited the district in July, 1962, and again in June, 1963, for the purpose of locating these sites and of correlating them with other surveys in the area. Some additional notes were made, and a few additional artifacts were collected.

Morris made collections from 17 different sites. These sites varied from caches of single artifacts, to hogans, to multiroomed pueblos. None of the sites had been plotted on a map, and data on locations for most of them were extremely meagre. Morris had numbered the six main sites consecutively from 1 to 6 in his field notes. Five of these sites were found and their locations are shown in Figure 1. Other names or numbers for these same sites are given with the site descriptions. The sites which could not be specifically located have also been numbered in the consecutive series from 1 to 17, and their general locations are given in the site descriptions.

The Gobernador District has long been known as an area of early Navajo culture, though exactly how early is a question which cannot be answered at the present time. The district is part of Dinétah (Tinétxah), the legendary homeland of the Navajo (Harrington 1940: 514). There are inconclusive tree-ring dates on hogan wood (Hall 1951: 27) from sites as well as completely undated sites (Keur 1944; Dittert, Hester, Eddy 1961: 100) suggesting Navajo occupation in the 16th and early 17th centuries, but these data are very meagre. Abundant material does not appear until the first half of the 18th century at which time historic and archaeological evidence indicates that the pressure of Ute and Comanche attacks forced the movement of a mixed Navajo and Pueblo Indian group southward from the San Juan River proper into these inhospitable canyons. This mixed group itself was probably formed some 25 or 30 years earlier as a result of the unsuccessful Pueblo revolt of 1696 which resulted in the abandonment by many Pueblo groups of their homes on the Rio Grande in favor of lands still outside the sphere of Spanish domination. Many culture traits probably flowed from these Pueblo refugees to the Navajo at this time, and indeed it seems likely that the refugees themselves were absorbed by the Navajo prior to the abandonment of the Gobernador District about 1750 for regions to the south and west.

THE SITES

Various types of sites were recorded. The most interesting ones are the larger masonry pueblos, Sites 3, 4, and 6, which are essentially fortresses. Hogans are associated with all three of these sites. Sites 1, 2, and 5 are basically masonry defensive structures also but are much smaller in size. Caches of artifacts are the next most numerous group, and Sites 12, 15, 16, and 17 belong in this category. Site 7 is a small cliff room, and Site 9 is a hogan. The other sites consist of pottery samples obtained at various localities within the surveyed area.

SITE 1

We were unable to locate Site 1 in 1962. The only information in Morris' notes is that it is situated on the north side of Canyon Gobernador and consists of a small one-story masonry pueblito (Pl. 1 *b*), perched on a large detached boulder on the valley floor at the foot of the canyon wall, and a small room in the cliff behind it. The boulder is 4.88 meters high, and a ladder would have been necessary to reach the pueblito.

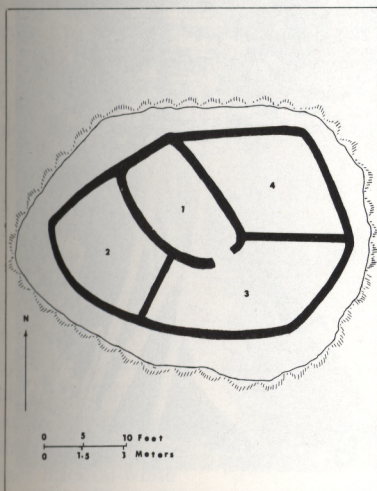


FIGURE 2. Floor plan of the pueblito at Site 1.

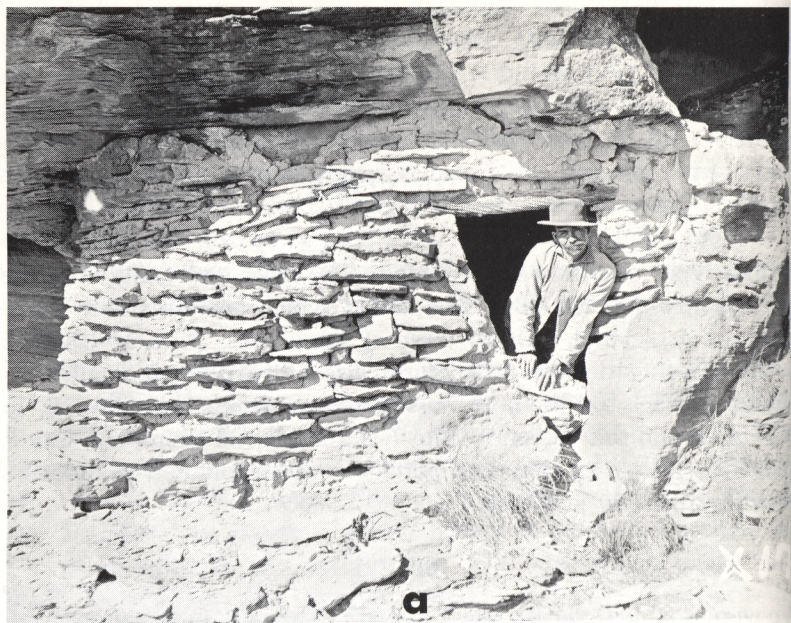


PLATE 1. Site 1. *a*, cliff room; *b*, pueblito.

PUEBLO

The small pueblo or pueblito as Keur (1944) calls them occupied most of the surface of the rock. The walls had been constructed of rough stones laid in adobe mud. The floors had been coated with mud to even up the surface of the rock. The roof had been constructed of beams running east-west with a transverse covering of split sticks, and then a layer of mud. The beams had been cut with metal tools. Four rooms were present (Fig. 2). Room 1 formed a core on the north side of the boulder. Rooms 2, 3, and 4 radiated from Room 1 on the west, south, and east. The outline of the whole structure seems to have been determined by the outline of the boulder. A doorway 55 cm. wide and 91 cm. high opened from Room 1 into Room 3. Entrance into the

other rooms and into the whole structure must have been from the roof.

CLIFF ROOM

The room in the cliff in back of the pueblito was small and was partly enclosed by a wall of rough stones leaving a doorway to the east. The structure illustrated in Plate 1 *a* may be this cliff room. The notes with the photograph state that it is located on the north side of Canyon Gobernador but do not state whether this is the structure at Site 1.

ARTIFACTS

One sherd of Navajo plain ware, one broken metate, and one probable sherd of Gobernador Polychrome are reported in the field notes. Two deer bones are also noted. These objects were not saved.

SITE 2

Site 2 (Pl. 2) consists of a two-room, one-story masonry pueblito situated on a detached rock separated from the cliff by a narrow chasm on a promontory just west of the mouth of Canyon San Rafael (Fig. 1). The promontory is high above the valley floor. Access from the cliff to the pueblito is possible by means of a bridge of poles. The rock had been notched to receive the pole ends. Two of the poles were still in place when we relocated the site in 1963.

TABLE 1. Pottery from Site 2.

Type	Minimum No. of Vessels represented
Gobernador Polychrome	5
Puname Polychrome	1
Ashiwi Polychrome	1
Jemez Black-on-white	2
Rio Grande Glaze VI	1
Gobernador Indented	1
Dinetah Scored	3

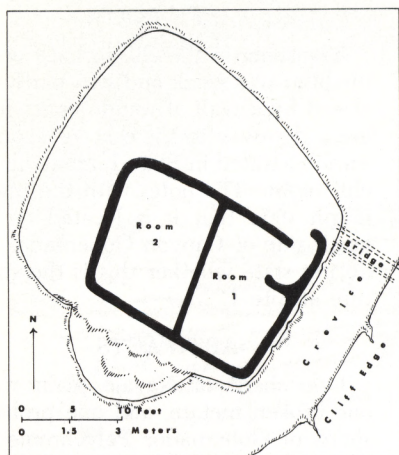


Figure 3. Floor plan of the pueblito at Site 2.

PUEBLO

The structure was approximately 4.9 meters long by 4 meters wide (Fig. 3), and had been built of rough stones in a mud mortar. Corners were rounded. Beams had supported the roof. Room 1 was roughly rectangular with a doorway in the northeast corner. There was no doorway between Rooms 1 and 2. There were seven loopholes in the walls—three in the east and one in the south walls of Room 2, and one in the south and two in the east walls of Room 1. Those in the east walls

of Room 2 commanded the door. Whereas the walls of the structure still stood to head height in Morris' day, they are only about 50 cm. high at present.

ARTIFACTS

A small cobble mano with one face ground flat and the three sherds of Dinetah Scored were found among the rocks below the pueblito in 1963. The other sherds shown in Table 1 were collected by Morris from the surface near the pueblito.

SITE 3

Site 3 (Pl. 3) is located on the south rim of Canyon San Rafael, and was described originally by Kidder (1920, Figs. 17-18). Keur (1944, Pl. 8*d*) illustrates one of the three hogans she dug at this site in 1940. The site is recorded as Largo 5:1 in the Gila Pueblo survey, and as LA-1869 in the Laboratory of Anthropology records. The main features of the site are a masonry pueblo and eight hogans enclosed within a stone wall, and two trash deposits outside the wall. The location is defensive.



PLATE 2. Site 2. *a*, pueblito from the south; *b*, view from the southwest.

DEFENSIVE WALL

The enclosed area (Fig. 4) is hexagonal in outline with maximum dimensions of approximately 50 meters north-south by 61 meters east-west. Portions of the wall had fallen and other parts remained to heights of about 190 cm., except for the wall at the entrance which still stands to a height of about 3 meters. The wall was constructed of roughly shaped sandstone slabs laid in adobe, and was generally one course thick.

ENTRANCES

The main entrance (Pl. 4 *d*) was in the eastern side of the wall. It consisted of a roofed passageway about 2 meters high with an exterior doorway 1.22 meters wide and 1.52 meters high. Within the passageway 1.22 meters from the exterior doorway pairs of vertical posts (Pl. 4 *f*) had been set on opposite sides of the passage, and extended from the ground into the roof above. Logs could have been placed between these posts to barricade effectively the passage. The roof of the passage was of timbers and adobe, and above this the wall continued to a height of approximately 3 meters.

Doorways that had been walled up were observed in the southeast, southwest, and northwest walls (Fig. 4). Just to the west of the walled-up northwest entry, a crevice in the cliff face had at one time served as an entryway. It had been walled in and roofed over leaving a hatchway in the roof. The defensive wall continued upward above the roof of this entry.

PUEBLO

The pueblo (Fig. 4) was composed of two separate units. The main block of 13 rooms and a small court occupied the northern portion of the enclosure and presented a good defensive unit by itself even without the

main compound wall. The second unit was located along the southern wall of the enclosure and consisted of two rooms, one on the ground floor and one above. The buildings had been constructed of rough stones cemented with adobe. Interior walls were generally plastered smooth and white washed. Roof construction was generally of beams covered with split sticks. Loop holes, interior doorways, ceiling hatchways to second story rooms, shelves, niches, and firepits were found in some rooms. Room sizes are shown to scale (Fig. 4).

Rooms 1-6: Rooms 1, 3, and 5 were ground floor rooms with a second story, Rooms 2, 4, and 6, above them. The ceiling of Room 1 was 1.8 meters above the floor and was composed of two vigas covered with a transverse layer of split sticks. Pegs protruded from the north and south walls. A doorway had formerly led from Room 1 into Room 3 but had been walled up. There was a small window in the east wall (Pl. 3 *c*), and a storage niche in the south wall near the ceiling. A hatchway led to Room 2 above. The ceiling of Room 2 was nearly gone. There were two loopholes in the south wall. Rooms 3, 4, 5, and 6 were in poor condition. A window in the east wall of Room 3 was noted. No ground-floor doorways were present in any of the rooms.

Rooms 7-8: Rooms 7 and 8 were ground floor rooms next to Rooms 1-6. There was no second story above them. A shelf made of poles was found in the southeast corner of Room 7. The western two-thirds of Room 7 had a roof made of a battered cribbing of poles supported at the corners by posts. This crib-work is shown in Plate 3 *b*. A doorway led from Room 7 into Room 8.

Room 8 was very large. The roof was supported by large posts set into the floor with their butt ends uppermost. Four posts were used. These

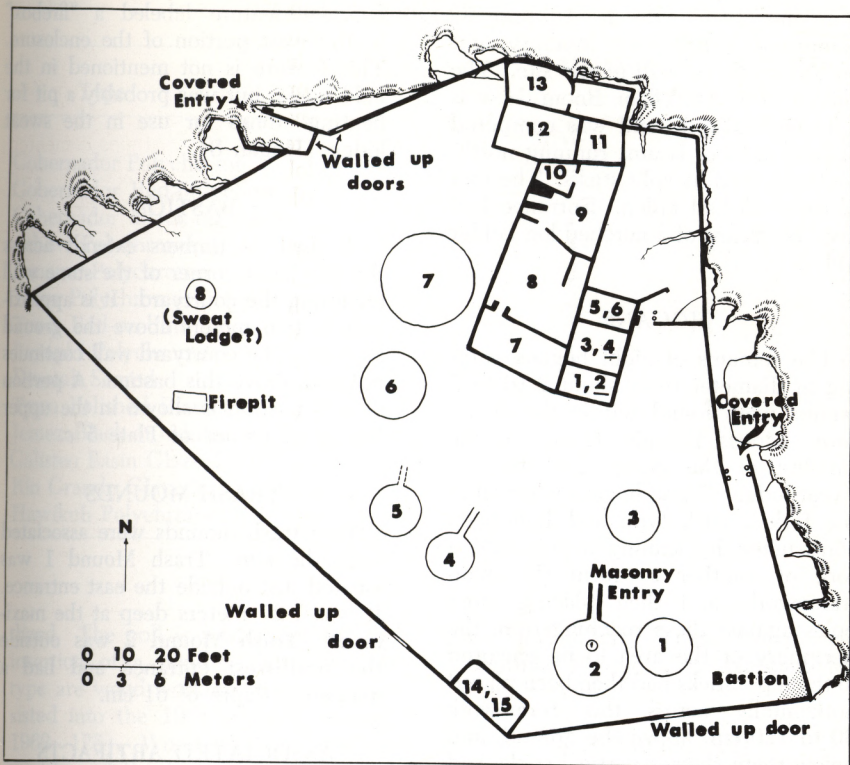


FIGURE 4. Plan view of compound wall, hogans, and ground floor masonry rooms at Site 3. Underlined numbers refer to second story rooms not shown on plan.

ran east-west about 3 meters south of the room's north wall. One end of the roof beams rested on these posts, and the other on the walls. Split sticks covered the beams transversely. A small chamber had been walled off in the northeast corner of the room. A doorway led into Room 9.

Rooms 9-12: These rooms were ground floor rooms and were in a poor state of repair. A small closet had been built against the west wall of Room 9, and Room 10 had been made by walling off the northwest corner of Room 9 leaving a doorway in the east wall. Rooms 11 and 12 were filled with

fallen stones and the remains of charred timbers.

Room 13: Room 13 was on the edge of the cliff just north of Room 12. The corners of the room were rounded, and it seemed to have been built independently of the rest of the room block. A doorway 1.83 meters high and .75 meters wide through the east wall led into a small walled area. Beneath the floor of Room 13 a cubbyhole large enough to hold two men had been made by roofing a crack in the ledge with split timbers and adobe, leaving a hatchway along the north wall.

Rooms 14-15: Rooms 14 and 15 comprised a two-story masonry unit on the southern wall of the site. The ceiling of ground-floor Room 14 was 1.83 meters high, and was composed of four pairs of beams running north-south covered by split sticks. The roof of room 15 had fallen. Entrance had been by means of a notched log ladder (Pl. 5 *e*).

HOGANS

The remains of eight hogans varying in diameter from about 2.10 to 7 meters were found within the enclosure. Morris thought Hogan 8, the smallest of the group, had been a sweat lodge. These hogans were all of the forked stick type and had been constructed by leaning a pole into a fork of another to form the main framework, and then placing more poles against these reaching from the periphery of the area to be enclosed to the top. Sticks had then been placed horizontally across this framework 90 to 120 cm. above the ground, and below them shorter vertical sticks had been placed reaching to the ground. Adobe had then been plastered over the exterior. The framework for Hogan 5 is shown in Plate 5 *b*.

Three of the hogans possessed entrance tunnels extending northward; the others apparently had side entrances without tunnels. Hogan 2 was excavated and showed a circular fire-pit near the center. The entrance tunnel (Pl. 5 *d*) to this hogan was about 91 cm. high and 65 cm. wide. Masonry and timbers had been used for the walls of the entrance and horizontal poles for the roof. A framework of hewn timbers stood at the outer end. The inner end extended in beyond the rim of the house and was bounded by vertical poles running to the roof. Keur (1944) apparently re-excavated this same hogan.

The site map (Fig. 4) shows a rec-

tangular feature labeled a "firebox" in the west portion of the enclosure. This feature is not mentioned in the field notes, but was probably a pit for heating stones for use in the sweat lodge (Hogan 8).

BASTION

A shelf of timbers extends across the northeast corner of the stone wall enclosing the courtyard. It is approximately two meters above the ground surface. The courtyard wall continues upward above this bastion. A portion of this bastion is shown in the upper left hand corner of Plate 5 *c*.

TRASH MOUNDS

Two trash mounds were associated with the site. Trash Mound 1 was located just outside the east entrance. It was 1.27 meters deep at the maximum. Trash Mound 2 was outside the northwest entrance and had a maximum depth of 61 cm.

ASSOCIATED ARTIFACTS

One metate and two manos, a pottery sample, five arrowshaft smoothers, and an iron axe came from Trash Mound 1. A pottery sample was also secured from Trash Mound 2.

Metate and Manos: The metate and manos (Pl. 4 *c*) were not brought back from the field. The metate is the flat type without raised edges.

Arrowshaft Smoothers: The arrowshaft smoothers (Pl. 6 *c*) are rectangular sandstone blocks with a single concave groove down one face. Three of them are incomplete. The two complete ones measure 6.6 cm. long by 3.9 cm. wide by 2.2 cm. thick, and 5.6 long by 3.7 wide by 1.9 cm. thick respectively. They were probably used in pairs.

Iron Axe: The iron axe (Pl. 13 *a*) is 12.7 cm. long by 5.9 cm. wide by 5 cm. high. The surface is badly ox-

TABLE 2. Pottery from Site 3.

Type	Minimum No. of Vessels Represented		
	TM-1	TM-2	Total
Gobernador Polychrome	19	16	35
Gobernador Red-on-yellow	1	1	2
Gobernador Black-on-yellow	1		1
Ashiwi Polychrome	4	3	7
Puname Polychrome	2		2
Tewa Polychrome	2		2
Tewa Red-on-buff	1	1	2
Payupki Polychrome	1	1	2
Dinetah Scored	3	1	4
Tewa Polished Black		1	1
Jemez Black-on-white		1	1
Galisteo Basin Glaze IV (?)		1	1
Rio Grande Glaze VI		1	1
Hawikuh Polychrome		1	1

dized. The poll is perforated for the insertion of a handle. Axes of this type are wood-working axes that persisted into the 19th century (Hester 1962: 125). Wood used in both the pueblo and the hogans had been cut with metal axes.

Pottery: Pottery is tabulated in Table 2. Sherds from 63 separate vessels were recovered. Two Ashiwi Polychrome jars and a Tewa Polished Black spoon are nearly complete. I suspect that many Navajo plain ware sherds were not saved. One sherd of Dinetah Scored contained a deposit of red ochre. The Galisteo Basin Glaze IV sherd was identified by A. E. Dittert.

FAUNAL REMAINS

Bones of the domestic dog, sheep, horse, and mule deer were found in the trash deposits. Three sheep bones represent a minimum of two individuals; two dog bones, a minimum of one; 11 horse bones, a minimum of two; and 10 deer bones, a minimum of

one individual. These bones were identified by the U. S. National Museum in 1932.

PETROGLYPH

A petroglyph showing a snake (Pl. 4 *b*) was found opposite Site 3 on the north side of Canyon San Rafael.

TREE-RING DATES

Twelve dendro specimens have been collected by various agencies from Site 3. These are listed in Appendix I. One of these specimens (H-2) came from a living pinyon, the largest tree growing in the courtyard (Pl. 4 *e*), which Morris cut in 1915. This specimen was examined by Bryant Bannister. The inside ring, which is very close to the pith, dates at 1768 indicating that the tree started to grow sometime not long before 1768. None of the other specimens are bark dates, that is, the outside ring present on the specimen does not definitely indicate the exact year in which the tree was cut, but it

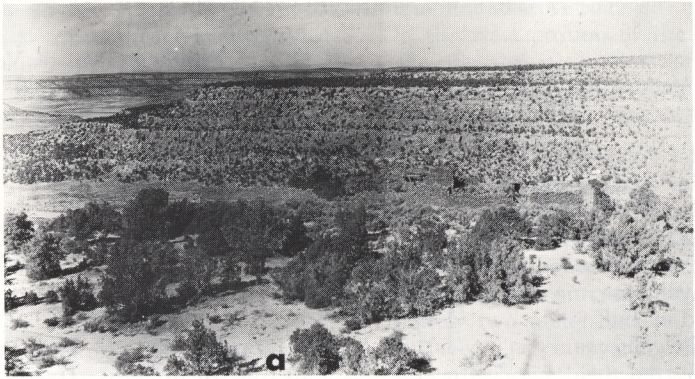


PLATE 3. Site 3. *a*, view from hilltop to the south, Canyon San Rafael in distance; *b*, Room 7 at the left and Rooms 1 and 2 at the right, note cribbed roof; *c*, Rooms 1-6 from the southeast.

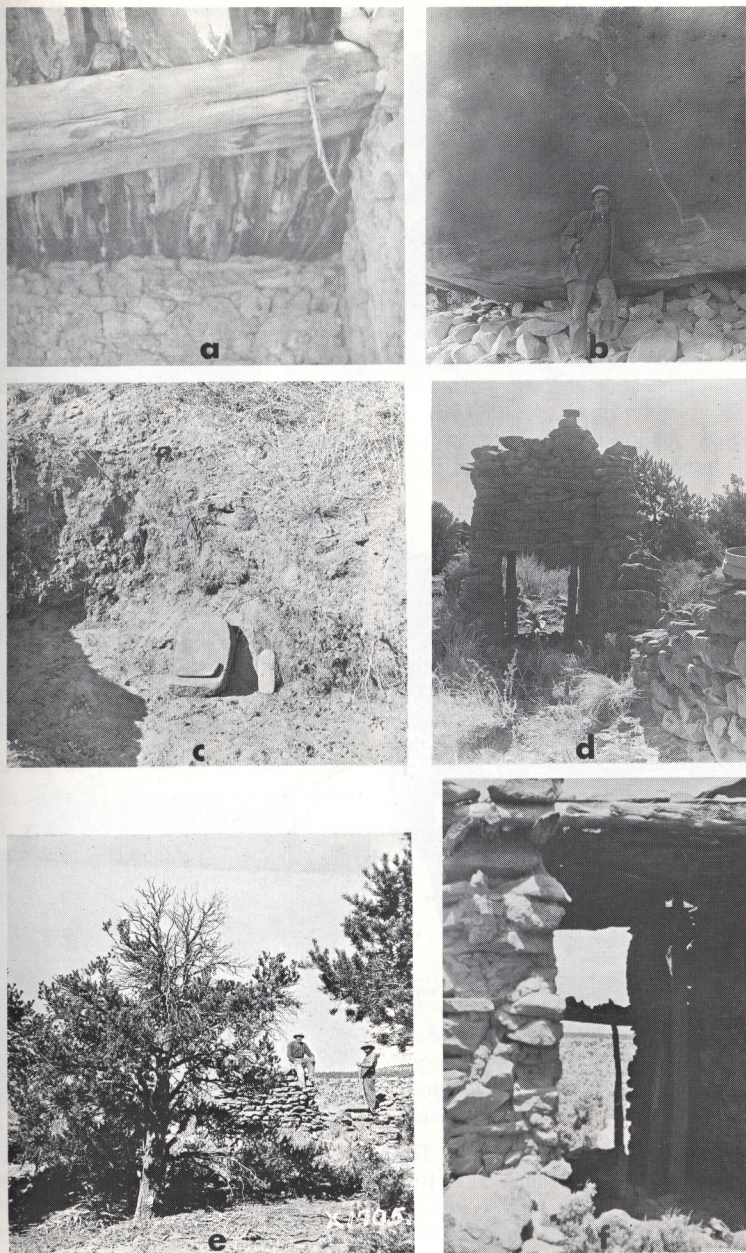


PLATE 4. Features at Site 3, *a*, southeast corner of Room 14 showing interior wall and ceiling construction, 1962; *b*, petroglyph, north side of Canyon San Rafael opposite Site 3; *c*, refuse heap, northeast side of pueblo, showing metate and manos; *d*, east entryway to compound; *e*, largest tree growing in the courtyard; *f*, northeast entryway to compound.

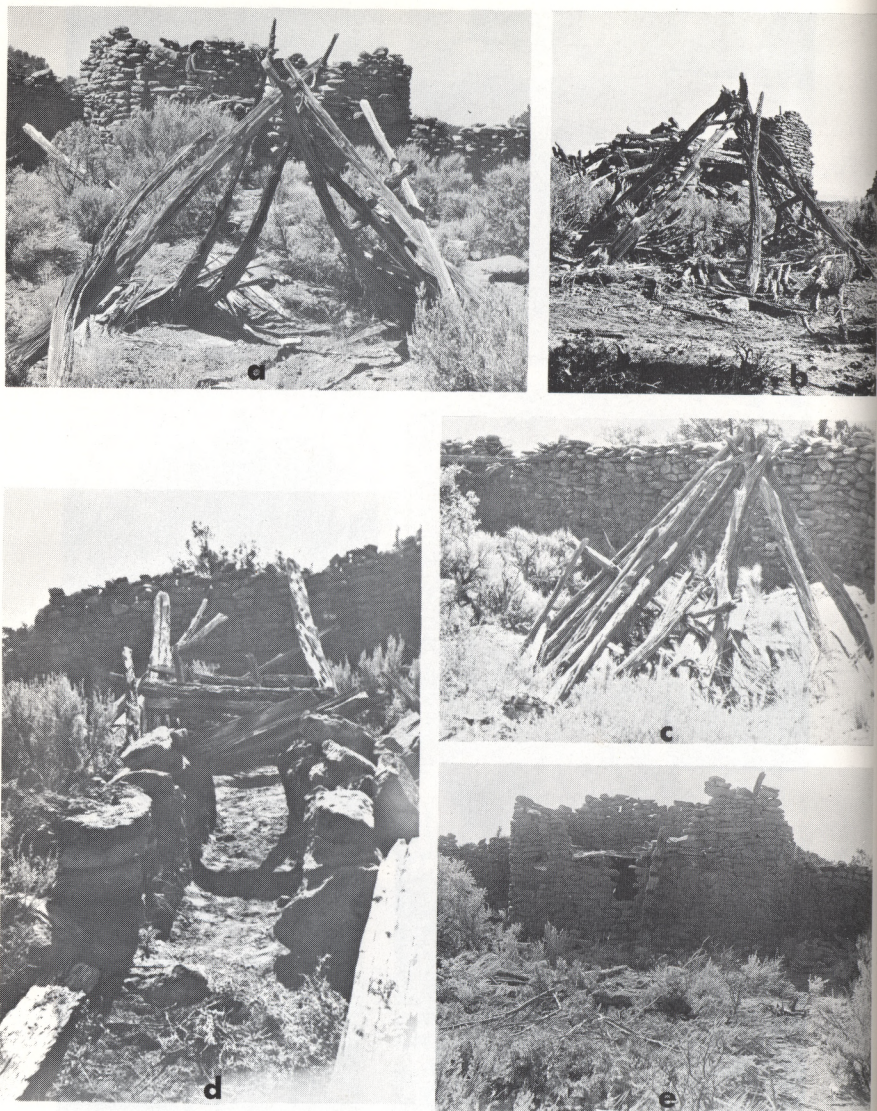


PLATE 5. Structures at Site 3. *a*, Hogan 3, 1962; *b*, Hogan 5; *c*, Hogan 1, 1962; *d*, entrance passage to Hogan 2; *e*, Rooms 14 and 15, note notched log ladder.

does indicate that the tree was cut that year or at some time after the year in which that outside ring grew. Six of the dates are on wood used in the construction of hogans. The earliest of these, 1644 vv, is considerably earlier than any other date for the site, and I suspect indicates that an earlier deadfall was used in construction, although it is possible that Hogan 1, to which this date probably belongs, pre-existed prior to the erection of the other structures at Site 3. The other dates on hogans range from 1722 vv to 1748 vv and indicate at least that hogans were being built at the site after 1748. The dates on the main block of masonry rooms range

from 1726 vv to 1749 vv. Hannah notes in the appendix that the latter date which came from a rafter in the main room block, probably Room 7 or 8, is probably near the cutting date. The indications are then that construction or repair of the masonry rooms was going on in 1749 or later. In summary, the general range of dates for both hogans and masonry structures indicates contemporaneity, and occupation as late as 1749, and if we assume that human occupation of the site prohibited the growth of trees in the courtyard and that the pinyon, H-2, did not start growing until after the site was abandoned, then this abandonment took place before 1768.

SITE 4

Site 4 (Fig. 5) is located on an isolated pinnacle of rock separated by a chasm from the western edge of Canyon San Rafael about .5 miles southeast of Site 3. O'Bryan in his survey in 1940 dubbed this site the "Eagle's Nest" which aptly describes its high, isolated, defensive position (Pls. 6, 7). Site 4 is recorded as Largo 5:2 in the Gila Pueblo survey, and as LA-1871 at the Laboratory of Anthropology. Kidder (1920) also described this site. The main features of the site are an entrance labyrinth, a defensive wall, the masonry pueblo itself, two hogans in the plaza, two trash areas at the base of the pinnacle, and a petroglyph.

ENTRANCE

Access to the pinnacle (Pl. 6 a) was at the extreme northeast point of the cliff where notched log ladders led up the sloping rock. At the top a trail opened into a labyrinth of masonry walls, and swung first to the east, then to the west through a narrow doorway, and again through another doorway into Room 13. This "room" may actually have been part of the fortification walls around the entry rather than a real room. A doorway opened from Room 13 into the main plaza.

DEFENSIVE WALL

Around the edges of the pinnacle top at the places where there were no room walls, stood the remains of a masonry wall.

PUEBLO

The pueblo contained at least 12 ground-floor rooms and two second-story rooms. Walls had been constructed of rough stones laid in adobe mortar. Roofs were of beams covered with split sticks and were frequently supported by posts. Bins, fireplace

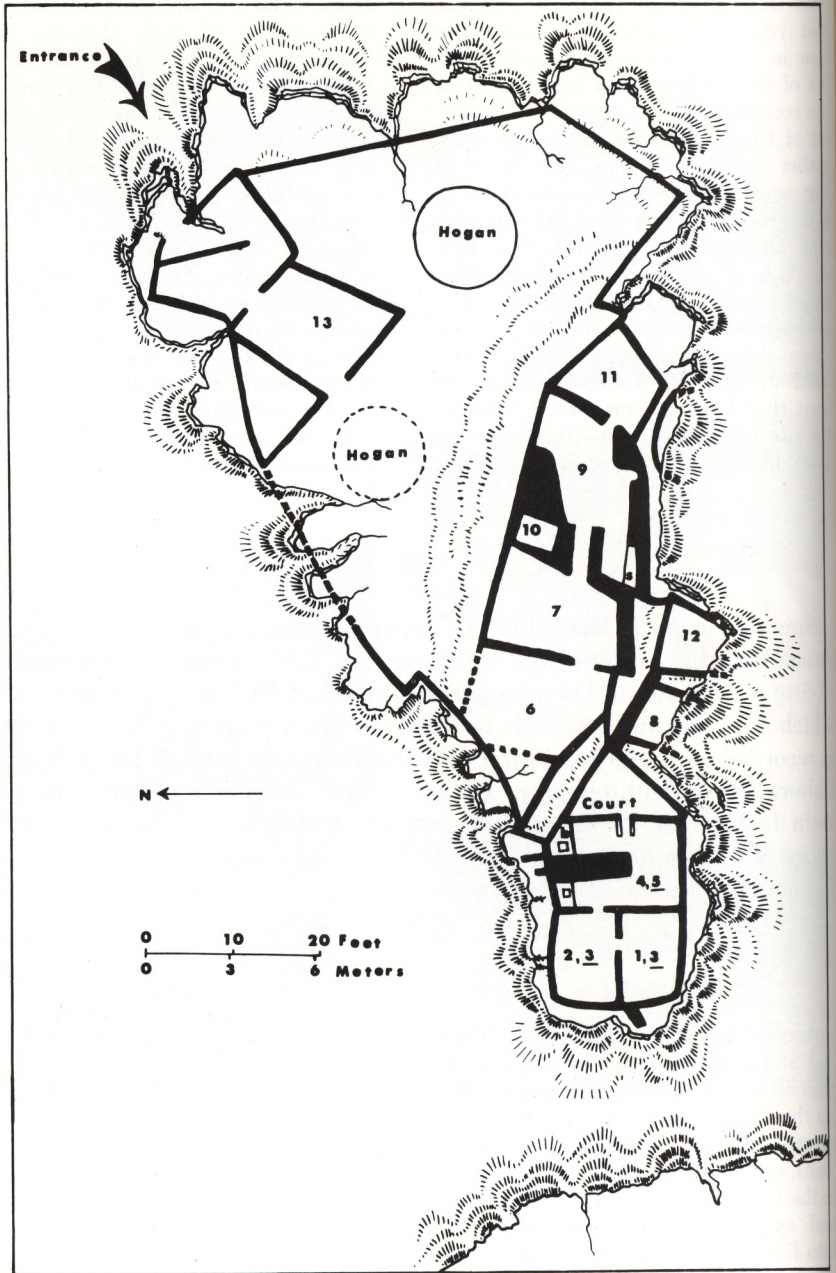


FIGURE 5. Plan view of compound wall, hogans, and ground-floor masonry rooms at Site 4. Underlined numbers refer to second-story rooms not shown on plan; *s*, shelf. *b*, bin.

hoods, corner shelves, and notched log ladders were common features within the pueblo.

Rooms 1-3: Rooms 1 to 3 had been built on the highest portion of the pinnacle at the northwest end. Rooms 1 and 2 were on the ground floor and Room 3 was above them both. The floor of Room 1 was bedrock, and the interior walls were plastered although the rough stones protruded. The ceiling was 1.73 meters high and consisted of poles, 5 to 10 cm. in diameter, laid north-south across the narrow dimensions of the room. Four vertical posts with their butt ends upward supported the ceiling. Twigs and adobe covered the poles (Pl. 8 *c*). A doorway 61 cm. high and 35.5 cm. wide with a lintel of three sticks bound together with yucca withes, led into Room 2. The ceiling of Room 2 was 1.75 meters high and of the same construction as in Room 1. A loophole 18 cm. square was in the northwest corner of Room 2. A doorway, 46 cm. wide and 58 cm. high with a lintel of three sticks, led into Room 4. A hatchway, 61 by 41 cm., opened in the ceiling to Room 3 above.

Room 3 occupied the space above Rooms 1 and 2. The east wall was the only one still standing and the ends of the fallen ceiling timbers rested on it. This wall had not been built directly over the east wall of the rooms below, but was about 15 cm. farther east. A doorway 1 meter high with a stone lintel opened into Room 5.

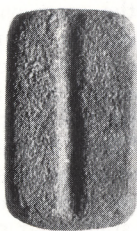
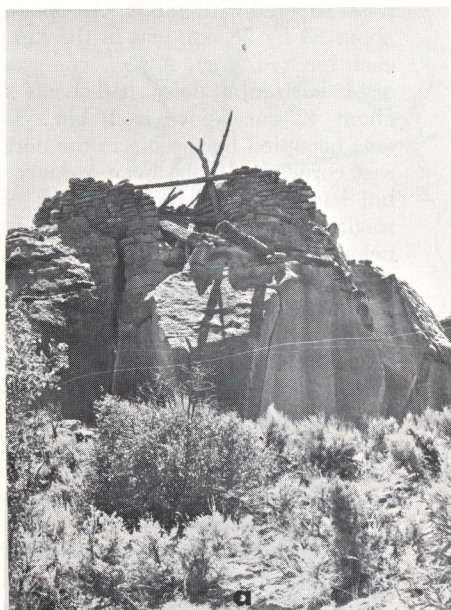
Room 4: Room 4 was on the ground floor next to Rooms 1 and 2 and contained several interesting features. A central masonry pillar, 2.67 meters long and 73.7 cm. wide, extended south from the north wall of the room for about half the length of the room. On both sides of this pillar bins had been constructed across the north end of the room. The tops of the bins were 81 cm. above the floor and 81 cm. wide. The tops were made of

poles covered with adobe. An opening about 38 by 28 cm. was in the top of each bin (Pl. 9 *a*). A shelf composed of 4 horizontal poles had been set about 43 cm. above each bin. The area occupied by the bin in the northeast corner had once been a doorway but had been walled up leaving two small vents in the upper corners just below the wooden lintel. Steps cut into the sloping rock still led to this doorway. The ceiling was 1.73 meters high and was made of heavy logs running east-west covered transversely with split sticks, covered with adobe. A doorway in the east wall of Room 4 opened into a small triangular court. On each side of the doorway inside Room 4 was a doorshield composed of vertical split slabs of wood covered with adobe. One of these shields (Pl. 8 *a*) was intact in 1962.

Room 5: Room 5 was the second-story room above Room 4. The south wall and half of the east and west walls had fallen. The ceiling was 1.68 meters high and had been constructed of pairs of vigas, 12.7 to 20.3 cm. in diameter, running east-west, and transversely covered with split logs. Three loopholes were in the west wall 76 cm. below the ceiling. In the northwest corner 30.5 cm. below the ceiling a shelf of sticks covered with adobe had been built. In the northwest corner was the hood for a fireplace. It consisted of a curved cedar pole with a groove in the top set across the corner, and sections of split cedar placed in the groove and leaning inward up to the roof. The exterior was plastered with adobe.

A doorway in the east wall of Room 5 was entered by a pair of notched log ladders leading up from a small triangular walled area below (Pl. 6 *d*).

Rooms 6-7: Room 6 was northeast of Rooms 4 and 5, was separated from them by a small walled court, and had been built on a lower surface of the rock. The ceiling had been constructed



c



d

PLATE 6. Site 4, *a*, main entrance to pinnacle, 1962; *b*, Site 4 from the east, 1962; *c*, arrowshaft straightener; *d*, western portion of pueblo; notched log ladders lead from small court to Room 5.

TABLE 3. Pottery from Site 4.

Types	General	Minimum No. of Vessels Represented			Total
		Trash Mounds		Surface	
		1	2	N.E. Burial Area	
Gobernador Polychrome	4	13	1	18	36
Gobernador Black-on-yellow		1			1
Dinetah Scored	1			3	4
Gobernador Filleted				4	4
Ashiwi Polychrome	1			10	11
Ashiwi White-on-red				2	2
Puname Polychrome				6	6
Kotyiti Glaze Polychrome		2		1	3
Tewa Polychrome				3	3
Pojoaque Polychrome				1	1
Ogapoge Polychrome				1	1
Tewa Black-on-white				2	2
Tewa Polished Black				1	1
Tewa, unspecified		1		1	2
Rio Grande Glaze VI		1			1
Payupki Polychrome				5	5
Pueblo I Intrusives				4	4
Chinese Porcelain Plate					1

of heavy beams supported by vertical posts with their butts upward. Both Rooms 6 and 7 were in a poor state of repair. A doorway led from Room 6 into Room 7. Here, the southern portion of the ceiling was still in place and consisted of three heavy beams resting on butt-upward posts. A covered passageway (Pl. 9 *d*) led into Room 9.

Room 8: Room 8 had been built on a low level in a crack in the rocks southeast of the triangular walled area. A portion of the cliff on which the southern half of the room had rested had fallen, taking a good part of Room 8 with it.

Rooms 9-11: Room 9 was irregular in outline and was entered through a covered passageway from Room 7. The passage (Pl. 9 *d*) was 1.83 meters long, 1.68 meters high, and 71 cm. wide. Over the inner end of the tunnel a stone buttress 60 cm. thick had been built up to the ceiling. A few molded adobe bricks were observed

in the walls, but they were almost entirely of stone with adobe mortar as in the other rooms. The ceiling was 2.6 meters high and had been made of heavy beams running north-south crossed by smaller split timbers. Portions of the north and south walls and the ceiling at the west end had fallen. A shelf, 1.68 meters long and 50.8 cm. wide, had been built in the southwest corner. Room 10 was a small room built in the northwest corner of Room 9.

A doorway led through the east wall of Room 9 into Room 11 whose north, east, and south walls and ceiling had collapsed. Just south of Room 11 a curved wall which had once formed the north side of a circular room remained; the rest of this room had apparently been destroyed when a portion of the cliff gave way.

Room 12: Room 12 was in poor condition. The south wall was completely gone and only traces of the other walls remained.

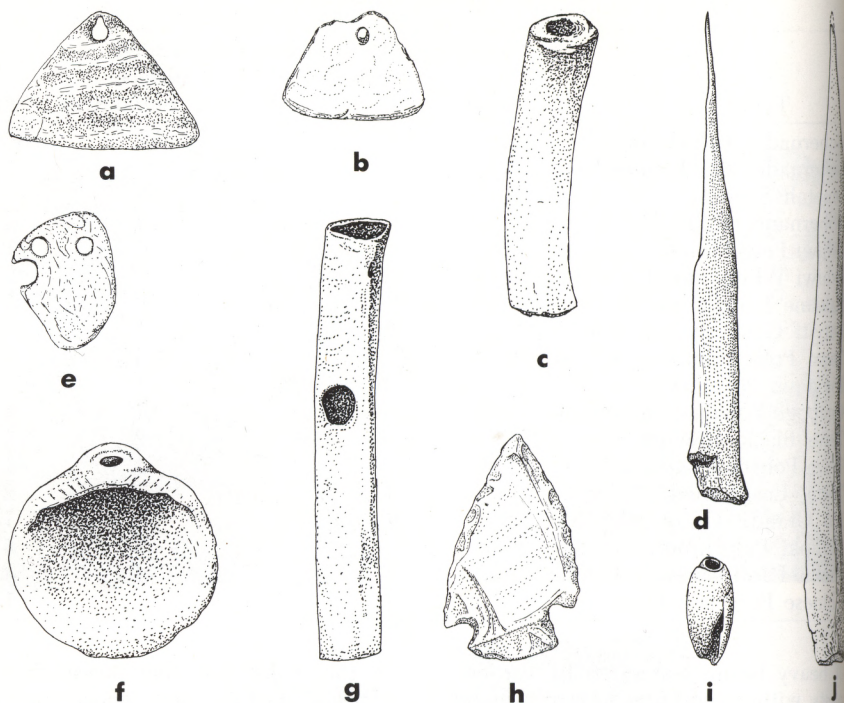


FIGURE 6. Artifacts from Sites 4 and 6. *a-b*, shell ear ornaments; *c*, bird bone bead; *d, j*, bone awl; *e, f*, shell pendants; *g*, bird bone whistle; *h*, stone projectile point; *i*, olivella shell bead. Provenience: *a, b, d, e, g, h, j*, Site 6; *c, f, i*, Site 4. Actual size.

Room 13: Room 13 may have been part of the fortifications at the entrance rather than a real room.

PLAZA

A small, sloping plaza or court had occupied much of the area between the room block and the entrance. A great pile of fallen masonry and timbers against the north wall of Rooms 9 and 10 may conceal additional room foundations.

HOGANS

Morris states in his field notes that

the remains of two hogans were observed in the plaza, but he only plotted one on his field map. In 1962 part of the frame of one forked-stick hogan (Pl. 7 *b*) was still standing, and there were suggestions of the remains of a second, so it was plotted on the map (Fig. 5) with a dotted outline.

TRASH MOUNDS

Two major accumulations of trash were observed where refuse had been dumped over the edge of the cliff. Trash Mound 1 was at the foot of the cliff north of the pueblo, and Trash Mound 2, northwest of the pueblo.

ARTIFACTS

A pottery sample was secured from each trash mound, and is given in Table 3. A stone pipe, described below, was picked up on the surface southeast of the pueblo.

Stone pipe: A small elbow pipe (Pl. 9 c), 3.8 cm. long and 1.7 cm. wide, had been carved from hard red and white gypsum. The bowl portion had been broken away and the severed edges ground smooth. The pipe bears decoration carved in relief. Encircling the stem end is a high ridge bearing diagonal cross-lines cut to resemble a wrapping of heavy cord. At the opposite end beneath the bowl is a flat heel-like projection which also has this corded edge. On the bowl proper there had been a design in relief. A corn stalk had been carved in relief on opposite sides of the stem. The surface is highly polished.

FAUNAL REMAINS

Bones from domestic sheep, horse, and dog, and from elk and mule deer were recovered from the trash mounds. Eight sheep bones represent a minimum of four individuals. Four elk bones could all have come from the same animal. Seven horse bones came from at least two individuals. The skull from one dog and one bone from mule deer were also found. These identifications were made by the U. S. National Museum.

NORTHEAST BURIAL AREA

On a low knoll approximately 200 yards to the northeast of the pueblo, a surface deposit of broken pottery over at least five burial pits was found. One of the pits was open and three copper bells were found lying on the surface. A Gobernador resident informed Morris that his goat had fallen

into this pit, and that he had pawed around in it, found bones and shells, and had tossed out the copper bells. Four other burial pits were then located.

The area surrounding the pits for somewhat more than 100 square feet was literally covered with fragments of broken pottery. It soon became apparent that this was not a chance assortment of sherds such as would have weathered from a rubbish heap, but a purposeful deposit representing many broken, but restorable, vessels. Every visible sherd was gathered and the entire area was dug over in 1915. In 1917, Morris returned and screened the earth. The result was about four bushels of sherds weighing over 150 pounds representing at least 63 different vessels of the historic period including a plate of Chinese porcelain. In addition four earlier sherds dating to Pueblo I and which probably relate to nearby pit houses were recovered. Fifty of these vessels were restored. The types found in this deposit are quantified by vessel in Table 3. Type descriptions appear later in this report. Two of the painted vessels, the body sherds for some of the Dinetah Scored vessels, and I suspect, a good many sherds from plain ware vessels, had been discarded before this tabulation was made. The deposit suggests that when Site 4 was abandoned the inhabitants took such vessels as they had no intention of carrying and broke them on the surface of the principal cemetery. No pottery was found within the graves.

Porcelain plate: This specimen (Pl. 10 f) has been described by Hester (1962: 131), and dates from the transition period between the Ming and Ch'ing dynasties (1644-1722). It is the earliest known Chinese trade piece in the Southwest, and was undoubtedly brought in by the Spanish.

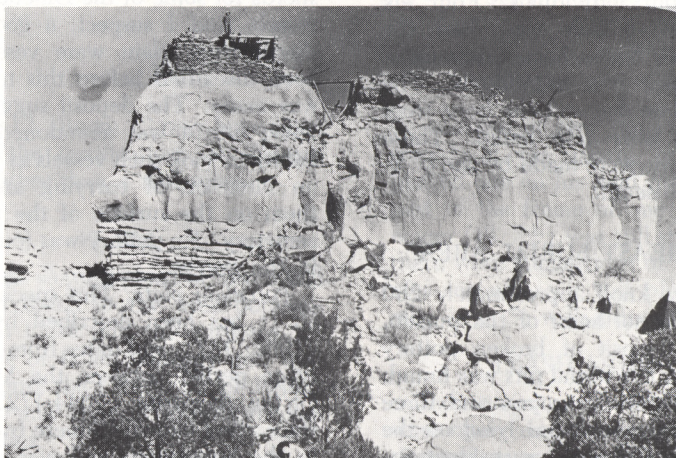


PLATE 7. Site 4. *a*, view from the northwest; *b*, hogan; *c*, view from the south.

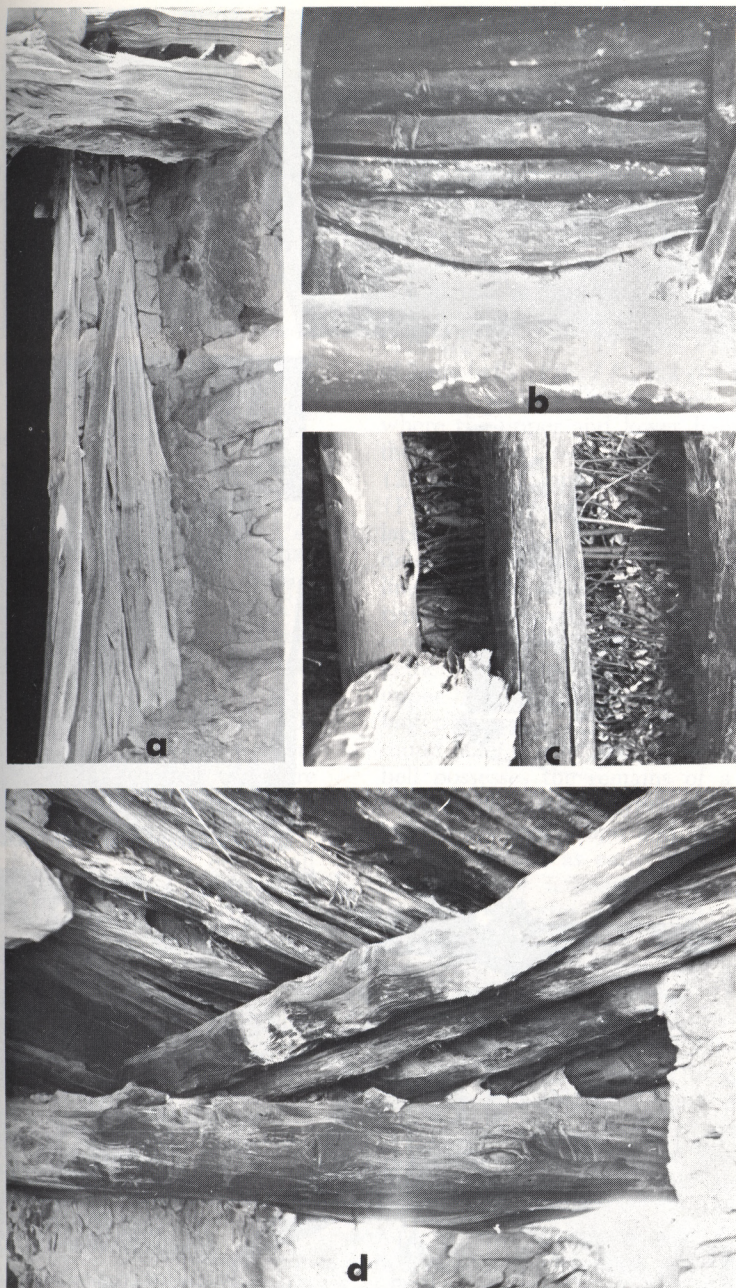


PLATE 8. Features at Site 4: *a*, door shield in Room 4; *b*, closed hatchway in ceiling of Room 4; *c*, ceiling and support post, Room 1; *d*, ceiling construction, Room 9.

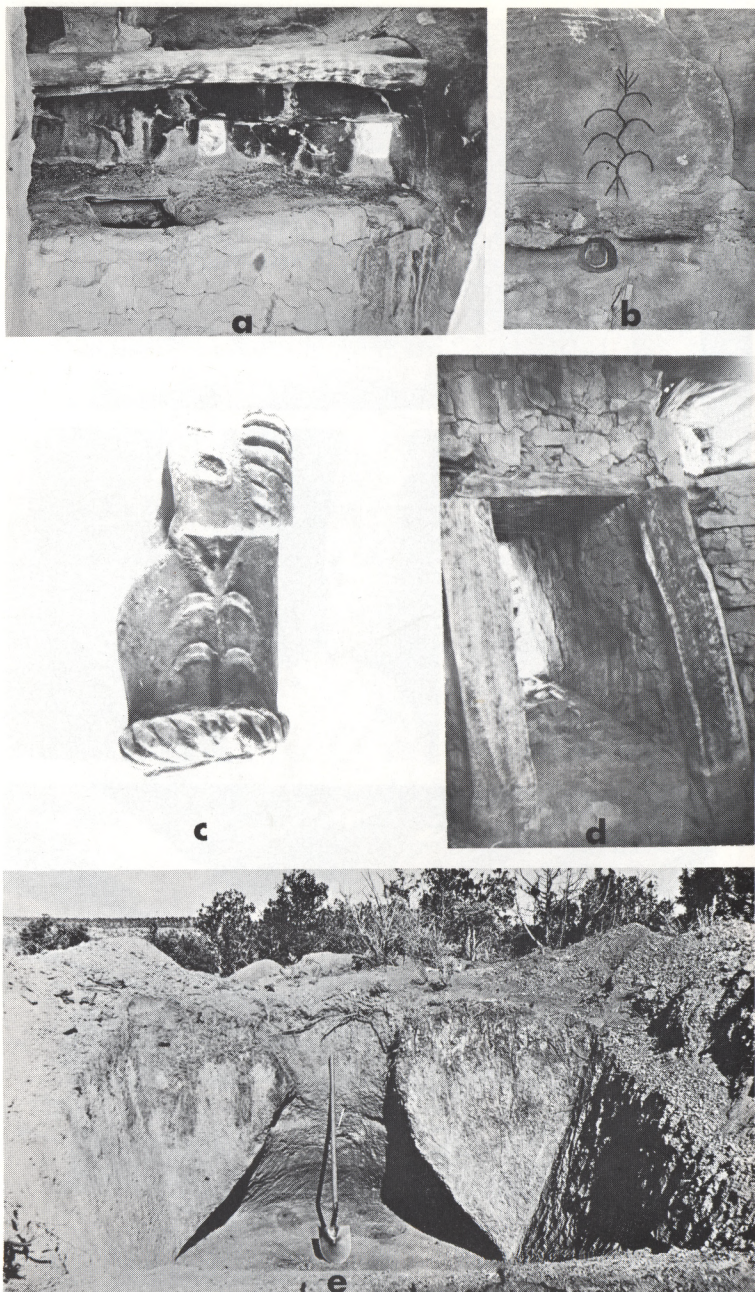


PLATE 9. Features at Site 4. *a*, bin and shelf in room 4; *b*, corn petroglyph on west end of cliff; *c*, stone pipe; *d*, passageway between rooms 7 and 9; *e*, cross section of burial pit, northeast of pueblo.

GRAVES

The graves themselves were of unusual construction. Bottle-necked pits had been dug into the knoll and then fired until the sides attained the color and consistency of soft brick. The ashes and charcoal had then been removed, the corpse placed in an extended position on the floor, and the dug-like mouth of the pit closed with logs or stone slabs. These five burial pits varied from 1.52 to 1.93 meters in depth, from 1.37 to 2.24 meters in diameter at the bottom, and from 0.71 to 1.22 meters in neck diameter. The cross section of one grave is shown in Plate 9 *e*.

The following artifacts were found with Burial 1.

Shell pendants: Twenty-five shell pendants of the type shown in Figure 5 *f* made by perforating the umbos of *Glycymeris maculata* Broderip. These are highly polished, probably through long wear.

Olivella beads: Approximately 405 beads (Fig. 6 *i*) of *Olivella dama* Gray made by perforating the spire end. When strung these beads reached a length of 5.64 meters.

Shell disc beads: About 800 small shell disc beads averaging 4 mm. in diameter and 1 mm. in thickness. Many had been made from the spire end of *Olivella* shells.

Elk's tooth: A polished elk's tooth which had probably been perforated at the broken end is missing from the collection.

Lignite bead: A rectangular bead of polished lignite, 6.3 mm. square, perforated through the corners is described in the catalog, but is missing from the collection.

European trade beads: The quantities and types found are given in Table 6.

Bone beads: Four long, bone beads of the type shown in Figure 6 *c*, 0.8

cm. in diameter and from 2.15 to 4.6 cm. in length, had been made by cutting encircling grooves around a long bone and then breaking off sections. The severed ends had not been ground smooth.

Copper bells: Eleven copper bells of European manufacture were recovered. Five of these still had their clappers intact; four of the latter were rusted bits of iron, whereas the fifth was a white pebble. Two types of bells are present: (1) three examples of large bells (Fig. 7 *f*), 2.4 cm. in diameter, with a pronounced ridge where the upper and lower halves of the bell had been joined together; (2) eight examples of smaller bells (Fig. 7 *e*), 1.9 cm. in diameter, which lack the ridge at the join, and are decorated with pairs of faint encircling lines above and below the join. Both types of bells had been made by soldering two hemispherical halves together, and attaching a shank to the upper half. The bottom of the lower half possesses a slit terminating in a round hole at each end. One cleaned bell possesses the remains of a gold wash. Bells of these types were used in falconry in Europe and appeared in New Mexico as early as Oñate in 1598 and for a considerable period thereafter (Hester 1962: 129).

The following artifacts came from one or another of the four other graves in the northeast burial area.

Metal crosses: These objects were with the burial of a child. All three are of the same size, 5.2 cm. long, and were mold made from "pot" metal, probably a lead or zinc. Christ appears on one side and the Virgin Mary on the other (Fig. 7 *g*, *h*). The one less corroded example has VIT on the left half of the crosspiece next to the virgin, and shows traces of a legend on the opposite crosspiece. Arthur Woodward has stated that these are 18th-century crosses as the crosspiece is close to the top of the cross, and that

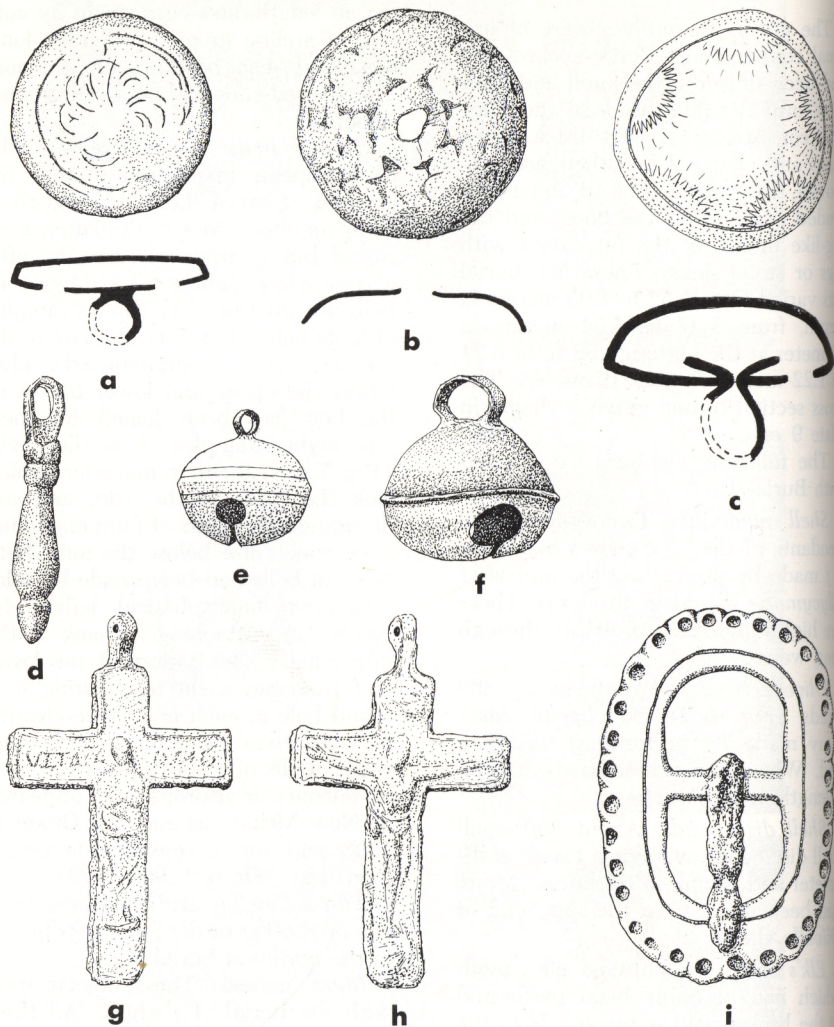


FIGURE 7. Metal artifacts from Sites 4 and 6. *a-c*, copper buttons; *d*, brass bangle; *e-f*, copper bells; *g-h*, front and back of metal cross; *i*, copper buckle. Provenience: *a-c*, *e-i*, Site 4; *d*, Site 6. Actual size except *c* which is enlarged two times.

on later ones the crosspiece is nearer the center.

Copper buttons: Three hollow copper buttons (Fig. 7 *a-c*) were found. The largest button, 2.8 cm. in diameter, is hollow and had been made by welding the front and back together and the shank to the back. A petaloid design had been engraved on the face, and traces of a gold wash are discernible. Arthur W. Woodward has identified this as a button from a great coat dating to the 18th century. The second button, 3.2 cm. in diameter, has no back and is perforated through the center. This button shows a badly worn scroll and trefoil pattern in relief, and Arthur Woodward has identified it as a bridle ornament. The third button, 1.7 cm. in diameter, was made like the first, except that the eye was not cast, is not welded to the back, and shows an engraved rosette design and a gold wash.

NORTHWEST BURIAL AREA

Another burial knoll was located about 250 yards to the northwest of the pinnacle. Three graves were excavated. One grave yielded the following artifacts; the others apparently contained no grave goods. These graves were also large pits.

Copper buckle: This hand-made buckle (Fig. 7 *i*) is 5 cm. long, 3.6 cm. wide, and 0.26 cm. thick. It is oval in outline and the outer edge is scalloped. On the face of the buckle between each scallop is a pit, apparently made with a sharp-edged punch. An incised line follows the curvature of the buckle and is spaced about a third of the way in from the inner margin of the buckle. The back of the buckle is plain. The iron tongue is present

as a rusted remnant. Arthur Woodward has identified this specimen as a hand-made copper buckle of Spanish origin. Joe Ben Wheat has pointed out that this style of buckle is an excellent prototype for the later Navajo silver conchas.

Bridle bit: This object (Pl. 10 *a*) is a Spanish-style spade bit made of iron, but with copper jingles. The iron portion is badly oxidized. The popular name of this style of bit is "Navajo," but this example probably represents one of the original Spanish examples (Hester 1962: 127).

Olivella beads: Sixty shell beads of *Olivella dama* Gray are like those previously described.

PETROGLYPH

A petroglyph (Pl. 9 *b*) showing the corn plant in a nearly identical manner to that on the pipe previously described was observed on the west end of the cliff at the site.

RESERVOIR DAM

A dam apparently used for impounding water in a small reservoir was observed near the ruin.

TREE-RING DATES

Nine tree-ring specimens have been obtained from this site by various agencies (see Appendix I). Four of these are not datable. None of the remaining examples have given bark dates; they range from 1725 vv to 1732 v. The latter date is noted as being probably near the cutting date which indicates that construction or repair at Site 4 was going on in 1732 or later.

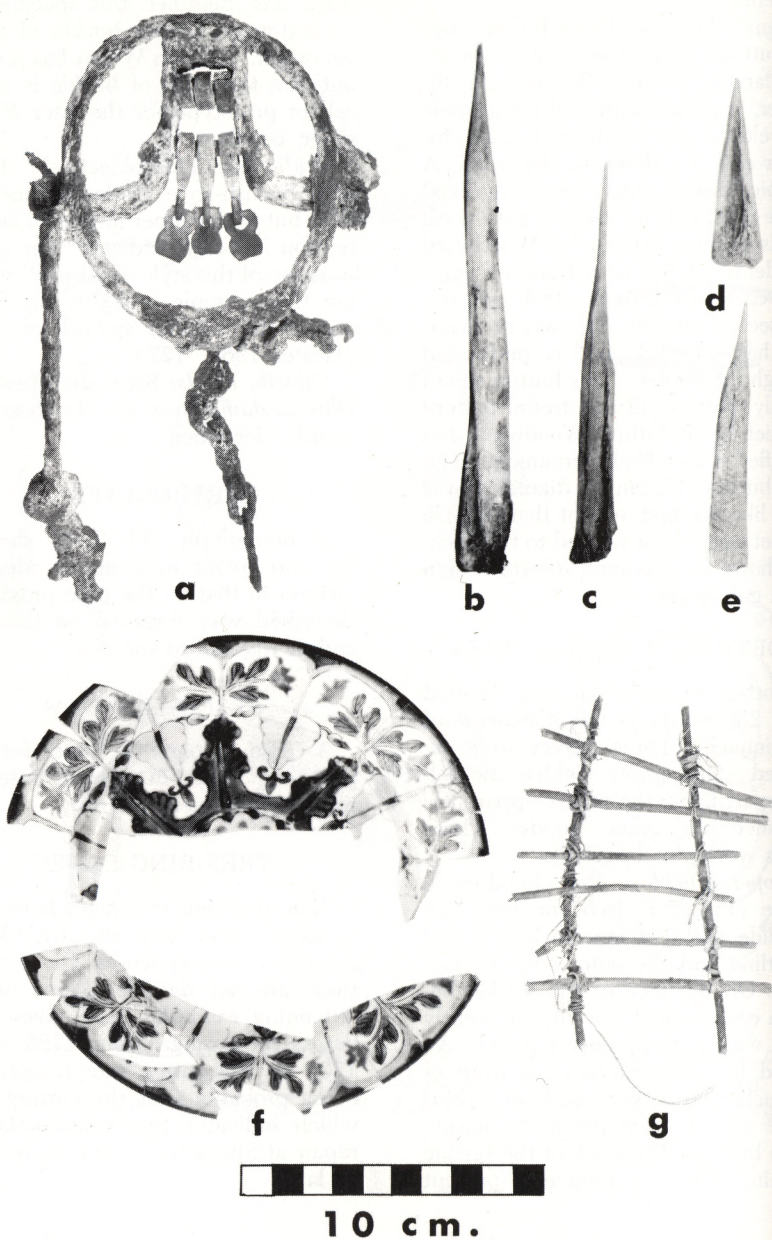


PLATE 10. Artifacts from Sites 4 and 6. *a*, Spanish bit; *b-e*, bone awls; *f*, porcelain saucer; *g*, miniature ladder; *a*, *f*, from Site 4; remainder from Site 6.

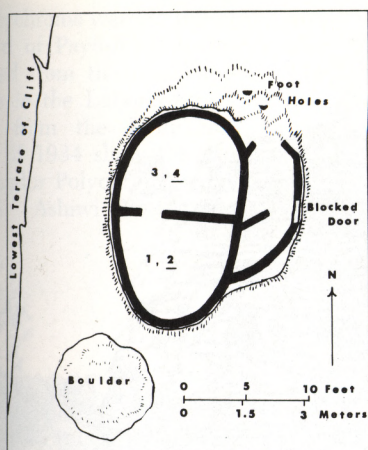


FIGURE 8. Plan of ground-floor rooms at Site 5. Underlined numbers refer to second-story rooms not shown on plan.

SITE 5

Site 5 is located at the head of a small canyon which joins Canyon Gobernador from the south (Fig. 1). A sandstone ridge lies between this site and Canyon San Rafael. Sites 3 and 4 are visible from the top of this ridge. The Laboratory of Anthropology designation for Site 5 is LA-1872. Like Site 1, this site consists of a small pueblo on a large boulder near the valley floor. (Pl. 11).

PUEBLO

The building (Fig. 8) was approximately 5.18 meters long by 4.57 meters wide and contained two ground-floor rooms, two second-story rooms, and an entrance passage. Foot holes cut into the rock led up the side of the boulder to the entrance. Rough slabs of sandstone cemented with mud formed the walls. The roof of the upper story had fallen. The ceiling of the lower story was composed of beams covered with wood splints and adobe. The passage itself apparently opened into the second story of the structure. A blocked doorway on the lower east outside wall of the passage indicates some remodeling. A loophole

opens into the passage from the northern ground-floor room, and loopholes were also observed in the south walls of both the upper and lower south rooms. The two ground-floor rooms were connected by a doorway, and the two second-story rooms were connected by a doorway. The lower story had probably been entered from above. Plaster remained on the walls of the ground-floor rooms. Possible features in the lower rooms were obscured by fill.

ARTIFACTS

A sample of sherds was collected in 1962. Twenty small sherds of Dinetah Scored and three sherds of Goberna-

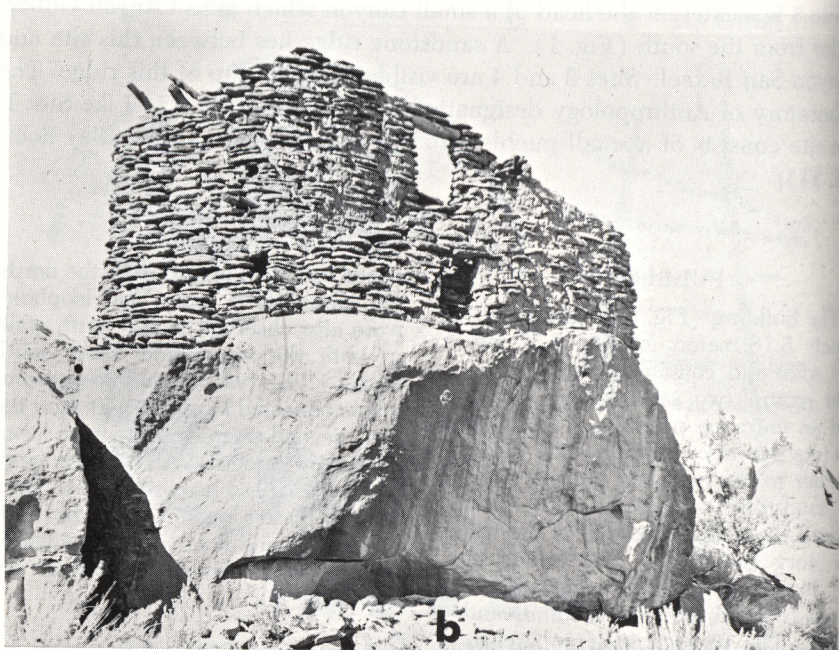


PLATE 11. Pueblito at Site 5, *a*, view from the north, 1962; *b*, view from the southeast, 1915.

dor Polychrome were found at the site. A sherd of Payupki Polychrome was collected from the mesa above. The records in the Laboratory of Anthropology from the Kelly and Erwin survey of 1934 show the presence of Gobernador Polychrome, Acoma Polychrome (Ashivi Polychrome), pol-

ished red ware, and scored utility ware (Dinetah Scored).

TREE-RING DATES

One date of 1727 v, probably near the cutting date, is available for this site (see Appendix I), and indicates construction or repair in 1727 or later.

SITE 6

Site 6 (Fig. 9) is located on the north cliff of a side canyon that enters Canyon Frances from the west. Canyon Frances itself is the next main drainage into the San Juan upstream from Canyon Gobernador (Fig. 1). The principal features of the site are the remains of a 40-room masonry pueblo with a court and three-story tower, one hogan, two trash mounds and a trash area, and several isolated burials.

PUEBLO

The walls had been made of irregular blocks of stone, rarely well-shaped, laid in adobe mud. Rooms were irregular in outline and on different levels, conforming to the rock outcroppings on which they sit. Roofs consisted of beams with coverings of wood splints or poles. Firepits, fireplaces, shelves and bins were located in some of the rooms. The most conspicuous feature of the pueblo is the three-story tower (Rooms 1-6) which rests on the highest stone outcrop directly over the face of the cliff. Rooms 1 through 26 including the tower and court formed the main room block, a defensive citadel that could be entered only through the small court. Rooms 27 through 35 formed a second group of contiguous rooms which, however, could not be so easily defended, and Rooms 36 through 39, a third group. Room 40 was by itself, and could be interpreted as a masonry hogan.

Rooms 1-6: Rooms 1 through 6 formed the triangular, three-story tow-

er on the southwest corner of the site (Pl. 12). Room 1 was the southern ground-floor room. Its floor to ceiling height was 1.75 meters. The east and west walls each contained a loophole. A shelf made of eight poles, whose ends had been set into the walls, had been built across the south end of the room 1.37 meters above the floor. There were numerous sockets in the north wall for the insertion of pegs. The ceiling was composed of beams on which wood splints rested transversely. A hatchway into Room 2, above, had formerly existed in the ceiling near the middle toward the west wall, but had been closed with mud and splints of wood. A doorway, 61 cm. wide and 81 cm. high with a lintel of two hewn poles, led into Room 4, the other main ground-floor room of the tower.

Room 2 was located directly above Room 1. Part of its southern end had fallen. Like Room 1, it had a shelf across the southern end and loopholes in the west and east walls. The floor

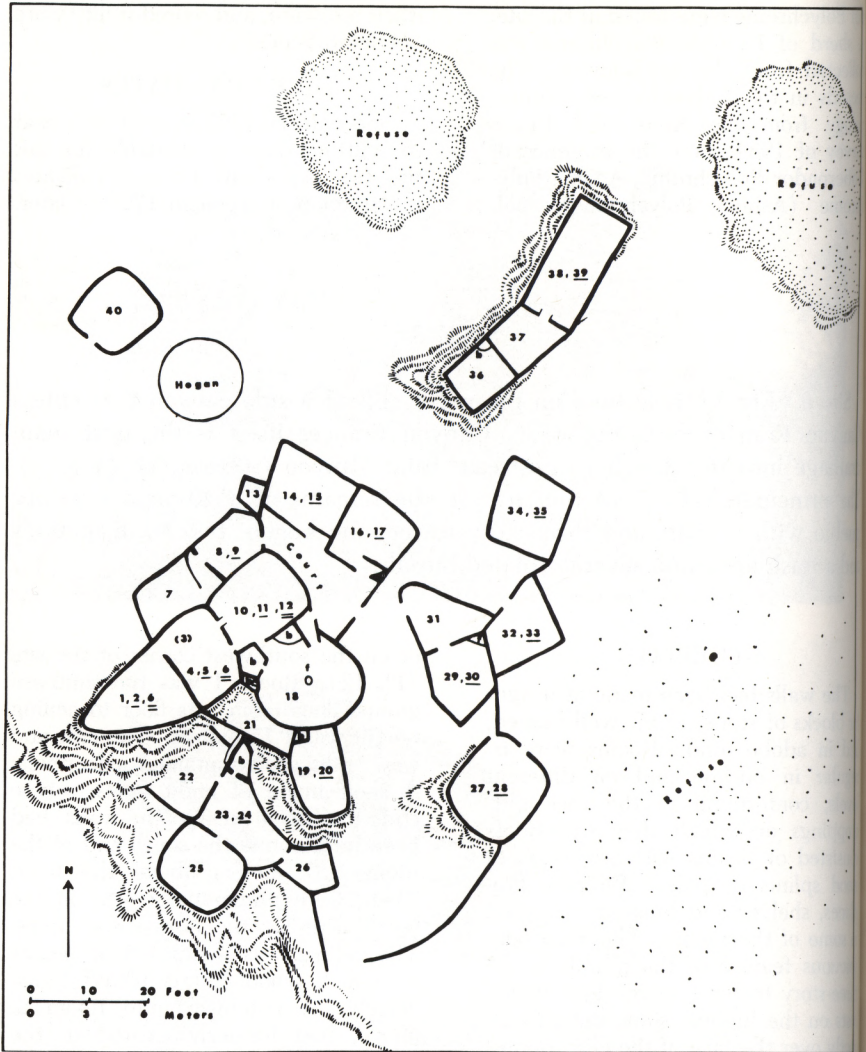


FIGURE 9. Plan of ground floor rooms and hogan at Site 6. Numbers with single underlining refer to second-story rooms, and numbers with double underlining to third-story rooms not shown on plan; *b*, bin; *f*, fire pit or fireplace.

to ceiling height was about 1.68 meters. Peg sockets had been placed irregularly around the walls. The ceiling was made of poles running east and west covered with wood splints running north and south. A doorway, 51 cm. wide and 56 cm. high, in the north wall opened into Room 5, the other second-story tower room.

Rooms 3 and 4 were the other ground-floor tower rooms. Room 3 was an enclosed area underneath Room 4. It could actually be considered the lowermost story on the tower, but its ceiling is so low it could not have been used for habitation. Entrance was gained into Room 3 through an exterior opening in its west wall. This opening was 1.07 meters high. Room 4 had a height of 1.73 meters. Loopholes occurred in the east and west walls. The west wall had three rows of peg sockets, the east wall, two rows, and others were irregularly scattered about the walls. About a bushel of sherds from "black cooking pots" (probably Dinetah Scored) were found on the floor. The ceiling was composed of six beams running north-south covered with wood splints. A doorway leading into Room 10 was 66 cm. wide, 86 cm. high, and had a wooden lintel made from one hewn slab.

Room 5 was above Rooms 3 and 4 and was connected to Room 2 by the doorway already mentioned. A doorway, 51 cm. wide and 71 cm. high in the northwest wall had probably once led to the roof of Room 7. Small, square loopholes were found in the west wall, the east wall, and in the northeast wall in the curved section. The ceiling, 1.73 meters high, was made from beams running north-south with wooden splints across them. The hood for a fireplace had been built into the southeast corner of the room, 61 cm. above the floor. At this height a curved pole with a groove in the top had been set into the walls across the

corner. Into this groove wood splints had been placed vertically leaning inward toward the corner. The exterior was plastered with mud. Sherds were found on the floor.

Room 6 had at one time been the third story of the tower above Rooms 2 and 5. The walls had all fallen, and some roofing timbers were lying on the floor. Entrance had been made by way of a hatchway in the southwest corner of the ceiling of Room 5, below.

Rooms 7-9: Rooms 7, 8, and 9 had been built along the northwestern edge of the main block. Entrance to this group was possible through a doorway from Room 8 into the small courtyard. Room 7 had been built against the side of the rock outcropping on which the tower stands, and this outcropping formed the east wall of the room. The ceiling had fallen and the walls and floor were hidden by debris. A passageway led from Room 7 to Room 8. The doorway was 61 cm. wide and 91 cm. high. In Room 8 the ceiling and west wall had fallen. The east wall was the same as the west wall of Room 10. A doorway in the northeast wall opened onto the court. Room 9 had formerly been a second story above Room 8. Its existence was indicated by fallen roof beams.

Rooms 10-13: Room 10 occupied the area between Rooms 8 and 18. The ceiling had been destroyed by fire and the room was nearly filled with debris and fallen masonry. Peg sockets were noted in the west wall. A doorway led from Room 10 into Room 18. Rooms 11 and 12 had formed a second story above Room 10. The north and west walls of Room 11 were standing, but the east had fallen. All the walls of Room 12 were gone.

Room 13 was simply a small cubby-hole with no side openings. No roof

was present. It had probably been a storage place.

Rooms 14-17: Rooms 14 and 16 both opened onto the small court. The ceilings of both rooms had collapsed and they were filled with debris. Rooms 15 and 17 had been second-story rooms, but their walls had fallen leaving only the roof beams and fallen masonry.

Room 18: Room 18 was a roughly circular room through which access to a number of other rooms was gained. The west, east, and parts of the south walls exhibited no features except for one pole showing through the plaster. A number of features were located in the northeast and northwest portions of the room (Pl. 13). A doorway opened through the northwest wall into Room 10. Bins were located both to the north and south of this doorway. Immediately south of this doorway was a large bin or storage closet whose walls reached to the ceiling. A small doorway, 46 cm. high and 36 cm. wide, opened into this closet. Another bin was just south of this, but its walls reached only slightly more than halfway to the ceiling. It had both a hatchway in the top and a door in the side. Just to the north of the doorway into Room 10, and between it and the wall forming the entrance passage to the court, a bin with a curved front was located. Its top had been destroyed. The entrance passage to the court was 61 cm. wide.

The ceiling of the room was 2.44 meters above the floor, and had been constructed of heavy hewn beams running north-south covered transversely with small poles. A firepit, approximately 61 cm. in diameter, was in the approximate center of the floor. A loophole opened in the southwest wall of Room 18.

A trough made from a hollowed-out log had apparently drained rain water from the roof of Room 18, across room

21, onto the roof of room 22, where it fell over the cliff.

Rooms 19-21: Room 19 stood on the rock outcropping immediately south of Room 18. The southern portion of the room's wall was curved, and had slipped off the bedrock foundation. The ceiling had been destroyed by fire. A bin was found in the northwest corner. A stone step led to a doorway opening onto the roof of Room 18. Room 20 had formed a second story above Room 19, but was entirely destroyed. Room 21 was an irregular structure southwest of Room 18. There was no evidence that it had ever been roofed over.

Rooms 22-26: Rooms 22 through 26 were located on the most southern portion of the site and were interconnected by doorways. Room 22 was built partly of masonry, but its northwest wall was the rock outcropping at the base of the tower. The ceiling was in place and was composed of large beams running east-west covered with wood splints. A hatchway had existed in the center of the room, but was closed with two poles and a stone. Peg sockets were found in the south wall. A doorway led into Room 23. Room 23 was hexagonal in outline; the ceiling was practically gone. A bin had been built in the northwest corner. Doorways opened to the south into Room 25 and east into Room 26. Room 24 had been above 23, but was entirely fallen. Room 25 was in comparatively good condition except that the south wall had fallen. A firepit was in the center of the floor. The ceiling had been made of beams running north-south covered with small peeled sticks, 2 to 4 cm. in diameter. The interior walls still showed whitewash. A shelf had been across the northwest corner, and a loophole in the west wall. Room 26 was also hexagonal in outline; ceiling and upper walls were gone. A

portion of a masonry wall ran south from Room 26.

Rooms 27-28: Room 27 stood on a rock outcropping on the eastern edge of the pueblo. The south wall and the southern half of the ceiling had been destroyed. The remaining ceiling was 2.13 meters high and was supported by beams running east-west. White-wash remained on the walls. A loop-hole was in the east wall. The room contained two doorways, one at the northern corner of the room, and one in the northeast wall. The bedrock had been cut down to level the floor in the northern portion of the room, but two steps had been left leading to the northeastern entrance. Room 28 had been the second story above Room 27, but had vanished except for the fallen roof beams.

Rooms 29-31: Rooms 29 through 31 were interconnected with doorways. Room 31 had been almost entirely destroyed; a doorway opened onto the area opposite the small court, and another opened into Room 29. Room 29 was in better condition, but the southeast wall had fallen taking part of the ceiling with it. The ceiling was 1.83 meters high, and was made up of heavy beams running north-south covered with cross splints. The interior walls had been white-washed. The floor was of bedrock which had been leveled. In the floor along the northwest wall were two rows of four holes each cut into the floor. These holes were 9 cm. in diameter and from 10 to 23 cm. deep. Willow loops were set in the outermost row of holes. Another set of such holes were found along the southeast wall. These holes were probably loom sockets.

In the west corner of the room a fireplace (Pl. 14 *d*) was found. It had been made with a curved pole with a groove in the top set across the corner like the hood in Room 5. Splints rose

vertically from the groove to the ceiling and leaned inward toward the wall. Below the curved pole, walls had been built up from the floor and a lintel placed horizontally. The exterior had been plastered with adobe. A bench of poles plastered with mud ran from the east side of the fireplace to the east wall. Room 30 had been a second story above Room 29, but all that remained were the fallen roof beams and fallen masonry.

Rooms 32-35: All four of these rooms were in poor condition. In Room 32 the south wall and part of the ceiling were in place. The walls showed traces of whitewash. The ends of the ceiling beams from Room 29 extended into this room about 61 cm. below the roof. Room 33 which had been above Room 32 was entirely gone except for fallen beams and wall debris. All that was left of Rooms 34 and 35 were three or four courses of stones at the base of the walls. The mass of ceiling and roof beams indicated two stories.

Rooms 36-39: Three ground-floor rooms—36, 37, and 38—had been built on an outcropping of bed rock to the northeast of the main block of rooms. The roofs had all fallen, and the walls were badly demolished. A mass of beams over Room 38 indicated that another room, 39, had been above it. A small bin was in the northwest corner of Room 36.

Room 40: Room 40 was small with rounded corners, and was isolated from the other rooms. The roof and walls had fallen.

ASSOCIATED ARTIFACTS

Various artifacts were found within the pueblo. Sherds from "black cooking vessels" are reported in the field notes from Rooms 3, 4, 5, 27, and 38. This term is the field description used by Morris for Dinetah Scored.

TABLE 4. Pottery from Site 6.

Type	Minimum No. of Vessels Represented
Gobernador Polychrome	1
Dinetah Scored	1
Jemez Black-on-white	1
Puname Polychrome	1
Biscuit B	1
Hawikuh Polychrome	1

Painted sherds are reported from Rooms 19 and 27. The greater portion of a Biscuit B jar (Pl. 32 *a*) was found in Room 38. All the pottery from the site was catalogued as one sample, and this is given in Table 4. The incidence of Navajo ware (Dinetah Scored) is much less in this sample than the field notes indicate, so most of the sherds from these plain vessels must not have been saved. A comal was reported from Room 27, and metates and manos from Room 16, but these were not brought back from the field. Elsewhere in the field notes, Morris states that all metates observed in these ruins were of the flat type illustrated in Plate 4 *c*. Part of a wheel-lock gun was found in Room 16; and part of a basket, an arrow foreshaft with the point attached, a wooden disc, part of a wooden spindle whorl, a piece of heavy leather, a human hair cord, a miniature ladder, an oblong wooden object, and a buckskin knife sheaf were found in Room 19. Five bone awls also came from the pueblo. An arrow shaft smoother was found on the shelf in Room 1 during our visit in 1962. These artifacts are described in the following paragraphs.

Gun part: This iron object (Pl. 15 *e*), which is 15.5 cm. long and .71 cm. wide, has been identified by Arthur Woodward as the spanner for a wheel-lock rifle, a 17th century type of firearm.

Basket: This fragment (Pl. 15 *d*) apparently came from a small bowl. It is close coiled with a two-rod and bundle triangular foundation. The stitches are not interlocked. There are six coils to the inch (2.5 cm.), and 15 stitches to the inch. The coiling is clockwise when viewed from the interior.

Arrow: The foreshaft is 23.3 cm. in length and 0.6 cm. in diameter. A side-notched obsidian point is held in the distal end with sinew wrappings which cross transversely between the notches and are brought down diagonally one above the other to beyond the limits of the stone point; from there the sinews continue as a spiral wrapping for 2 cm. back from the end of the foreshaft. Three wavering longitudinally incised lines run the length of the foreshaft. The proximal end of the foreshaft is still held by the end of the reed shaft which is bound with sinew (Pl. 16 *h*).

Wooden disc: An oval wooden object (Pl. 15 *a*), 9 cm. wide and 11 cm. long, may have been part of an altar piece. The edges are well smoothed and rounded except for the lower edge where the specimen has been cut off from a longer piece. Traces of red paint are on one face. The other face has been scored indiscriminately with a sharp knife.

Spindle whorl: Half of a wooden disc (Pl. 15 *c*), 7.7 cm. in diameter and 0.9 cm. thick, with a central pe-



PLATE 12. Site 6. *a*, view from southwest; *b*, close-up of tower from the north.

foration, 0.9 cm. in diameter, may have been part of a wooden spindle whorl.

Human hair cord: Two fragments of human hair cord are described in the appendix on textiles. They are reminiscent of the handles used on Navajo basketry water bottles.

Shaft smoother: This sandstone artifact is 10.5 cm. long, 4.0 cm. wide, and 2.5 cm. thick. One face is flat except for a concave longitudinal groove, 3 mm. deep. The sides and opposite face are rounded. It is identical except for size to the specimen shown in Plate 6 c.

Miniature ladder: A small ladder-like object (Pl. 10 g). 12.3 cm. long by 8.9 cm. wide, is composed of six small twigs bound transversely across two long ones with pieces of shredded yucca. Its use is unknown.

Wooden object: An oblong piece of wood probably cottonwood root (Pl. 15 b), 10.5 cm. long by 3.1 cm. wide by 1.1 cm. thick, and smooth on both faces and rounded on both ends, is of unknown use.

Knife sheaf: A sheaf (Pl. 15 f), 14 cm. long and 2.7 cm. wide at the top, had been made by folding a piece of buckskin and then sewing down one side with sinew.

Leather: A corner cut from an object of tanned hide, 5 mm. thick, indicates additional work in skin.

Bone awls: The five bone awls (Fig. 6 d, j), appear to have been made from longitudinal sections of mammal leg bone, probably deer, by splitting the bone and then working one end into a sharp point. They vary from 6.8 to 18.5 cm. in length. Four of them have the epiphysis intact on the base, whereas the base of the fifth has been beveled from both faces as if for hafting in a split stick.

HOGAN

Half of the skeleton of a hogan was standing in the area between Rooms

14 and 40. It was not excavated. This structure had completely disappeared before our visit in 1962.

TRASH MOUNDS

Two well-defined refuse mounds were located north and northeast of the pueblo, respectively. A more diffuse refuse area was due east of the pueblo. The maximum depth of these mounds was 76 cm. The field notes report sherds, animal bones, and ashes from these mounds.

FAUNAL REMAINS

Bones of domestic horse and sheep and of mule deer were collected at the site in 1962. These were identified by comparison with the faunal remains from the other sites which had been identified at the U.S. National Museum.

BURIALS

Three burials were excavated in the general vicinity of Site 6, but their exact locations with reference to the pueblo were not recorded. Some artifacts were found with all three burials.

BURIAL I

This burial was that of a child and was found near the ruin. The following artifacts were associated.

Shell ear ornaments: Two perforated triangular objects (Fig. 6 a, b) of iridescent shell were found at the ears. The shell is not identifiable, but looks somewhat like mussel. The larger ornament is 0.15 cm. thick and 2.7 cm. wide; the smaller is 0.1 cm. thick and 2.1 cm. wide.

Olivella beads: A strand of approximately 10 medium-sized beads made by grinding away the spire of *Olivella dama* Gray, a Gulf of California species, encircled the neck.

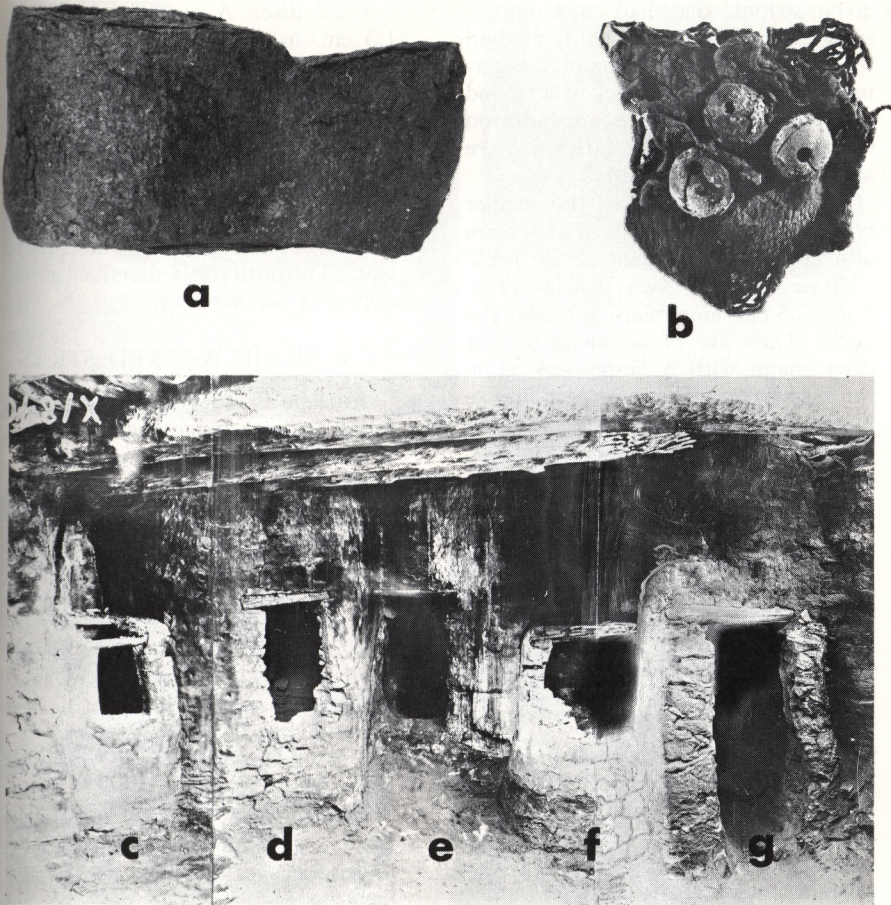


PLATE 13. Axe; textile; Room 18, Site 6, *a*, iron axe from Site 3; *b*, textile fragment with attached copper bells from burial 2, Site 6; *c*, *d*, *f*, bins; *e*, doorway to room 10; *g*, passageway leading to exterior court.

Bone whistle: A whistle or turkey call (Fig. 6 *g*), made from a bird radius was found lying as if it had once been attached to the strand of Olivella beads. An 0.5 cm. perforation through one wall of the hollow bone is slightly nearer one end than the other. Length 6.4 cm.; width 0.9 cm.

Shell disc beads: Three small shell disc beads averaging 0.35 cm. in di-

ameter and 0.1 cm. in thickness were recovered.

European trade beads: The large quantity of beads recovered is given in Table 6.

BURIAL 2

This burial was also that of a child. It was found in the canyon bottom southeast of the pueblo. A garment of wool with alternating brown and

green stripes, that had once apparently been a V-necked shirt, clothed the body. A small portion of the garment from near the neck was saved and is described in the appendix on textiles. The following artifacts were also found with the burial.

Copper bells: Three of the smaller type of copper bell (Pl. 13 *b*) were attached to the garment at the neck.

Brass bangles: Two bangles (Fig. 7 *d*), 3.5 cm. long, were also near the neck. They are of an elongate tear drop shape with a large perforation for suspension. They are cast bronze jingles used by the Spaniards on bridles, spurs, and saddle trappings, and were used on Navajo bridles until the early 1900s (Hester 1962).

Projectile point: A crude point (Fig. 6 *h*) of yellow chalcedony, 3.3 cm. long, 1.9 cm. wide and 0.24 cm. thick, was near the neck also. It is stemmed and had been made by notching a thin flake at the corners, and retouching it only along the edges.

Shell Pendants: Six shell pendants were recovered. Two of them are like the ear ornaments found with burial 1, except that one (Fig. 6 *e*) has three perforations. The other four pendants were made by perforating the umbos of small shells, probably *Glycymeris*.

Shell and glass bead necklace: Portions of a necklace which had lain near the copper bells were preserved. The preserved portions consist of red glass beads (Type II A), usually three in number alternating with groups of 18 to 22 shell disc beads. The cord upon which they are strung is of two ply, S-plyed wool.

European trade beads: The trade beads found are given in Table 6.

Metal cross: One badly corroded metal cross exactly like those previously described from Site 4 was recovered.

Lead disc: A corroded lead disc, 1.5 cm. in diameter, may have been a button or religious medal.

BURIAL 3

This burial was that of a woman. The only artifact recovered was a hank of wool yarn that had been tied at the back of the head around the hair. This artifact is described in the appendix on weaving.

CACHE OF WORKED STICKS

A cache of 46 prepared sticks was found under a ledge near the pueblo. It consisted of the following items.

Shed rods: Two complete rods (Pl. 16 *a*) and one fragmentary one used in raising the shed on looms were in the cache. Diameters range from 1.05 to 1.3 cm. The complete rods are 117.5 and 91.0 cm. long. The ends are blunted and slightly tapered. All three rods exhibit a series of closely spaced transverse incisions on two opposite faces. These incisions cover the central portion of the rod up to 10 to 20 cm. from each end.

Arrow: One wooden arrow shaft (Pl. 16 *g*) which measures 81.5 cm. in length and 7.5 mm. in diameter, has the proximal end notched and the distal end tapered and then cut off.

Wedge-tipped objects: Two objects with wedge-shaped tips may have been digging sticks, but are rather short for this purpose. They are 2.6 cm. in diameter and have respective lengths of 47 and 70 cm. The butt ends are rounded and blunt. These objects were obviously shaped with a metal axe.

Other prepared sticks: The remaining 40 sticks do not show diagnostics indicative of their intended use. They range in length from 80 to 168 cm. and in diameter from 0.6 to 1.3 cm. All have had the bark removed. Ends



PLATE 14. Features at Site 6. *a*, interior of room 19, looking toward tower; *b*, interior of room 27, looking north; *c*, northwest corner of room 23 showing bin and doorway to room 22; *d*, hooded fireplace in room 29.



PLATE 15. Artifacts from Site 6. *a-c*, wooden objects; *d*, basket; *e*, gun part; *f*, knife sheaf.

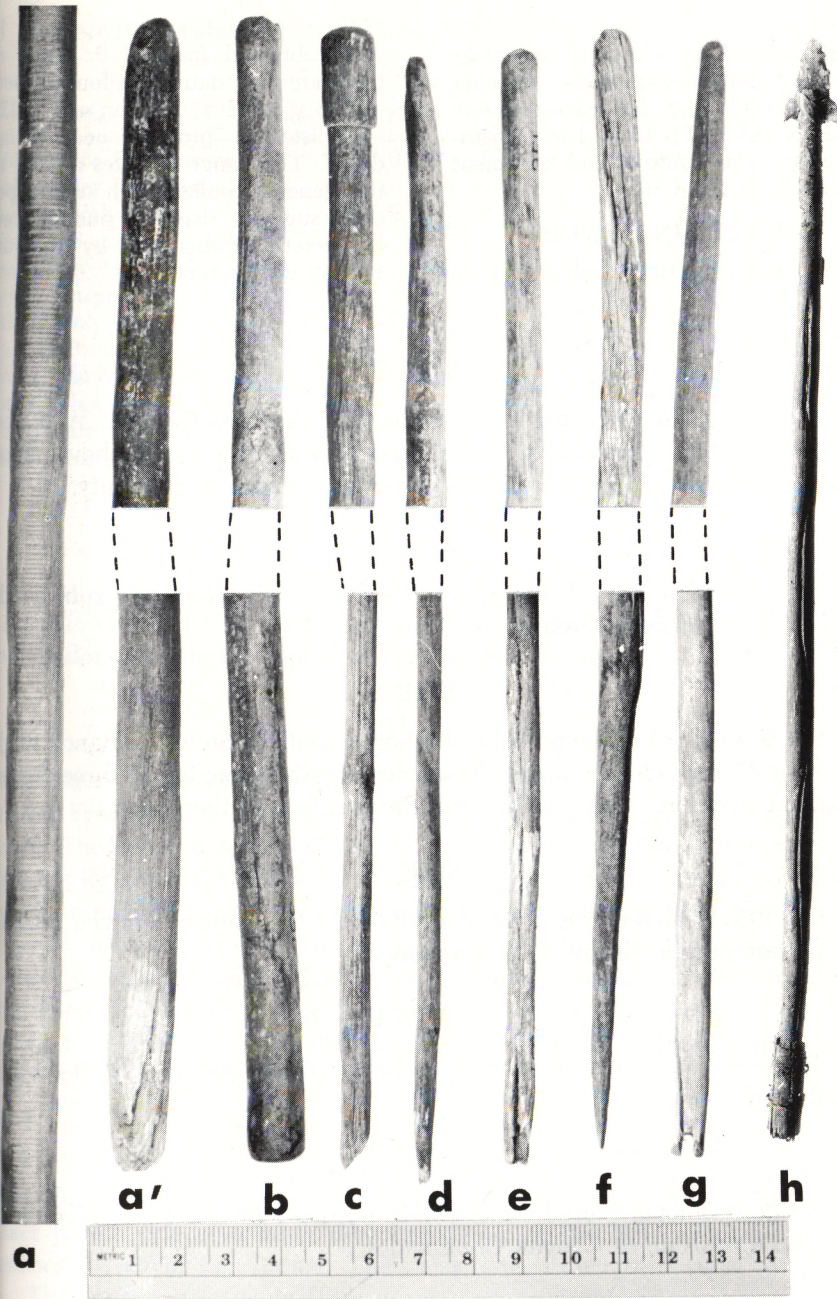


PLATE 16. Artifacts from Site 6. *a*, medial and end sections of shed rod; *b-g*, end sections of sticks from a cache; *h*, arrow point and foreshaft.

are tapered, blunt, rounded, or cut. One example is made up of two sticks bound together with sinew. Another example (Pl. 16 *c*) has a knob on one end. A third (Pl. 16 *f*) has a spatulate tip. The range of end treatment is shown in Plate 16.

TREE-RING DATES

Six tree-ring dates ranging from

1717 + vv to 1742 v (Appendix I) were obtained for Site 6. None of these are bark dates, but four of them—1716 v, 1721 v, 1735 v, and 1742v—are listed as “probably near cutting date.” This range of dates as well as the general configuration of the pueblo, suggests that the pueblo grew by accretion rather than by construction all at one time.

SITE 7

Site 7 is a cliff dwelling near the head of Addams Canyon. A pottery sample (Table 5) was taken from a trash deposit on the cliff above. Some graves covered with wooden sticks were excavated in the vicinity.

SITE 8

A sample of sherds (Table 5) was obtained from refuse at a ruin on the south side of Carrizo Creek.

SITE 9

Site 9 consisted of the remains of a hogan south of Stewart's Ranch in the Canyon Gobernador drainage. Seventeen sherds belonging to three Gobernador Polychrome bowls came from the fireplace in the hogan.

SITE 10

Site 10 is located on the point of a hill on the west side of Canyon Frances. A pottery sample (Table 5) was obtained.

SITE 11

This site is in Canyon Frances near Smith's claim; sherds (Table 5) were collected.

SITE 12

A single Dinetah Scored vessel (Pl. 25 *d*) was found cached under a ledge on the south side of Canyon Gobernador.

SITE 13

This site is located northwest of Stewart's Ranch in Canyon San Rafael. sherds (Table 5) were collected.

TABLE 5. Pottery from Sites 7 Through 17.

Type	Site	Minimum No. of Vessels Represented										
		7	8	9	10	11	12	13	14	15	16	17
Gobernador Polychrome		4	9	3	6	3		3				
Gobernador Indented						1						
Puname Polychrome		1	2		2							
Dinetah Scored							1					1
Tewa Polychrome		1										
Tewa, Unspecified					1							
Ashiwi Polychrome			3		1							
Matsaki Brown-on-buff									1			
Jemez Black-on-white			1		1			1				
Kotyiti Glaze Polychrome								2				
Rio Grande Glaze VI			1									
Pueblo I Intrusives		1				1		1				

SITE 14

A single vessel (Pl. 27 *e*) of Matsaki Brown-on-buff was found in Canyon Gobernador opposite the mouth of Canyon San Rafael.

SITE 15

A basketry water bottle (Pl. 17 *a*) was found cached under a ledge in Canyon Frances. The basket is 36.4 cm. high and 24.7 cm. in maximum width. The construction technique is diagonal twining. Both the interior and exterior formerly had a pitch covering. The warps are unsplit, unpeeled branches, probably cottonwood, and the wefts are split strands of the same material. The rear of the bottle, where it would have rested on the back, is flattened and is flanked by two handles for the attachment of a tump line. One handle is a peeled twig whereas the other, which is partly missing, is of horsehair. The rim shows the remains of a strengthening rod bound on by a simple coiling stitch.

SITE 16

Five digging sticks (Pl. 17 *b*) were discovered cached in a windworn pocket in the side of a large detached block at the head of one of the branches of Canyon San Rafael. The sticks range in length from 91 to 104.5 cm. The largest was made from a relatively straight pole, whereas the others are crooked. The bark had been removed from all but the smallest. The blades are pointed at the tip and thinned from both sides; the butt ends are blunt. All five show marks of metal tools.

**a****b**

PLATE 17. Basket and digging sticks. *a*, from Site 15; *b*, from Site 16.



FIGURE 10. Buckskin mask and mouthpiece from Site 17.

SITE 17

Site 17 is another cache site and is the only site located north of the San Juan River. This cache of Navajo ceremonial objects was found between 1912 and 1915 in Pump Canyon (Fig. 1), one of the washes draining into the San Juan from the north somewhat downstream from the mouth of Canyon Gobernador, by a stockman living in Aztec, New Mexico. In 1917 it was sold at public auction and Morris secured it from the purchaser for the University of Colorado Museum. The cache consisted of the following objects inside a Dinetah Scored jar.

Mask: A mask (Fig. 10 *b*) made by sewing together two triangular pieces of soft tanned hide with sinew, and then turning it inside out is undoubtedly a ceremonial object. The face on one side consists of two oval holes cut for the eyes, and a circular hole cut probably to hold the stone mouthpiece. The mouth hole is centered in a painted black five-pointed star. The eye holes are within black painted triangles. A wide black band runs across the lower portion of the face. Above this the background areas

of the face are coated with a heavy gray-green substance. The back of the mask shows traces of a thick white paint, probably kaolin. The bottom edge of the face of the mask is perforated with a series of small holes of which some still contain pieces of sinew. They indicate that something, possibly a ruff, had at one time been sewn on. Holes in the mask had been repaired with three circular or oval patches sewn on the outside with sinew. The mask is 33 cm. long and 25 cm. wide.

Mouthpiece: A stone tube (Fig. 10 *a*), 4.5 cm. long and 1.9 cm. in diameter, could have functioned as a tubular mouthpiece for the mask. Early Navajo masks in the collection of the Denver Art Museum show such tubes, although none are made of stone. The tube is well-made of gypsum by grinding and polishing but is broken on one side. It fits exactly into the mouth hole on the mask.

Gourd: A bottle-necked gourd (Pl. 18 *a*), could have been part of a rattle. Most of the stem end is missing.

Belt: Another element of the cache was a belt-like device made of painted wooden strips. Some of the strips have probably been lost. Those still extant (Pl. 18 *b*) have been fitted together, by matching the pattern and suggest that the complete piece had been about 60 cm. long. The individual strips vary from 0.8 to 2.4 cm. in

width and are all close to 9.8 cm. in length. The strips are notched on both sides at both ends for the purpose of tying them together. Some are still bound so tightly within a loop of a two-ply, Z-plyed yucca cord, that the margins of the strips overlap. The tips of the strips are painted red. The central area contains a running zigzag in black with a narrow red border on one side. The back of this object is not decorated. The recent find of a cache of ceremonial objects from Canyon Largo, which are now in the Museum of New Mexico, indicates that this "belt" is part of a headdress.

Wooden tablet: A painted wooden object (Fig. 11) made of either cottonwood or aspen may be part of a mask. Contemporary Pueblo and Apache masks frequently have a framework of wood extending above

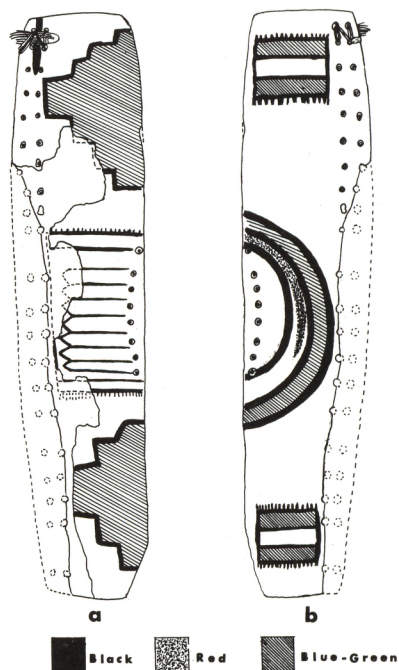


FIGURE 11. Front and back of painted wooden tablita from Site 17.

and to the sides of the mask, and this could have been part of such a device. The tablet is 42.5 cm. long, 8.9 cm. wide and grades from 1.1 cm. at the center to 0.6 cm. at the margins in thickness. Most of one side of the tablet has decayed. Along this side a double row of holes apparently had extended the full length of the tablet. The lowermost four holes contain strips of yucca holding the end of a bundle of corn husks. Along the opposite side near the center are eight perforations in a crescentic arrangement.

Both faces bear painted decoration. On one face the central section bears eight feathers flanked by fringed lines,

formed by black outlines. The end sections of this face each exhibit a blue-green terrace outlined in black. The opposite face has in the center section a rainbow-like figure composed of a red crescent and a blue-green crescent outlined in black. The end sections each bear a motif made up of three parallel bars outlined in black with black fringes on the sides. The central bar in each motif is plain, whereas the bars on each side of it are blue. The background areas between the rainbow and the bar figures show traces of white paint.

String: The piece of string found is described in Appendix II.

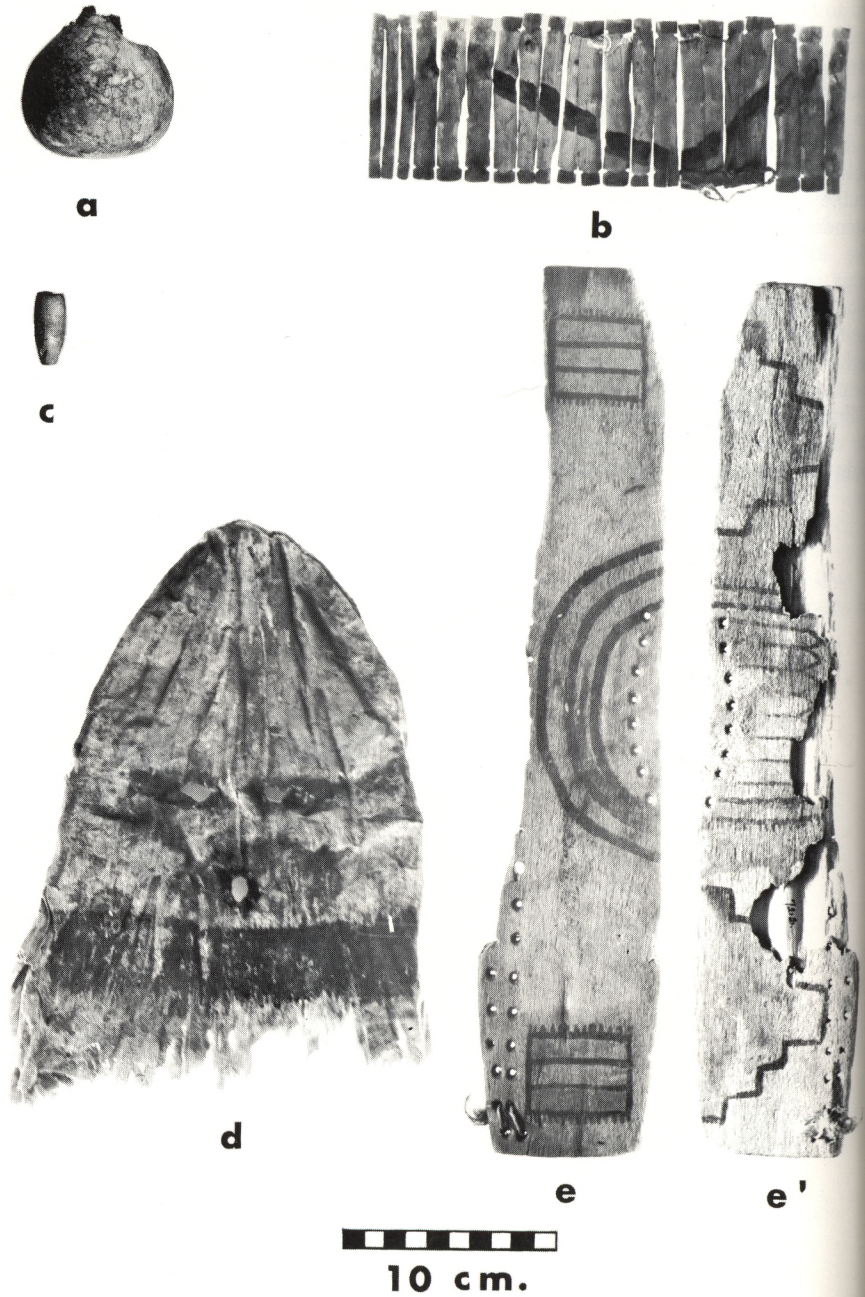


PLATE 18. Components of the cache at Site 17. *a*, gourd; *b*, portion of belt; *c*, pipe or mouth piece for mask; *d*, Navajo male deity mask; *e*, front and back of painted tablita.

POTTERY

Twenty different types of pottery were recovered. The Gobernador District is the main center of distribution of some of these types, and it is inferred that they were manufactured there. Other types center elsewhere and were either brought by migrants to the Gobernador or were traded into that region from their centers of origin. Descriptions of the common types found are given in this section, and references to previous descriptions of minor types are made. The most common pottery type in the area is undoubtedly Dinetah Scored. Keur (1944: 82) makes this statement, and this was further indicated by our survey of the sites in 1962. The pottery tabulations in this report do not indicate this, simply because Morris brought back few sherds of this common plain ware. Gobernador Polychrome is by far the next most common type, and is followed by Ashiwi Polychrome, Puname Polychrome, Tewa Polychrome and its varieties, Payupki Polychrome, and various minor types in a descending order of frequency.

LOCAL GOBERNADOR TYPES

Five pottery types, Gobernador Polychrome, Gobernador Red-on-yellow, Gobernador Black-on-yellow, Dinetah Scored, and Dinetah Filleted center within the Gobernador District. A sixth type, Gobernador Indented, is found there but is not common. It is included in this section because of its close affinity to Dinetah Scored though it may center elsewhere in the Navajo country. Keur (1944: 82) located a clay quarry in Munoz Canyon which is one likely source of potter's clay for these types.

GOBERNADOR POLYCHROME

HISTORY

Named by: Kidder and Shepard (1936: 373).

Synonyms: Thin three-color painted ware (Kidder 1920: 326); red-and-black-on-orange (Farmer 1942); Navajo painted ware (Malcolm 1939).

Previous descriptions: Keur (1941: 47); Brugge (1963).

Basis of present description: Twelve whole or restorable vessels complete enough for all measurements, plus 225 sherds representing a minimum of 94 additional vessels from the sites in this report.

TECHNOLOGY

Construction: Probably coiling, but this sample shows no evidence of construction techniques from the specimens themselves. Jar shapes suggest that the bases of vessels were formed in a container of some sort.

Wall thickness: 4-7 mm., usually 5-6 mm.

Paste: Typically the paste is hard and dark gray (Munsell 2.5 YR 3/0) with yellow (10 YR 7/6) to orange (5YR 6/8) margins, and contains minute opaque white or crystalline specks which contrast with the dark core. In about 15 percent of the sample the paste either lacks the dark core or has only a faint carbon streak, tends toward a pale brown (10 YR 5/3) color, is softer than the hard dark paste, and inclusions of small red and gray particles are sometimes visible. In general, vessels with this type of paste seem to be underfired examples of the type, although it is possible that they are transitional in part to later technologically inferior Navajo painted pottery.

Surface color and finish: The usual surface color is yellow (10 YR 7/6) to orange (5 YR 6/8), but the underfired examples tend toward light brown (10 YR 6/4 and 10 YR 6/3). This color does not appear to be a slip, but simply the oxidized surface color of the clay. Surfaces are slipped, however, in the sense that bowl interiors and exteriors and jar exteriors and neck interiors are divided into zones of background color by the application of thin, red (2.5 YR 4/4 to 2.5 YR 4/6) slip paint to large areas of the field which then contrast with the zones of natural yellow or orange clay. The yellow or orange background shows through the areas of streaky red slip paint. Pits and bubble-like excrescences are common and typical on the surface, and a number of vessels show marked warping. Both

these features suggest high firing temperatures. Most examples also show groups of shallow, narrow, parallel striations on the surface. These could have been caused by wiping the unfired surface with a corn cob, but are less well defined than on Dinetah Scored. They are quite different from marks made by stone polishing. Only one vessel has a clearly defined slip applied over an entire field. This vessel (Pl. 21 a) has a chalky white slip on its whole exterior, and is aberrant in certain other respects. A few vessels show fire clouds.

Application of paint: Red paint is used both for the color zones previously mentioned and for red motifs on yellow backgrounds. Flat black (5 YR 2/1) paint is used by itself for motifs usually on yellow backgrounds but occasionally on red, as an outline for red motifs, and for banding lines, panel dividers, and other structural lines on the field of decoration. The black is applied after the red paint. Glaze paint was not used.

SHAPES

Bowls and jars are present, but the former outnumber the latter in a ratio of ten to one. Thirty-two bowls are complete enough to give a good idea of shapes and sizes, although depth can be measured from only nine. Profiles of bowls are shown in Fig. 12.

Carinated bowls: Seventeen bowls are carinated with either a sharp or slightly rounded shoulder or carina encircling the bowl exterior from 3.5 to 5.0 cm. below the rim. This ridge divides the bowl exteriors into two fields, an upper narrow concave one, and a broad lower one that tapers to the flat base. All but one of the carinated bowls are deep, i.e., twice the depth is greater than the diameter. The one exception has a diameter of 22 cm. and a depth of 8 cm. Diameters of the deep bowls range from 9.1

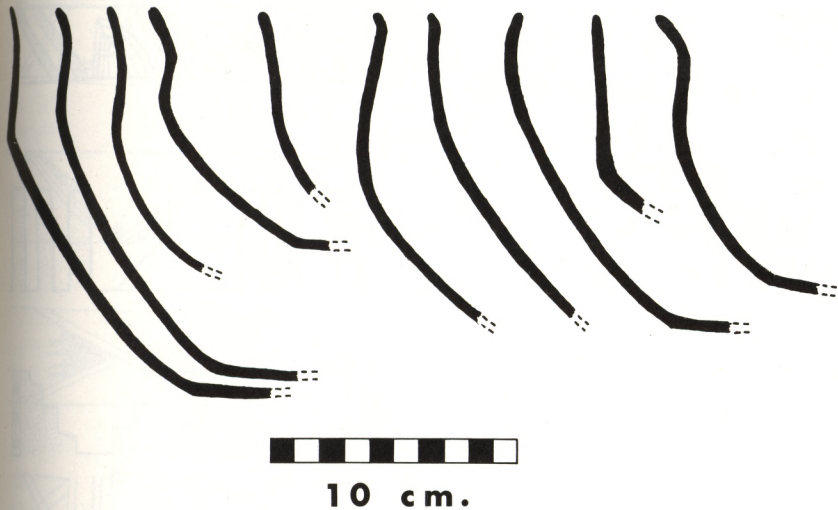


FIGURE 12. Profiles of Gobernador Polychrome bowls.

to 25 cm. with seven of them between 15 and 20 cm., eight between 20 and 25 cm., and two less than 15 cm. Depths were measurable on only four of the deep bowls. The smallest is 5.5 cm. high and 9.1 cm. in diameter; another is 11.0 cm. high and 16.8 cm. in diameter; a third is 12.5 cm. high and 20 cm. in diameter; and the largest is 14.0 cm. high and 24.4 cm. in diameter.

Bowls with vertical upper walls: Sherds from five bowls show a vertical upper wall rising from a well-defined shoulder. Diameters range from 15 to 23 cm.; heights are not obtainable.

Bowls with convex upper walls: Six examples fall into this category. All are deep. The walls continue upward from the base in a gradual arc and incurve slightly at the rim. In some instances the rim has a slight external lip. Diameters range from 20 to 29.7 cm. One example is 13 cm. deep and 23 cm. in diameter; another is 11 cm. deep and 20 cm. in diameter. Both

have tapering lower walls and small flat bases.

Bowls with flaring upper walls: On four bowls the upper wall flares outward. Two are 21 cm. in diameter and the others are 23 and 25 cm. respectively. One is 9.5 cm. deep. One example (Pl. 21 a) has a flaring external lip like that found on jars.

Jars: Only three of the nine jars are complete enough for an accurate description. These vessels are small with flat bases that are not indented and walls that gradually widen above the base and then widen abruptly and form a marked bulge near the center of the vertical axis of the vessel. Above this bulge the walls gradually taper inward again and then flare at the rim. Heights range from 11.1 to 20.6 cm. and diameters from 11.0 to 22.2 cm. The height and diameter of each vessel are within 2 cm. of each other. Kidder and Shepard (1936, Fig. 294) illustrate a jar of this same shape, but with a greater width.

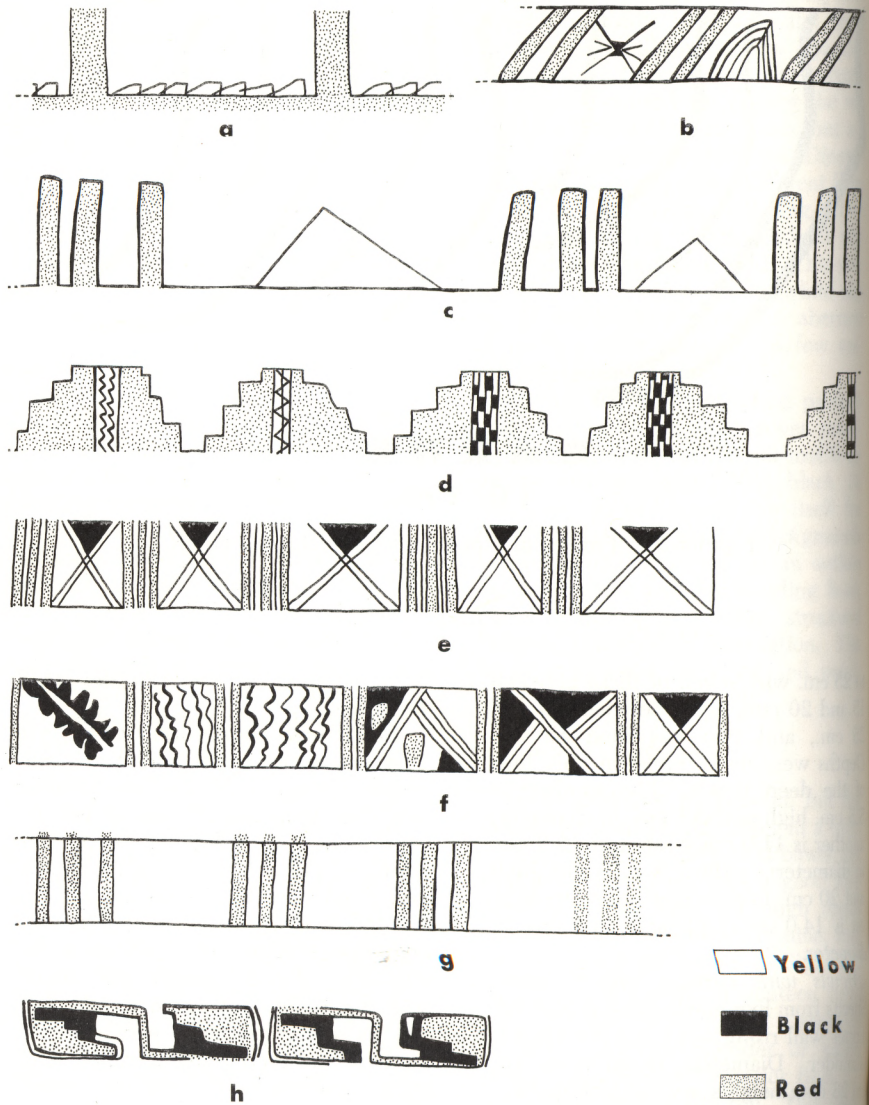


FIGURE 13. Banded designs from Gobernador Polychrome vessels.

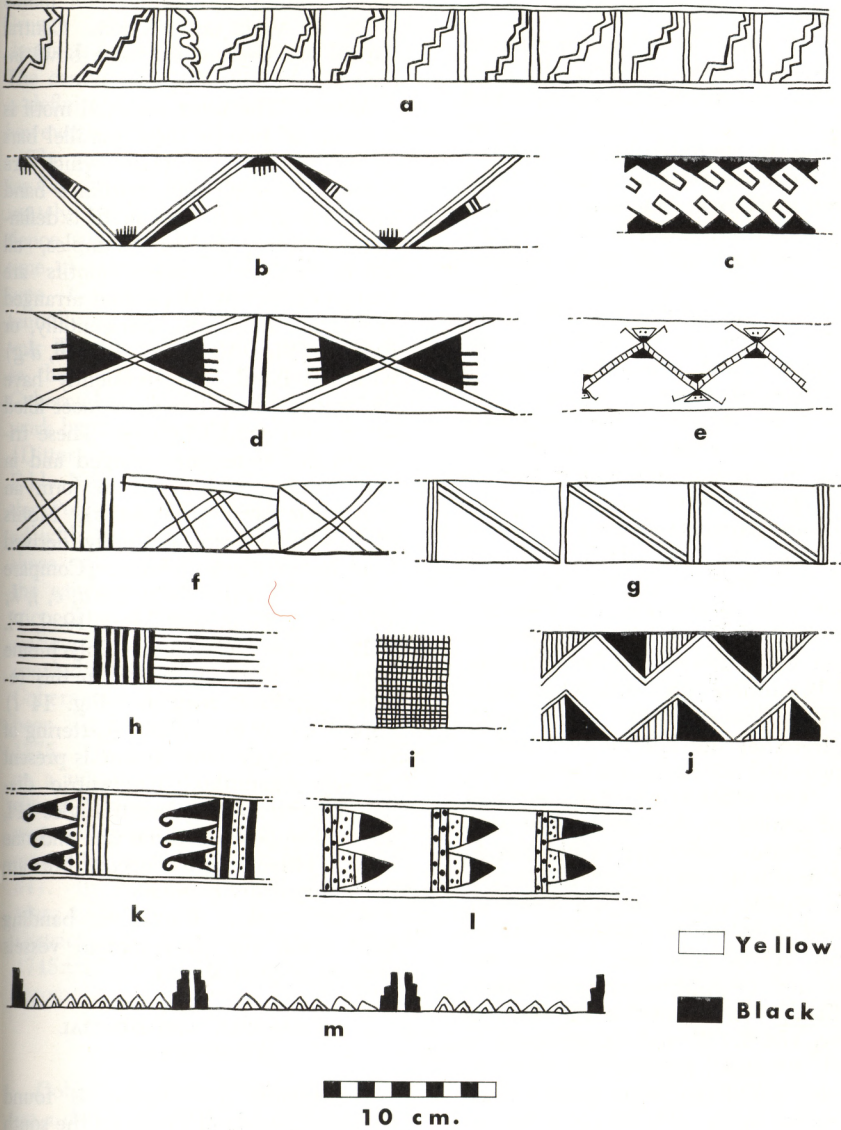


FIGURE 14. Banded designs from Gobernador Polychrome vessels.

DECORATION

Fields and color zones: Jar exteriors are divided into three fields by color zoning. The rim and neck are painted red; the area below this to and including the central bulge is left yellow and bears decoration in either black or red and black; the zone below this is painted red down to 2 to 5 cm. from the base which is left yellow. Jar necks are painted red on the interior and on one example (Pl. 19 *e*) a yellow zone was left just within the flaring rim and a banded design in black painted there.

With one exception the bowls bear decoration in either black or red and black in the zone just below the exterior rim. Below this the exterior walls are painted red down to 1 to 4 cm. above the base which is left yellow. On one example the upper exterior zone is red with black motifs, but on all the others it is yellow with either black or red and black motifs. Bowl interiors are somewhat more variable. Seven fairly large sherds suggest that the interior was neither color-zoned nor decorated in any manner. Two other bowls definitely lack color zoning on the interior but have the interior decorated with smears and streaks of red paint (Pl. 21 *c, d*). The typical decoration on bowl interiors is to divide the field into an upper yellow zone and a lower red zone and to apply decorative details in black to either one or the other of these zones. If the upper zone is used, a banded pattern (Pl. 19 *b, d*) results, but if the lower zone is used a central figure (Pl. 20 *e*) is the result. Occasionally the color zones on bowl interiors are reversed with an upper red and a lower yellow zone as shown in Plate 20 *a*.

Layouts: Paneled bands appear on bowl exteriors, on some bowl interiors, and on some jar exteriors. Unpaneled

bands containing isolated unit motifs occur on some jar exteriors. Central figures are present on some bowl interiors.

Motifs: The most common motif is a group of two or three parallel bars of red outlined in black which are repeated several times within a band (Fig. 13*a-c, e-g*). This motif is definitely present on 19 examples, all bowls. Other common motifs are groups of narrow black lines arranged vertically, diagonally, horizontally, or crossed (Figs. 13 *b, e f*; 14 *a, b, d-g*) within a band, and frequently have the angles where two lines meet filled in to form solid triangles. These triangles are sometimes fringed and in one instance elaborated to form an insect-like motif (Fig. 14 *e*). Motifs of this type were probably derived from Jemez Black-on-white (Compare Reiter 1938, Figs. 20 *d*; 21 *a, c, j, k*; 16 *f, h, j*; 17 *a*; and Mera 1939, Pl. VIII to the Gobernador Polychrome banded designs illustrated in this report). Stylized feathers (Fig. 14 *l*) appear on six examples. Spattering of red paint to decorate a zone is present on two examples. Concentric diamonds with solid corner triangles (Pl. 19 *c, f*) appear on three jars and one bowl. Other motifs occur, but are not numerically common.

Line breaks: Breaks in banding lines occur on all complete vessels and on several sherds.

TEMPORAL AND SPATIAL DISTRIBUTION

Gobernador Polychrome is found from the Pueblo of Pecos on the south and east, to Durango, Colorado, on the north, and from at least Nazlini, New Mexico, on the west. It may extend as far west as Canyon del Muerto. A. V. Kidder's field notes on the excavations at Mummy Cave report sherds indistinguishable from Gober-

nador Polychrome from that area. Brugge (1963: 14) notes occasional sherds as far west as Nazlini, Arizona. The center of abundance of the type is definitely the Gobernador District, however.

The potential maximum time range for Gobernador Polychrome is approximately 1680 to 1800, but most evidence suggests 1696 to 1750 as the time of maximum production of this type. Gobernador Polychrome is potentially earliest in the Navajo Reservoir District on the San Juan proper to the north of the canyons of the Gobernador District where recent work by the Museum of New Mexico (Dittert 1958, Fig. 2; Dittert, Hester, Eddy 1961, Table 9) shows Gobernador Polychrome consistently associated with types of pottery earlier than those with which it is associated in the canyons of the Gobernador District. The significance of these associations are discussed further in the concluding sections of this report. The Gobernador District seems to have been abandoned between 1750 and 1775. The most recent tree-ring date on a masonry site is 1764 ± 20 for a site in Munoz Canyon, and the most recent date on a hogan is 1775 ± 5 for one on Gobernador Knob (Keur 1944: 84). In Navajo sites at Big Bead Mesa to the south of the Gobernador District with the tree-ring dates of 1745 ± 20 to 1812, Gobernador Polychrome is nearly absent (Keur 1941).

DISCUSSION

Gobernador Polychrome appears to be a derivative of Rio Grande pottery types, probably Jemez Black-on-white and Tewa Polychrome. The shapes and designs of Gobernador Polychrome are closest to those in use on the Rio Grande in the late 17th and early 18th centuries. In theory, Gobernador Polychrome during its initial development was made by Rio Grande

Pueblo refugee women. The techniques could easily have been learned from them by Navajo women. I suspect that Navajo plain ware stems from the same source, but at a slightly earlier period.

The Navajo Painted ware from Chacra Mesa reported by Malcolm (1939) may be a slighter later variety of Gobernador Polychrome. There is possibly a trend toward increased use of sherd temper in Gobernador Polychrome. Farmer's (1942) type has been included in Gobernador Polychrome as it seems to be the same thing excluding possible differences observed when working with small sherds rather than with whole vessels.

GOBERNADOR-NAVAJO POLYCHROME

Dittert (1958) has named but not described a transitional Gobernador-Navajo Polychrome. In examining the collection of sherds described in this report, Dittert picked out only one small sherd from Site 3 as definitely falling within this type. This sherd is from the basal portion of a jar and shows abundant quartz sand and large specks of dark red material in the paste. Hester and Shiner (1963) have renamed this type Frances Polychrome and consider it to be a variety of Gobernador Polychrome. The associations, though general rather than specific, suggest to me that it may represent a stage in the initial development of Gobernador Polychrome rather than a transition to later Navajo painted ware.

GOBERNADOR RED-ON-YELLOW

On a few vessels of what would normally be Gobernador Polychrome, no black paint was added. According to standard southwestern taxonomic procedures which rank color pattern as the primary attribute in defining

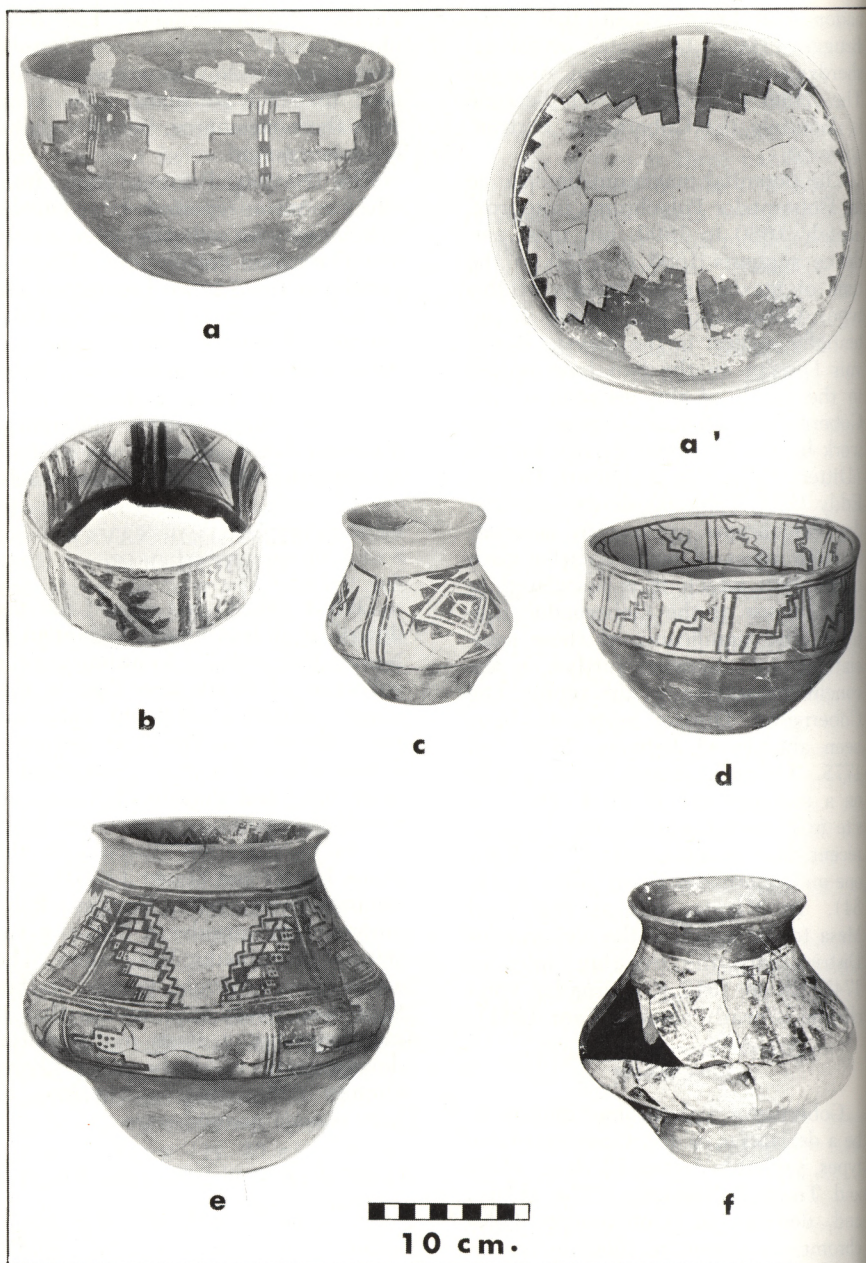


PLATE 19. Gobernador Polychrome vessels. *a-f*, from the surface of the north-east burial area at Site 4.

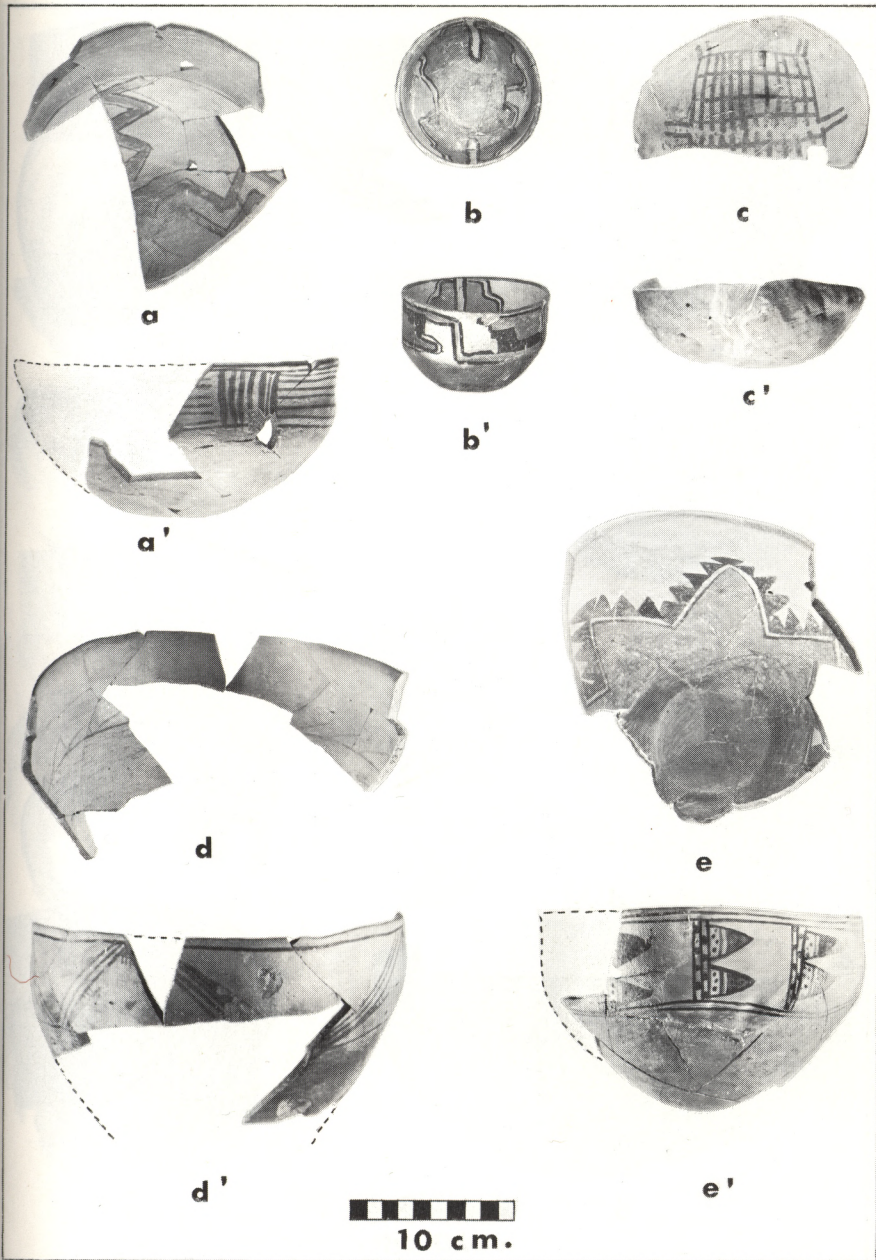


PLATE 20. Gobernador Polychrome and Gobernador Black-on-yellow vessels. *c*, Gobernador Black-on-yellow, remainder Gobernador Polychrome; *a*, from trash heap at Site 4; *b*, northeast burial area, Site 4; *c*, trash heap at Site 3; *d*, from fireplace in hogan, Site 9; *e*, from Site 8.

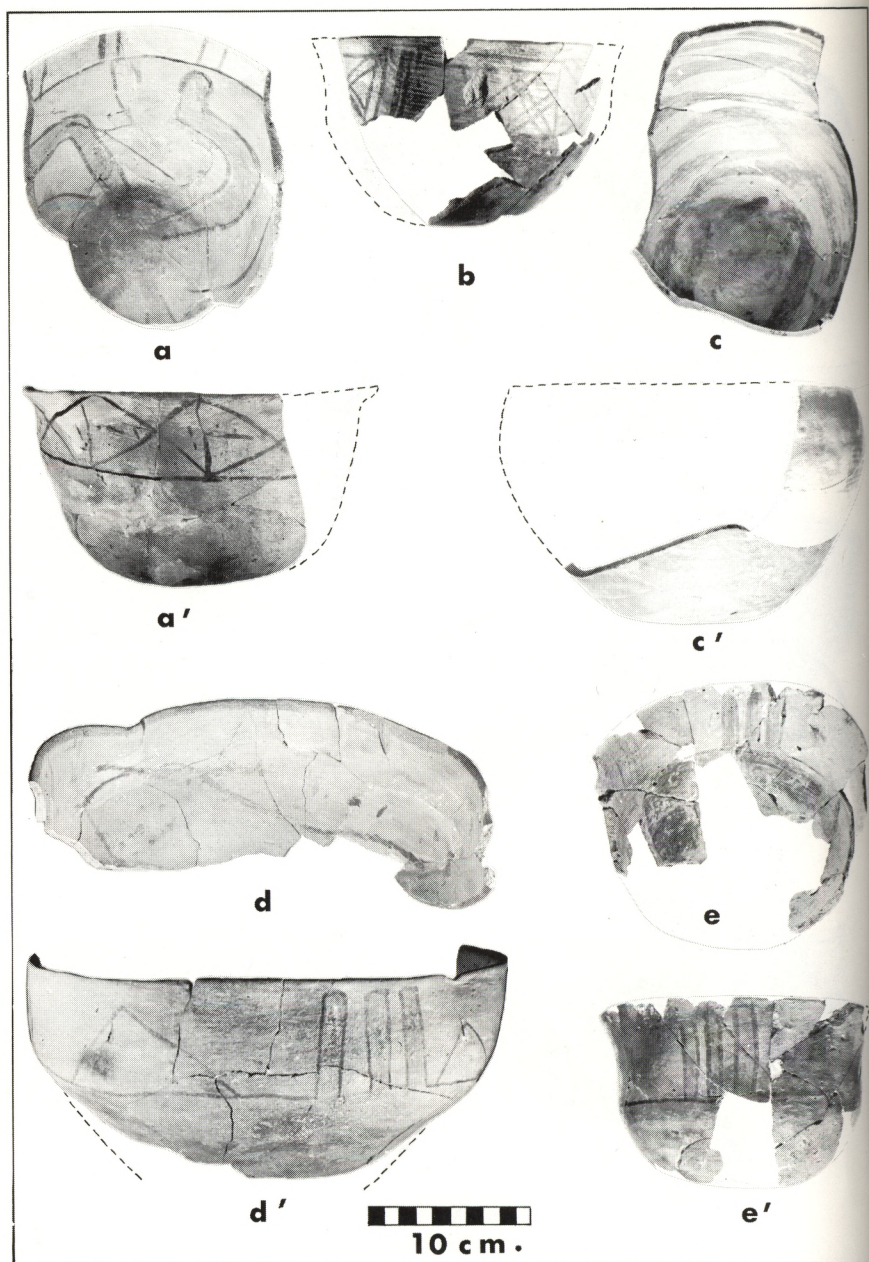


PLATE 21. Unusual Gobernador Polychrome vessels. *a*, Site 10; *b*, *d*, *e*, north-east burial knoll, Site 4; *c*, surface near Site 2.

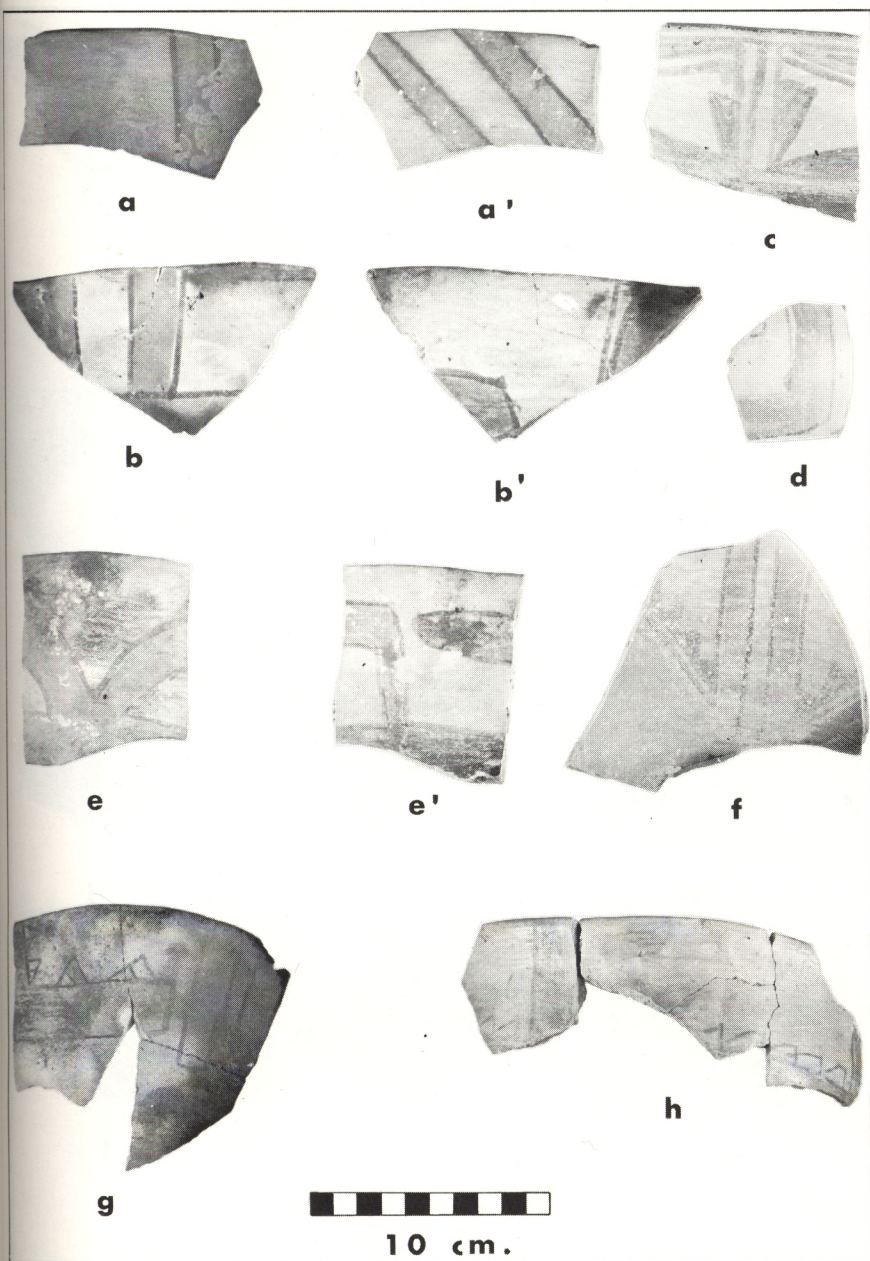


PLATE 22. Gobernador Polychrome sherds with broad line decoration. *a*, from Site 8; *b*, *e*–*h*, east trash area, Site 3; *c*, northeast burial knoll, Site 4; *d*, Site 10.

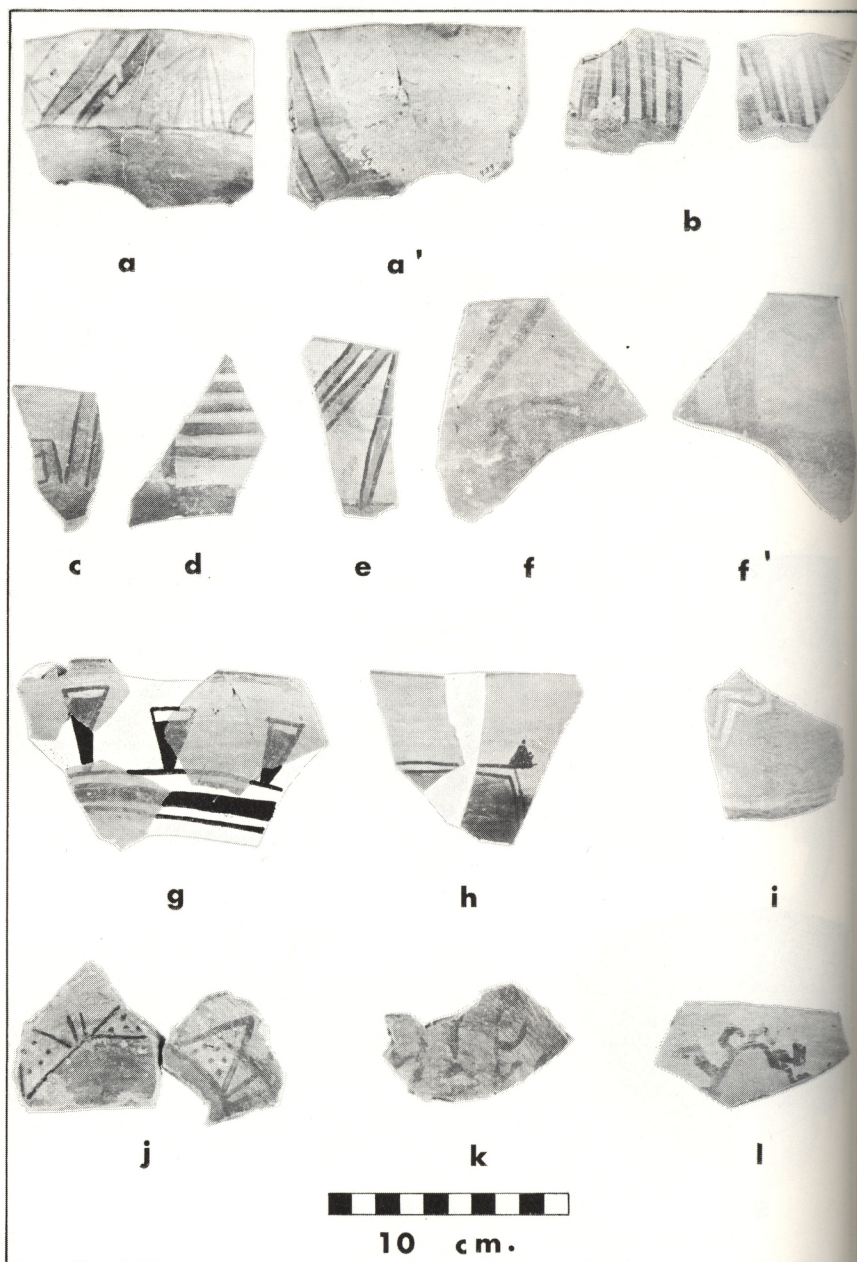


PLATE 23. Gobernador Polychrome and Gobernador Red-on-yellow sherds. *a*, *c*, Site 10; *b*, Site 8; *d-f*, *h*, northwest trash area, Site 3; *g*, *i*, north trash area, Site 4; *j-l*, east trash area, Site 3.

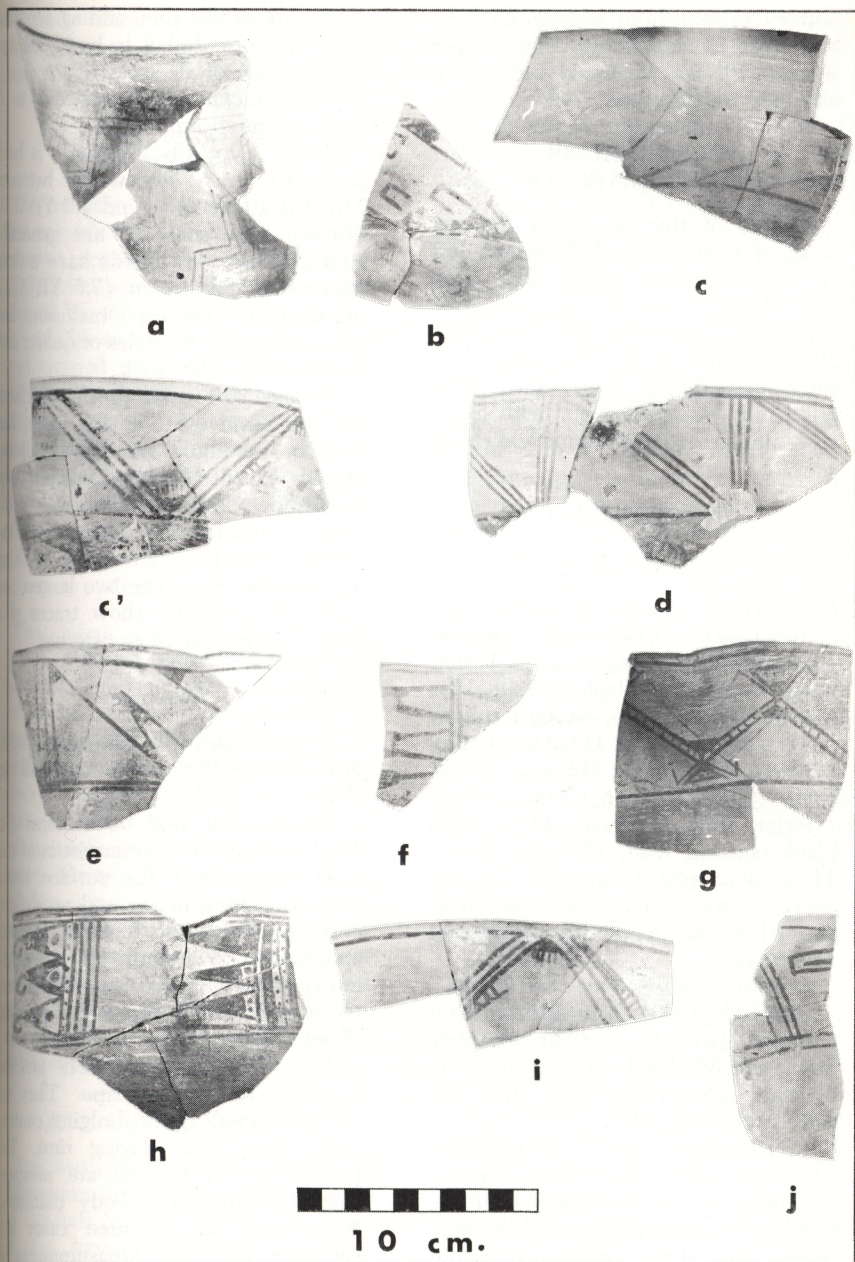


PLATE 24. Gobernador Polychrome and Gobernador Black-on-yellow sherds. *f*, Gobernador Black-on-yellow; remainder Gobernador Polychrome; *a, b*, trash area, Site 3; *c, i*, Site 9; *d*, surface of Site 2; *e, g*, near pueblo at Site 4; *f*, Site 10; *h, j*, north trash area, Site 4.

pottery types, these vessels have to be classified separately. Two bowl sherds (Pl. 23 *f*) from Site 3 are classified as this type.

GOBERNADOR BLACK-ON-YELLOW

Vessels of this type lack the red paint of Gobernador Polychrome but are otherwise the same. One large bowl sherd (Pl. 24 *j*) came from Site 4, and one nearly complete bowl (Pl. 20 *c*) from Site 3. The latter is a small, exceedingly crude, bowl decorated only on the interior with a design similar to that found on Hopi wares.

DINETAH SCORED

HISTORY

Named by: Farmer (1942).

Synonyms: Blackware (Kidder 1920: 325); Navajo unpainted Utility ware, in part (Malcolm 1939: 12); Navajo Utility ware, in part (Keur 1941: 46; 1944); Dinetah Utility (Dittert 1958: 20; Dittert, Hester, Eddy 1961); Dinetah Utility, in part (Hester 1962; Brugge 1963); Plain black cooking ware (Stubbs, 1930). These descriptions apply to Dinetah Scored, except that specimens with neck fillets are excluded in the present definition.

Previous descriptions: See above.

Basis of present description: Four complete jars, one partially complete bowl, and 30 sherds from a minimum of eight additional vessels from the sites in this report.

Construction: One crude vessel (Pl. 26 *b*) shows rather faint horizontal ridges on its exterior which are probably incompletely obliterated coils. The others are much better made and exhibit no attributes from which to infer construction technique. Hill (1937: 13) observed Navajo cooking vessels being made by model-

ing the base and then adding separate coils or rings of clay to build the upper portions of the vessel.

Wall thickness: Range 3.5 to 6 mm.; mode 4 mm.

Paste: Typically, the paste is hard and dark gray, somewhere between Munsell 10 YR 4/1 and 7.5 YR 3/0. Surface and core do not generally contrast, but two sherds have a dark gray core and brown (7.5 YR 5/4) margins and surface. Inclusions are small, rounded, particles of quartz and occasionally other rock.

Surface color and finish: Surfaces are the same color as the paste, but may be smudged from use. All examples except the bowl exhibit deep or shallow, horizontal, vertical or diagonal, striations on interiors and exteriors probably caused by rubbing with a corn cob. The two largest jars (Pls. 25 *d*, 26 *b*) show traces of a pitch coating on their exteriors.

SHAPES

Jars and possibly one bowl occur. Farmer (1942) notes a small jar shape.

Bowls: The one bowl sherd (Pl. 26 *d*) has all the characteristics of this type except that the surface shows stone polishing marks and no definite corn cob striations. Its shape is hemispherical with a slight external thickening at the rounded rim. The diameter was about 19 cm. and the height about 7.5 cm.

Jars: The four complete jars are basically the same shape. They are tall with small bases, bulging centers, long necks, and flaring rims. The orifices are wide, but are narrower than the maximum body diameters. Bases are flat in three cases and rounded in one. Measurements in centimeters are as follows: height 29.4, body diameter 21.7, mouth diameter 17.6; height 38.4, body diameter 26.9, mouth diameter 19.2; height

40.5, body diameter 31.7, mouth diameter 18.8; and height 48.3, body diameter 32.1, mouth diameter 20.8.

TEMPORAL AND SPATIAL DISTRIBUTION

The temporal range of this type is 1680 or earlier to about 1800. It was probably preceded in time by a type called Gobernador Indented, and was followed by and partly contemporaneous with Dinetah Filleted and various types lumped under the term Navajo Utility. Its center of distribution is northern New Mexico from the San Juan on the north to Canyon Frances on the east to the Chaco on the west. Its total spatial range is probably greater.

DISCUSSION

The name applied by Farmer (1942), Dinetah Scored, has been retained for this type as his description and naming have precedence over later ones, and are consistent with the usual practice in naming southwestern pottery types by location and surface treatment rather than by function.

Dinetah Scored differs from its successor, Navajo Utility, in usually if not always having thinner walls, sand rather than sherd temper, larger sizes, and a more pronounced neck, more pointed basal section, and a narrower orifice (Hester 1962: 55 and examination of Navajo Utility vessels in the University of Colorado Museum).

GOBERNADOR FILLETED

Specimens classified as Gobernador Filleted are simply those which would be Dinetah Scored except that fillets of clay have been applied to the necks of jars apparently as decoration. Four incomplete jars (Pls. 25 *a, c, e*; 26 *a*), all from Site 4, show this feature. One jar has pairs of vertical

fillets, one has an entire encircling row of vertical fillets, and two have an applied band of clay cut into separate notches through the use of a stick or similar implement. Estimated rim diameters of these four jars are 12, 13, 13, and 18 cm. The curvature of the walls below the rims on two of the sherds suggests that the maximum diameters of these jars were wider than their orifices.

The reason for separating these vessels from Dinetah Scored and placing them in a separate type category is that on the basis of present evidence they form a good time marker for the period of about 1740 to 1800. The type apparently marks the beginning of the use of neck fillets by the Navajo, and judging from the data from the Navajo Reservoir District, was preceded by a period when neck fillets were not in use, and was followed by a period when they gradually became very abundant on the types known as Navajo Utility. Keur (1941) reports the occasional use of stick impressed fillets from Big Bead Mesa, and Farmer (1942) mentions them for Blanco and Largo Canyons. As one proceeds westward from the Gobernador District into areas still occupied by the Navajo, and upward in time from 1740 or 1750 to the present, neck filleting becomes increasingly common.

GOBERNADOR INDENTED

This type has been named by Dittert (1958: 20). Two sherds (Pl. 36 *g, i*) from this collection were identified for me by Dittert as of this type. In general the type resembles Dinetah Scored, but jar exteriors are deeply indented like Jemez culinary pottery. The type is potentially the earliest known Navajo ware, is rare in the Gobernador District, and is common in the Navajo Reservoir District (Dittert, Hester, Eddy, 1962, Table 9).

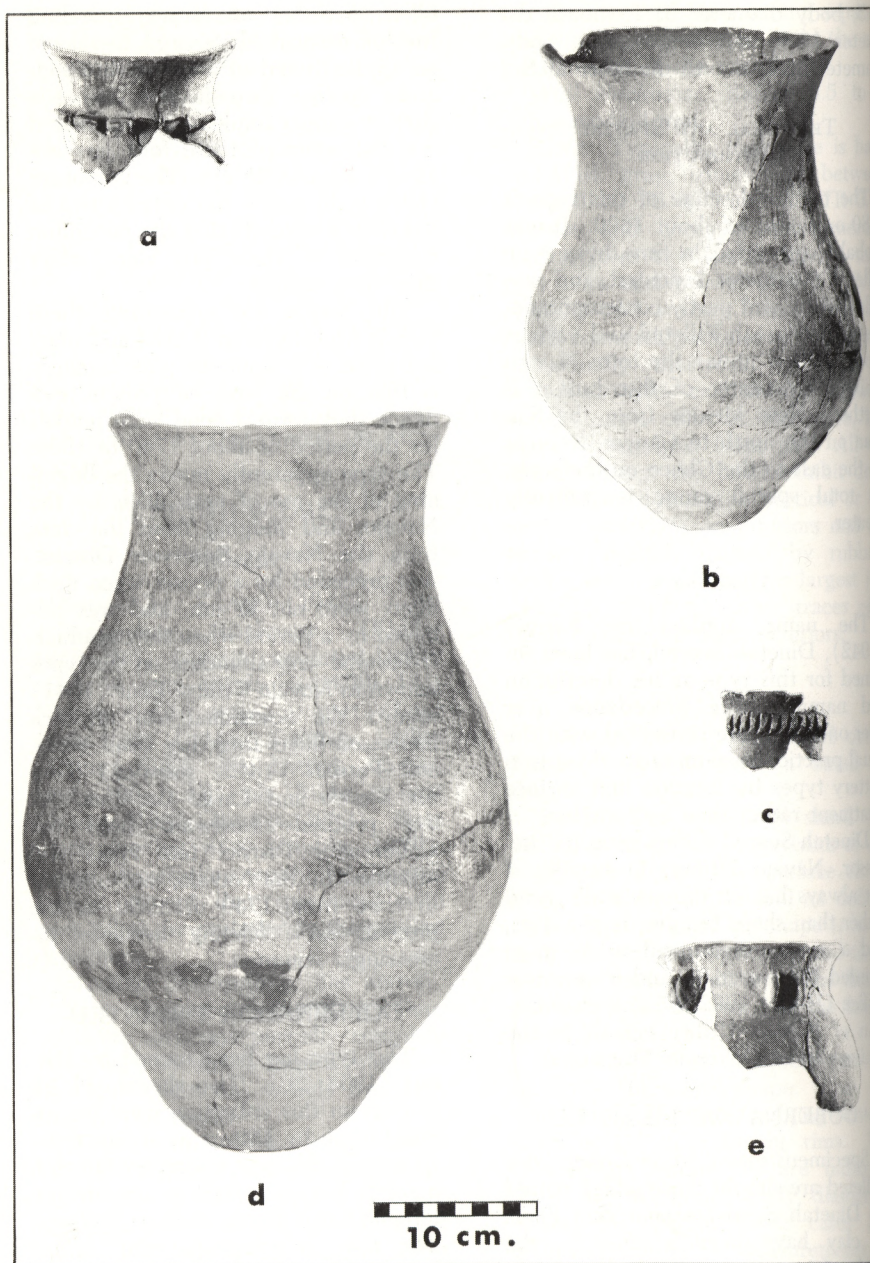


PLATE 25. Dinetah Scored and Gobernador Filleted vessels. *a, b, c, e*, northeast burial knoll, Site 4; *d*, Site 12.

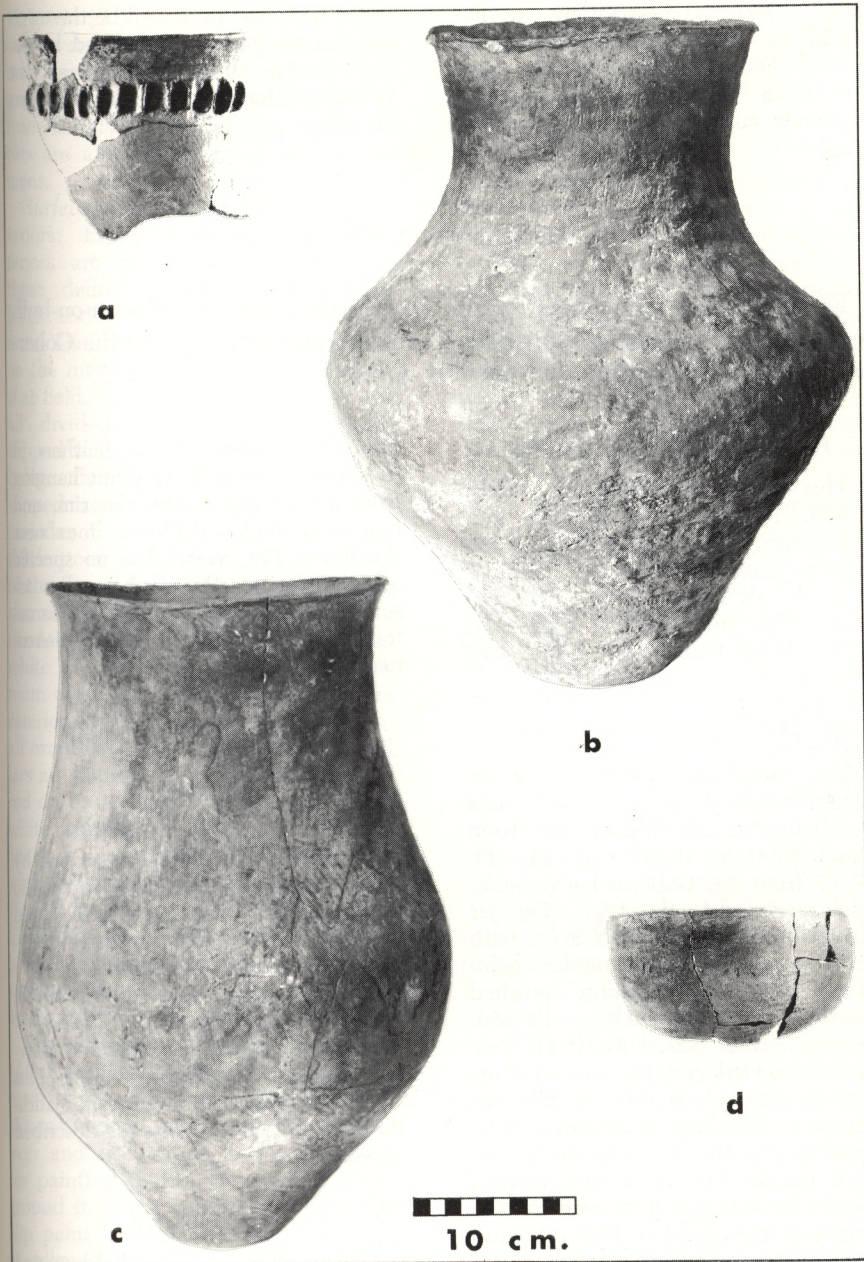


PLATE 26. Dinetah Scored and Gobernador Filleted vessels. *a, c, d*, northeast burial knoll, Site 4; *b*, jar containing ceremonial objects, Site 17.

Judging from its associations in the Navajo Reservoir District it could well precede Dinetah Scored in time. Dittert (1958) has noted its resemblance to Jemez culinary ware, and Gober-

nador Indented may well be the original Navajo pottery stimulated by Jemez wares, rather than of ancient Woodland derivation as has long been thought.

ZUNI-ACOMA TYPES

Four types of pottery—Hawikuh Polychrome, Matsaki Brown-on-buff, Ashiwi Polychrome, and Ashiwi White-on-red—are intrusive into the Gobernador District from Zuni and possibly Acoma.

HAWIKUH POLYCHROME

This type described by Mera (1939: 19-20) and Woodbury and Woodbury (1958) is the last of the western glazes and is found commonly at the six historic Zuni towns between 1630 and 1700. It appears to be rare in the Gobernador as only two small sherds were recovered.

MATSAKI BROWN-ON-BUFF

The Woodburys (1958) have recently described this type which dates at Hawikuh and Kechipawan from about 1500 to 1680. One jar (Pl. 27 *e*) from the Gobernador is tentatively assigned to this type. This jar has dark gray paste (2.5 Y 3/0), with small gray and white angular inclusions which are probably crushed sherds. The slip is thick, a yellowish brown in color closest to 10 YR 7/3, has a cracked surface, and in cross section shows inclusions of soft red particles. The shape is eccentric. Two handles join the rim and neck, and each handle has an incised vertical groove extending half its length. The height of the vessel is 10.8 cm., and its diameter is 11.8 cm. A hole 2 cm. in diameter has been ground into the bottom of the vessel, and the area around this hole for a radius of 3 cm. has been abraded. The design con-

sists of a series of nine feathers in red-brown (10 R 3/4) paint hanging from a line just below the rim, and two encircling red-brown lines near the base. This vessel has no specific associations in the Gobernador assemblage. Its paste and slip characteristics suggest that it is a Zuni-Acoma product.

ASHIWI POLYCHROME

HISTORY

Named by: Mera (1939: 20).

Synonyms: The vessel described by Mera (1939, Pl. 29) as "Upper Rio Grande Olla, Aberrant Form," and which is in this collection, is re-designated as Ashiwi Polychrome.

Previous Descriptions: Mera (1939); Woodbury and Woodbury (1958).

Basis of Present Description: Eleven whole or restorable vessels plus 12 sherds from a minimum of 7 additional vessels from the sites described herein.

TECHNOLOGY

Construction: Core probably coiled and scraped.

Wall thickness: 6 to 9 mm., usually 8 mm.

Paste: Crumbly, buff (2.5 Y 8/2)

to gray (2.5 Y 6/0) with a black carbon streak usually present; numerous small orange, red, and opaque gray inclusions are probably derived from sherds. Rounded quartz particles are also visible in several specimens.

Surface color and finish: Bowl interiors: Eight of the nine bowl interiors are slipped white; three of these definitely bear decoration in black and red, and two definitely do not. The other bowl is slipped red on the interior and is undecorated on that field. Bowl Exteriors: These are all divided into an upper white-slipped zone, which covers 4 to 8 cm. below the rim, and a lower red-slipped zone which covers the remainder of the field to and including the bottom of the bowl. Jars: Three of the four jars are slipped white from the rim to just below the maximum diameter; the fourth jar is slipped white on the zone above the maximum diameter. The remainder of the exterior and the base are slipped red in all examples. Rims of both bowls and jars are painted red. Canteen: Slipped red on base, back, handles, and neck; white slipped circle on front face bearing decoration. Rattle: Slipped white on upper body and handle and slipped red on lower body and base. The white slip tends to flake off and is usually cracked. Both red and white slips show stone polishing marks.

The red paint is usually a good red (10 R 4/6 or 10 R 3/6), but is occasionally a dusky red (7.5 R 3/2). When used as a slip it was polished over and is lustrous, but when used for painting motifs on a white background it is mat surfaced. The white slip paint is thick, cracked, and has a yellowish cast (10 YR 8/2). The black (5 YR 2/1) is lusterless, and both the black and red paint tend to wear off easily.

Application of paint: The white

slip paint is applied first; the red is added next, and the black is put on last.

SHAPES

The shape ratio in this collection is seven bowls to eight jars, to one canteen to one and possibly two rattles.

Bowls: Hemispherical bowls with incurved rims and slightly flattened bases are the most common form, five examples; diameter 12.9-38.8 cm.; height 6.8-14.5 cm. All are medium depth bowls except for one with a diameter of 12.9 and a height of 6.8 cm. (Pls. 27 *b*; 28 *e*; 29 *b*, *c*). Two other bowl shapes are present. One has a flat base, a gradual taper for half its height, and a bulging area for the remainder of its height (Pl. 28 *b*); diameter 25.4 cm.; height 10.0 cm. The other shape is represented by a large sherd (Pl. 28 *a*) which came from a carinated bowl with an estimated diameter of 33 cm. Rims are thickened internally and have an internal bevel on four examples; are thinned slightly and rounded on the top on the carinated bowl; are rounded with a slight external lip on one example; and are thickened and squared on one example.

Jars: Four jars are complete enough to give a good idea of sizes and shapes present. Two shapes are present: (1) Jars with concave bases, and walls that taper gradually to a marked bulge just below the center of the vertical axis of the vessel; above this bulge the walls taper upward to the orifice, three examples (Pls. 27 *d*, 28 *c*, 29 *d*); diameter 21.1-31.1 cm.; height 17.6-26.5 cm. The diameter is greater than the height in all cases. Rims are extended slightly above the orifice and beveled on two examples, and are not extended and rounded on one. (2) Shouldered jar with concave base, high rounded shoulders, and short, slightly flaring neck, one exam-

ple (Pl. 28 *d*); diameter 28.6 cm.; height 23.6 cm. The rim is rounded. There is one neck sherd of a second jar that is probably this same shape.

Canteen: One canteen (Pl. 29 *a*) with a height of 16.7, a width of 17.8, and a thickness of 12.7 cm. was recovered. It has a narrow vertical neck, and two vertical strap handles.

Rattle: One object is apparently a rattle (Pl. 29 *e*). It is 14.4 cm. high and 11.8 cm. in diameter and has a pearshaped outline. A braided pottery handle is attached at the top and side. One sherd bearing the same design and showing the same contours may be part of a second rattle, although there is not enough present to be certain.

DECORATION

Fields and color zones: Bowl interiors are not color zoned; bowl exteriors have a white zone just below the rim and a red zone below that; the white zone is the field of decoration. Bowl interiors are used as fields of decoration on three out of seven examples. Decoration on jar exteriors appears on necks, the white upper zone of the body, and usually on the central bulge of the jars which have this feature.

Layouts: Paneled bands are used on bowl exteriors. Paneled bands or plain bands without paneling appear on jar exteriors. Layouts on bowl interiors are variable. One (Pl. 28 *b*) exhibits a banded layout plus a unit motif in the center which is now largely obliterated. A second bowl (Pl. 27 *b*) has a motif focused on the center of the bowl in a quartered layout. The third bowl (Pl. 28 *a*) is incomplete, but apparently had an encircling band just below the rim, and either a central figure or a second band in the central area.

Motifs: Out of 12 vessels which are complete enough to show a good part of the design, 8 exhibit some

form of the feather motif used either as a filler or as a primary motif. One bowl and one jar (Pl. 28 *b, d*) show a series of joined medallions with stepped edges and feathers as central fillers. This particular motif (without the feathers) has a long history in the Zuni region. It is one of the most common motifs found on St. Johns Polychrome (Carlson 1961), and probably continues through intermediate types into Ashiwi Polychrome. In Zuni Polychrome it again becomes very common, and these two vessels are transitional to the modern Zuni Polychrome in this respect. Other motifs are frets with stepped ends, stepped squares in a diagonal row, a checkerboard band of alternating black and white squares, negative circles with crosses in them, and triangles with fringed ends.

Line breaks: Breaks in the narrow black banding lines occur on three vessels, and may have been present on the remaining ones which are either fragmentary or have eroded portions of the design.

TEMPORAL AND SPATIAL DISTRIBUTION

Ashiwi Polychrome has been found at Zuni and Acoma (Mera 1939), at Pecos (Kidder and Shepard 1936: 374), in the Gobernador (Keur 1944), and in the Navajo Reservoir in northern New Mexico (Dittert, Hester, and Eddy 1961: 154). The Woodburys report the type as abundant at Zuni and its outlying farming villages, and possibly at Acoma, although whether or not it is indigenous to the latter pueblo remains to be determined. The beginning date for Ashiwi Polychrome is largely based on the fact that the type has not been found at historic Zuni villages other than the modern pueblo of Zuni. This pueblo was built about 1700 on the ruins of Halona (Hodge 1912: 527). The end date

for this type is probably *ca.* 1800-1850. It was not being made when the Stevensons made their collections in the 1880s, although one example was collected in 1879. The specimens at Pecos dated before 1838 (Kidder and Shepard 1936: 376).

DISCUSSION

Mera's (1939) original definition of Ashiwi Polychrome practically limits it to a specific olla shape with a domed neck as this shape marks a point in the development of certain shape trends. The shape itself is diagnostic for Ashiwi Polychrome as opposed to other Zuni types, but I suspect that globular jars with short nearly vertical necks which are common in Zuni types both before and after Ashiwi Polychrome were also made during the lifetime of the latter type. Distinguishing Ashiwi Polychrome from the later Zuni Polychrome is not an easy task. Several shape and style attributes help, however. The bulging necked jar disappears in Zuni Polychrome, and the feather motif gives way to an emphasis on the medallion and on small deer and other life forms sometimes associated with a heart line.

Differences between Ashiwi Polychrome and its Sia-Santa Ana counterpart, Puname Polychrome, are discussed under the latter type.

ASHIWI WHITE-ON-RED

Two vessels with white decoration on an overall red slip possibly came from the Zuni-Acoma area. Mera's notes on this collection refer to these vessels as "acni" meaning that in his opinion they came from either Acoma or Zuni.

TECHNOLOGY

Paste: The paste is fine grained

and dark gray (2.5 Y 3/0) and contains abundant light gray angular inclusions which are undoubtedly crushed sherds. The dark gray color may simply be the carbon streak extending to both margins of the paste.

Wall thickness: 5 mm.

Surface finish: The exteriors of both vessels are completely covered with a red (between 10 R 3/6 and 10 R 4/6) slip which has been highly compacted by stone polishing.

Paint: The white paint, probably kaolin, is fugitive.

SHAPES

Canteen: One vessel is a circular canteen (Pl. 27 *c*) with a narrow spout at the top and vertical strap handles on the shoulders. It is 13.0 cm. from base to top of spout, and 12.8 cm. wide from handle to handle.

Gourd-shaped jar: This jar (Pl. 27 *a*) is 23.5 cm. high and 12.1 cm. in diameter. The base is not indented.

DECORATION

The canteen has a feathered medallion on both faces and a pattern of triangles on the neck. The jar has a narrow band of alternating red and white checkerboard squares around the neck, and a pattern of triangles with scalloped edges alternating with feather units pendant from this neck band.

DISCUSSION

The name "Ashiwi White-on-red" is to be regarded as a tentative designation pending the recovery of more examples of this type. White-on-red vessels do not appear to be typical of either Zuni or Acoma on the basis of present evidence. Stevenson (1883: 348, No. 258) does describe a white-on-red canteen from Zuni collected in 1879, but it is not typical.

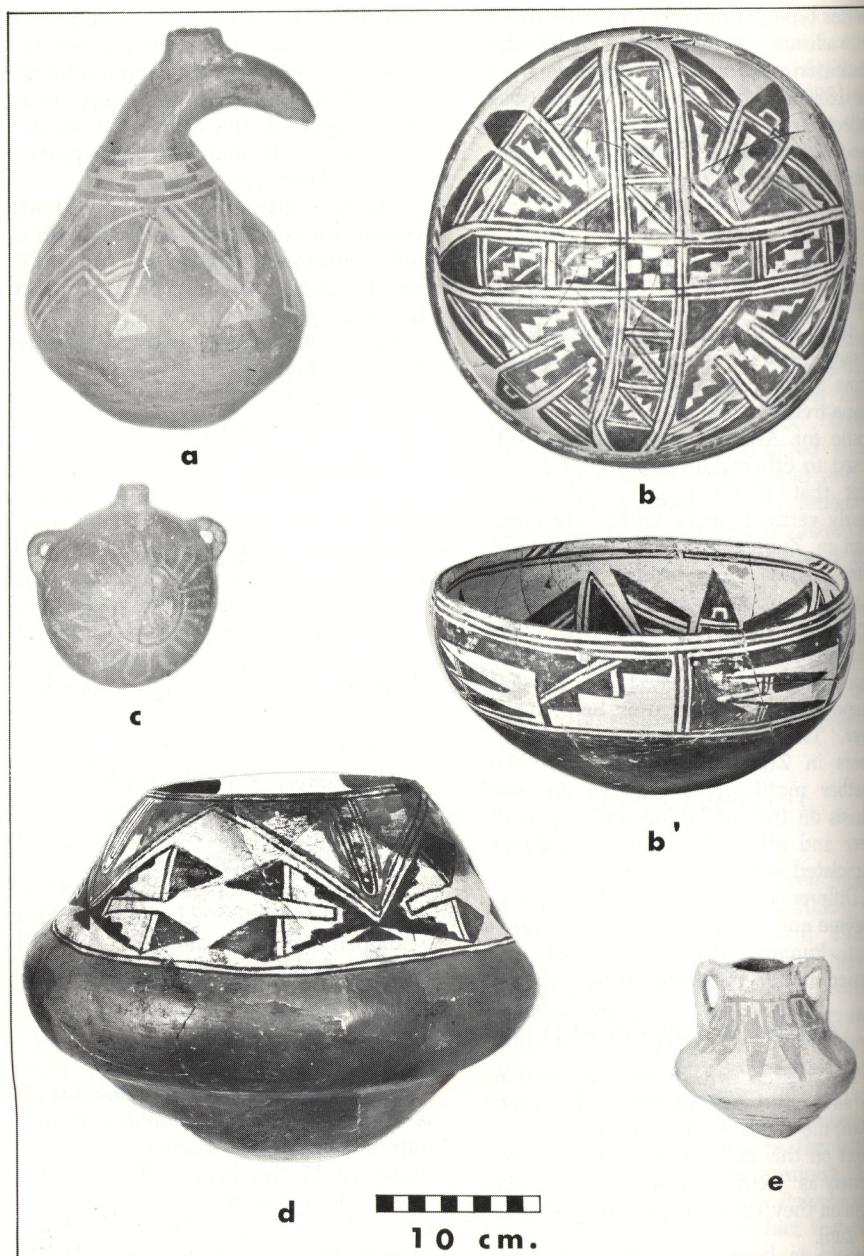


PLATE 27. Zuni-Acoma pottery types. *a, c*, Ashiwi White-on-red; *b, d*, Ashiwi Polychrome; *e*, Matasaki Brown-on-buff. *a-c*, northeast burial knoll, Site 4; *d*, northwest trash area, Site 3; *e*, Site 14.

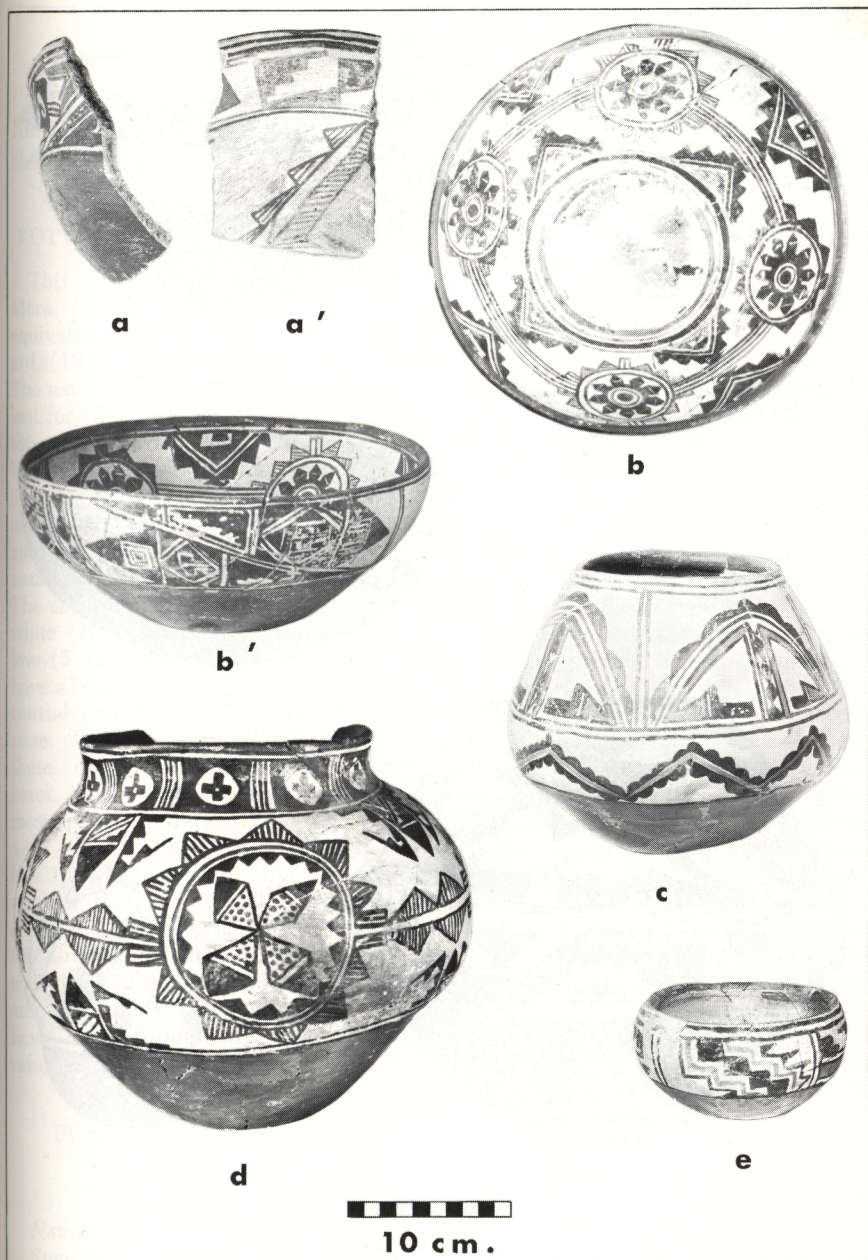


PLATE 28. Ashiwi Polychrome vessels. *a*, from pueblo at Site 4; *b-e*, north-east burial knoll, Site 4.

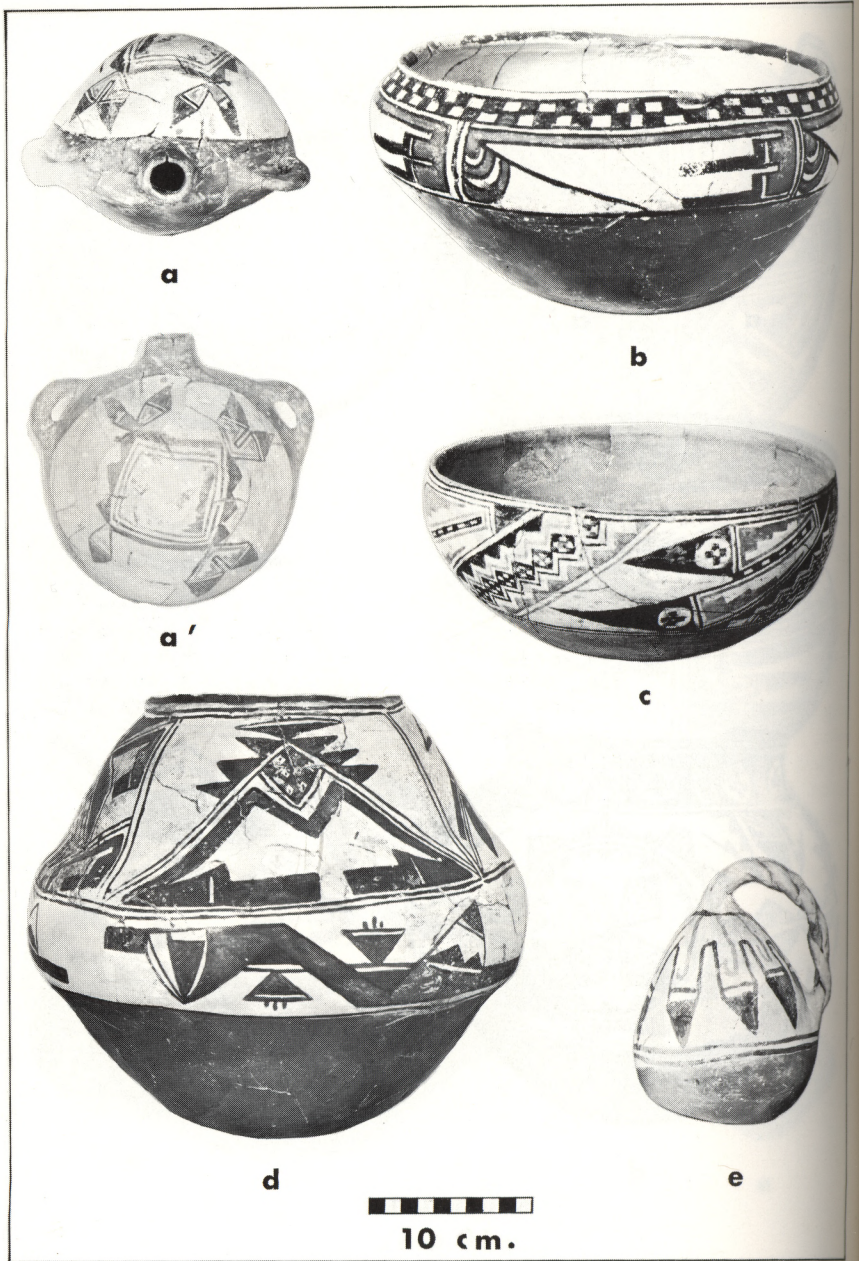


PLATE 29. Ashiwi Polychrome vessels. All are from northeast burial knoll at Site 4.

SIA-SANTA ANA TYPES

Two intrusive types probably originated in the Sia-Santa Ana area on the Rio Grande. These types are Kotyiti Glaze Polychrome and Puname Polychrome.

KOTYITI GLAZE POLYCHROME

This type has been described by Mera (1939: 9, 1939: 17) and is equivalent to what Kidder and Shepard (1936: 250) call Late Glaze V. The name has been used as an equivalent for Glaze VI, but the examples in this collection conform to Late Glaze V. Two restorable jars and sherds (Pl. 32 *b, d, e*.) of one additional jar and one bowl were recovered. The paste and temper look just like that of Puname Polychrome to be described next. The slip on three examples is a dirty white (10 YR 6/3) and on one is yellow (5 YR 5/6). Both restorable jars have a band of red slip paint below the central bulge and an unslipped basal zone. Rims are painted red on both these examples. Decoration is in black, runny glaze outlining mat, almost fugitive red (2.5 YR 4/6; 10 R 4/4) areas. The exact time range of this type is uncertain, but it seems unlikely that it was still being made after 1700. Its homeland is the Middle Rio Grande and it is probably ancestral to Puname Polychrome. The examples in the Gobernador may well have been brought by the Pueblo refugees into that area.

PUNAME POLYCHROME

HISTORY

Named by: Mera (1939: 18).

Synonyms: Tsia Polychrome (Kidder and Shepard 1936: 377-80); early historic pottery from the pueblos of Sia and Santa Ana.

Previous descriptions: See above.

Basis of present description: Seven whole or restorable vessels plus 11 sherds representing a minimum of 9 additional vessels from the sites described herein.

TECHNOLOGY

Construction: Coiling.

Wall thickness: 5-6 mm.

Paste: Hard, brown (5 YR 4/6) in color, with abundant angular inclusions of black rock with a vitreous luster. Shepard's analysis of Pecos specimens of this type indicated that the temper is basalt. A gray carbon streak is present in one example.

Surface color and finish: Bowl Interiors: Slipped red with no decoration, three examples; slipped white with decoration in red and black, eight examples. Bowl Exteriors: White slipped band 4.5 to 5.5 cm. wide just below rim on all examples; below this painted or slipped band 3.0 to 3.5 cm. wide in red and lower portion of bowl unslipped, three examples; no red band and lower portion of bowl below white band unslipped, four examples; all-over red slip covering exterior below white band, one example (the smallest bowl present). Unslipped surfaces are the same color as the paste. Bowl rims are all painted red. Jar exteriors: White slip covers entire neck and body to just below maximum diameter on two examples and probably on two others; below this white zone is a painted red band about 3 mm. wide on two examples and below this band the basal zone is unslipped. This red band is absent on one example and just the unslipped surface

shows. Jar rims are painted red. The white slip is thick, slightly uneven, crackled, and usually has a yellowish tinge (10 YR 8/3). Surfaces appear to have been stone polished. The unslipped, three examples; no red band (3 to 5 mm. wide) horizontal scrape marks.

The dark paint is a soft mat black (5 YR 8/1). Shepard's analysis of the Pecos specimens showed that they contain iron and manganese. The red paint is also mat surfaced and ranges from a dusky red (10 R 3/4) to red (10 R 4/63).

Application of paint: Red, black, and white are the three colors used on these vessels. White is used only for a slip and is applied first. Red is used either as a slip directly over the surface of the paste or for painting motifs on the white slipped area. Black is used both for outlining red design units and for black design units. The black is applied after the red. On two sherds red appears without a black outline, and on two bowls black is used for motifs on the exterior white band with no red.

SHAPES

In this particular sample the ratio is ten bowls to six jars.

Bowls: All the bowls in this sample are of medium depth, i.e., the diameter is greater than twice the height. Two shapes occur: (1) large carinated bowls which have a sharp ridge encircling the exterior from 4 to 5 cm. below the rim, and a slightly concave area between the carina and the rim, five examples (Pls. 30 *a*; 31 *a*, *c*); diameter 25.0-39.7 cm.; height 11.0-19.0 cm.; rims squared to slightly rounded, not thickened; (2) bowls with walls that incurve at the rim, three examples (Pl. 31 *d*, *f*); diameter 14.6-22.0 cm.; height 7.2-8.8 cm.; rims are rounded with an internal bevel and on one example the lower

internal edge of this bevel is thickened markedly.

Jars: Only one jar is complete enough for all measurements; it is 34.6 cm. in diameter and 27.5 cm. high. The base is small and concave and the walls above gradually widen and form a marked bulge just below the center of the vertical axis of the vessel; above this bulge, the walls gradually taper to the rim which is sharply everted. The other jars are probably very near to this same shape, although on one example the wall between the bulge and the everted rim is slightly concave rather than a straight diagonal.

Fields and color zones: Bowl exteriors are all decorated on the white band just below the rim. Bowl interiors may or may not be used as a field of decoration. On the three bowls which definitely exhibit interior decoration, the interior is used as two fields based on the structural lines of the bowl; a simple motif of half-circles or diagonal lines appears on the upper field, and a more elaborate design on the lower field. Jar exteriors are divided into two fields in much the same manner. The sloping neck forms one structural and separate decorative field which corresponds to the lower field on bowl interiors, and the central bulge on jars forms a separate structural and decorative field which corresponds to the upper field on bowl interiors.

Layouts: The white band on bowl exteriors always exhibits decoration in either red, black, or usually red and black. On five examples this band is paneled and on one isolated unit motifs occur. The others are undeterminable. Narrow (2 mm. wide) banding lines in black outline this white zone on two examples. On one of these the upper and lower banding lines are double. One other example contains a double narrow upper banding line only. On the remaining ex-

amples the white zone is not formally bordered in black. Only two bowls are complete enough to show the entire interior layout, which consists of two concentric bands. The lower band is paneled on one of these examples, and is possibly paneled on the other although the design is nearly obliterated.

The complete jar is formally divided into three concentric bands by narrow black banding lines. The upper two bands are paneled, the lower is not. One incomplete jar (Pl. 36 *h*) is not formally divided into bands by banding lines, but shows essentially the same type of layout with a zone on the neck containing one type of motif and lower zone at the maximum diameter exhibiting another.

Motifs: Three motifs are commonly found. These are terraces, stylized feathers, and half circles or "cloud symbols." Of the nine examples complete enough to give a good idea of the motifs in use, four exhibit some form of stylized feather in conjunction with a half terrace. These motifs are used on the lower zone on bowl interiors and the neck zone on jar exteriors. On four of the additional nine examples which are all bowls, these zones are not decorated. Half circles appear on the central bulge on all three jars, and on the upper zone of the two bowls which are decorated on the interior, and are distinctive of this pottery type. The exterior decorated zone on bowls exhibits quarter terraces or frets with a quarter terrace on four examples, and "#" figures on another vessel. A barbed "Z" figure is found on another bowl. Vertical or diagonal panel dividers composed of narrow black lines also appear on bowl exteriors and interiors, and in one instance these are elaborated with a series of open triangles.

Line breaks: Breaks in framing lines occur on four vessels. The re-

maining vessels are either incomplete, or have no framing lines.

TEMPORAL AND SPATIAL DISTRIBUTION

Puname Polychrome has been found at Pecos (Kidder and Shepard 1936: 377-80), in the Navajo Reservoir District in northwestern New Mexico (Dittert, Hester, Eddy 1961: 152), and in the sites in this study from the same general area, and at the Pueblo of Jemez (Mera 1939). The pueblos of Sia and Santa Ana are presumably the centers of origin of this type from which it was traded to outlying areas. Mera (1939: 116) states that "a study of material from the trash deposits of Tsia and Santa Ana proves beyond question that such were the places of origin." At Pecos Kidder and Shepard estimate a range of 1750-1838 for Puname (Tsia) Polychrome. Mera (1939) places its end date as before 1850. I would place its starting date as *ca.* 1700.

DISCUSSION

The primary diagnostic attributes in separating Puname Polychrome from its contemporary Zuni-Acoma type, Ashiwi Polychrome, are paste and temper. Puname Polychrome's paste is brown with abundant vitreous black inclusions and is quite distinct from that of Ashiwi Polychrome which is buff to gray with small orange, red, and opaque gray inclusions probably derived from sherds. Other attributes in which the two differ are the following: The scalloped band of half circles which occurs on most Puname Polychrome vessels does not appear on any Ashiwi Polychrome vessels of which I am aware although this trait could logically occur as a borrowed element on some Ashiwi Polychrome; and the practice of usually leaving the basal zone of vessels either unslipped or with only a narrow red band of

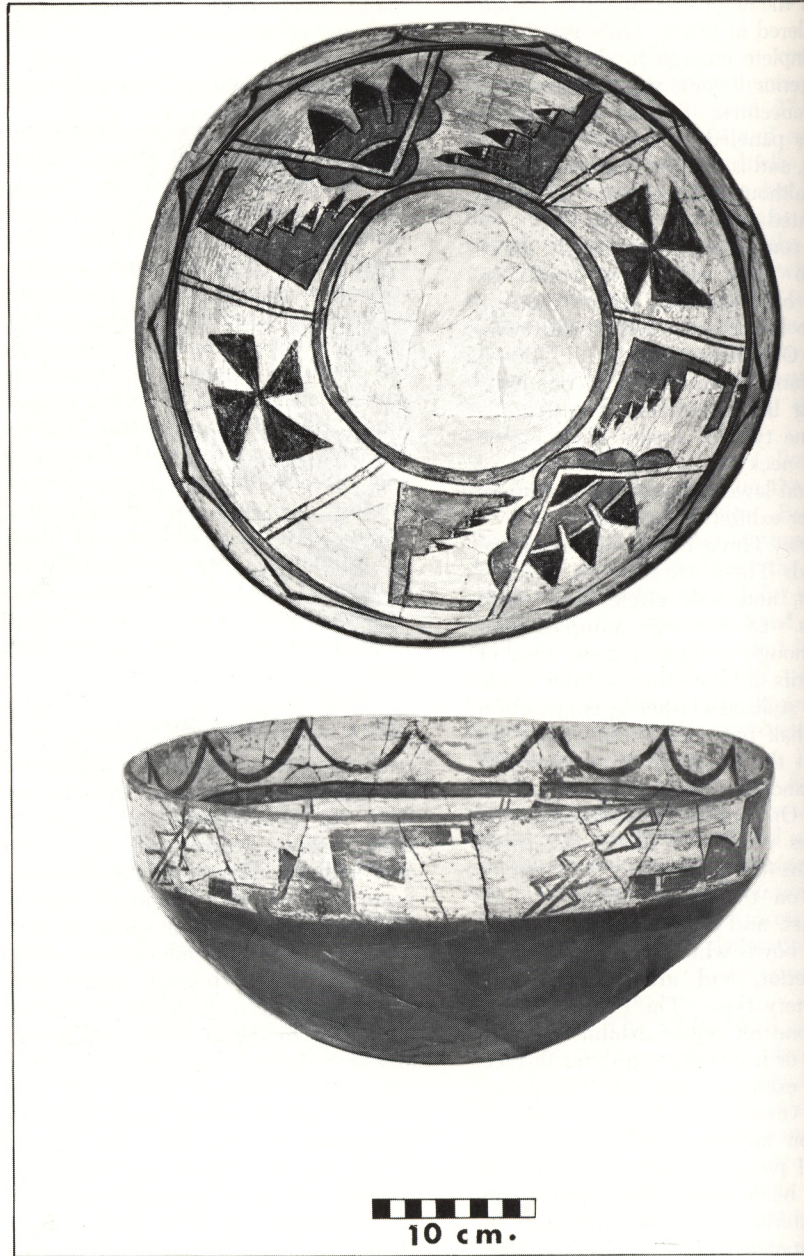


PLATE 30. Puname Polychrome bowl. From northeast burial knoll, Si

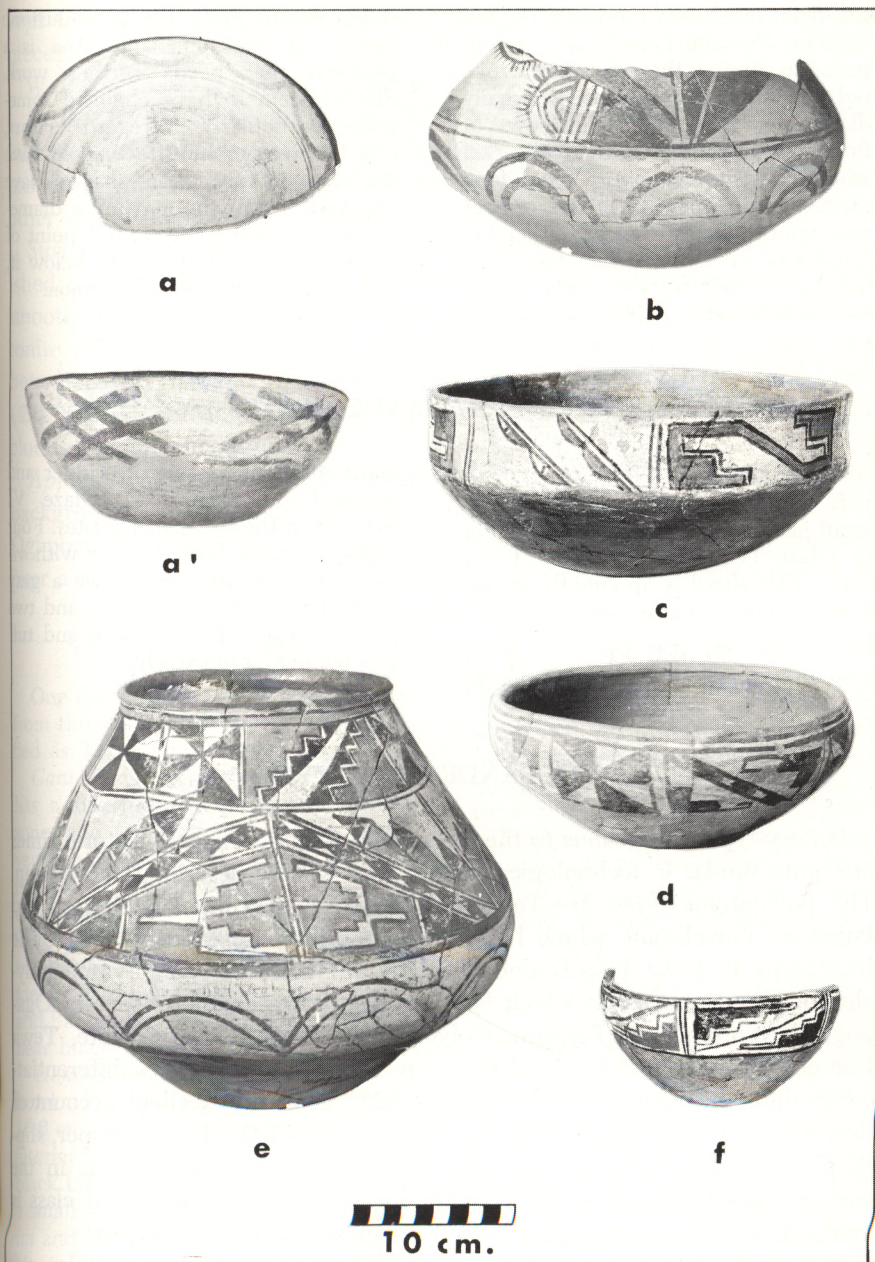


PLATE 31. Puname Polychrome vessels. *a*, Site 8; *b*, Site 6; *c-f*, northeast burial knoll at Site 4.

slip paint just below the white slipped zone on Puname Polychrome, as opposed to slipping the entire basal zone red on Ashiwi Polychrome, is usually diagnostic. The one small bowl of Puname Polychrome in this collection which does have its entire basal zone slipped red is aberrant in this respect and could simply reflect either its small size or the general close relationship of the two types. The extent to which Puname Polychrome can be

differentiated from the later historic pottery of Sia and Santa Ana is a problem that needs further work. Shapes seem to have changed somewhat, particularly in regard to jars, and the feather motif seems to have declined in use. Jar shapes have changed in that the maximum diameter is now above the central point of the vertical axis rather than below it, and a true neck is more common.

OTHER RIO GRANDE GLAZES

GLAZE IV

E. A. Dittert has identified one small jar sherd as probably belonging to Glaze IV of the Gallisteo Basin area. This sherd is apparently an intrusive from an earlier period.

GLAZE VI

Twelve small sherds belonging to

eight different vessels of Kidder and Shepard's (1936: 254) Glaze VI came from the Gobernador sites. Four examples have brown paste with vitreous rock temper, two have a gray paste with dark rock temper, and two have brown paste with sand and tuff (?) temper, respectively.

RIO GRANDE TEWA TYPES

Pottery types indigenous to the Upper Rio Grande in early historic times are quite similar in technological details and will be described as a group. The polychrome types are Tewa Polychrome, Ogapoge Polychrome, and Pojoaque Polychrome which have been described by Mera (1939). The basic type is Tewa Polychrome which is an inclusive category for polychrome sherds or vessels which lack the distinctive characteristics of Ogapoge Polychrome and Pojoaque Polychrome. Tewa Black-on-white, Tewa Red-on-buff and Tewa Polished Black are nonpolychrome types differentiated by different color patterns. Guthe (1925) gives an excellent account of how pottery of this generic class was made in the 1920s. Paste, temper, slipping techniques, construction, and many shapes are the same as in the earlier examples found in the Gobernador. Pottery of this general class is made at Pueblos occupied by both Tanoan and Keresan speakers.

Construction: Guthe (1925) notes that large vessels are made by ring coiling on a moulded base, and small vessels are moulded from a simple lump of clay; shaping and thinning were done using the kajepo on the interior and the hand on the exterior; and scraping followed sundrying. Ex-

cept for the scraping, these processes are not apparent from the finished pieces.

Wall thickness: 4-8 mm., usually 6-7 mm.

Paste: The paste is light brown (5 YR 5/4) with small or large soft, white inclusions and small specks of carbon, except for Tewa Polished Black which has dark gray (5 YR 4/1) paste. The inclusions are apparently a tuff or other soft volcanic sand (Underhill 1944: 86).

Surface color and finish: Unslipped surfaces are well smoothed and polished and are the same color as the paste. White slipped surfaces are a smooth dead white (10 YR 7/2) and are faintly cracked; the slip is bentonite (Underhill 1944: 92-4). Red paint or slip is thin, very smooth, and between 10 R 3/6 and 10 R 4/6 in color. Black paint is a hard, dead black (2.5 Y 2/0). Surfaces of Tewa Polished Black are smudged. Small fire clouds are not uncommon.

Application of paint: Red background areas are painted first and white background areas second. Black decoration is added last. On the one Ogapoge Polychrome jar (Pl. 34 *d*) which has a red and black motif applied over a white background, the red was painted before the black outlines.

TEWA POLYCHROME

One canteen, one bowl, and sherds from three additional bowls are classified as Tewa Polychrome.

Canteen: The canteen (Pl. 34 *g*) has a flat base, hemispherical lower zone, and tapering upper zone. Two vertical strap handles are placed near the center of the upper zone. The diameter is 13.0 cm. and the height is 13.3 cm. The entire vessel including the base is slipped red except for identical triangular areas on the front and back which are slipped white and bear black decoration.

Hemispherical bowl: The complete bowl (Pl. 34 *a*) has a diameter of 16.6 cm. and a height of 6.4 cm. The interior is slipped white and bears a black banded design on the walls and a small filler motif in the center. The rim and the exterior for 2.5 cm. below the rim are painted red. The bottom and lower walls are not slipped.

Carinated bowls: Sherds from three bowls (Pl. 36 *a-c*) exhibit a concave zone below the exterior rim. This

zone is slipped white and bears black decoration. Two examples are complete enough to show part of the red slip below this. Rims are painted red. Interiors are neither slipped nor decorated. The approximate diameters of these bowls are 21, 25, and 27 cm.

Modern varieties of Tewa Polychrome are or have been made at Cochiti, San Ildefonso, Santo Domingo, and Tesuque (Douglas 1933).

OGAPOGE POLYCHROME

Three jars (Pl. 34 *b, d, f*) are classifiable as Ogapoge Polychrome. This type is limited to jars according to Mera's original definition, and is distinguished from Tewa Polychrome by the flaring rim, the use of the neck area as a field of decoration, and the application of only a narrow band of red slip paint just below the maximum diameter rather than slipping the whole base red. These jars all have indented bases except possibly the smallest one whose base is missing. The smallest jar is 9.7 cm. high

and 11.1 cm. in diameter. The others are 27.8 and 28.8 cm. high and 29.6 and 30.5 cm. in diameter, respectively. Rims are painted red.

POJOAQUE POLYCHROME

Like Ogapoge Polychrome this type is at best a variety of Tewa Polychrome and is limited to jars which would be Ogapoge Polychrome except that the neck is slipped red rather than white and bears no decoration. One jar (Pl. 33 *d*), 28.9 cm. high and 31.8 cm. in diameter belongs in this type.

TEWA RED-ON-BUFF

One sherd from a hemispherical bowl (Pl. 33 *b*) has a 3 cm. wide band of red slip paint on the exterior below the rim and is otherwise undecorated. Its diameter was approximately 17 cm. and its height 7 cm. This type of pottery is known to have been made in the 20th century at the pueblo of San Juan (Douglas 1933), although carinated bowls are the common shape. Dittert, Hester, and Eddy (1961, Fig. 198) note the presence of Tewa Red-on-buff and Tewa Polished Black in the Homestead period (1870-1964) of the Navajo Reservoir District.

TEWA POLISHED BLACK

Mera (1939: 14) gave the name Kapo Black to the smudged red ware

which came into vogue during or shortly after the rebellion of 1680. Two examples in this collection exhibit this treatment, but lack the specific shape diagnostics of Kapo Black, and the name Tewa Polished Black is suggested as a more inclusive one.

Canteen: A circular canteen (Pl. 34 *e*), 18.2 cm. tall, 16.6 cm. wide, and 13.2 cm. thick, has a narrow spout at the top, a flattened back and bulging front, and two strap handles at the shoulder.

Spoon: A spoon (Pl. 34 *c*) has a diameter of 4.5 cm. and a small curved handle 2.0 cm. long.

The smudging is very poor on both these examples and the surface is a dirty gray-brown (5 YR 3/1). Much better smudged black ware has been made in the late 19th and early 20th centuries at Santa Clara, San Juan, Pojoaque, and San Ildefonso (Douglas 1933).

TEWA BLACK-ON-WHITE

Two hemispherical bowls (Pl. 33 *a*, *c*) have a white slip covering both the interior and exterior and are decorated in black on both these fields. One is 8.2 cm. high and 25.4 cm. in diameter and has a plain rounded rim. The other is 6.2 cm. high and 14.6 cm. in diameter and has a flaring thinned rim with an internal bevel. These bowls are reminiscent of 20th century pottery from Cochiti.

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The centers of distribution of these pottery types are the pueblos of the Rio Grande. Tewa Polychrome is both the oldest and the most long-lived of the types and was in existence by 1694 (Mera 1939: 58-60). Data on the earliest varieties of Tewa Polychrome are extremely meager, but on both an historical and a typological basis, it along with Jemez Black-on-white is ancestral to Gobernador Polychrome. Their best dating is from the Gobernador sites and they seem to have been in existence by 1750 at the latest. Malcolm

(1939: 12) reports Ogapoge Polychrome from Chacra Mesa sites, and Farmer (1942) notes Pojoaque Polychrome in the Upper Blanco and Largo Canyons dating around 1750. Tewa Polished Black (Kapo Black) is apparently a post 1700 development (Mera 1939: 15). Time ranges on Tewa Black-on-white and Tewa Red-on-buff are unknown, but they were certainly in existence by 1750 and probably continue from then into the 20th century.

The problem of differentiating 18th century Tewa types from the 19th and 20th century ones remains to be worked out. As with 18th century types from other pueblos, the Tewa types frequently employ the feather motif which has largely disappeared by 1850 or 1900. Douglas (1933) describes the 20th century styles of the various Tewa and Keresan pueblos whose pottery is generally related.

HOPI TYPES

PAYUPKI POLYCHROME

Five restorable vessels and sherds from three additional vessels, which are obviously intrusive from the Hopi country, were recovered. The type or types to which these belong are uncertain as there are no descriptions of 18th century native Hopi types. It is probable that these vessels belong to the Hopi-Tewa Payupki Polychrome (Colton 1956, Ware 7 B, Type 15) and they have been so classified. I have examined the type sherds at Flagstaff. The specimens will be described individually. All of them contain specks of quartz sand in the paste, but I doubt if this was intentionally added as temper. The color patterns are red outlined in black or brown on a yellow to orange surface. It is possible that a very thin slip was used.

Bird-effigy jar: This vessel (Pl. 35 b) apparently had a modeled bird's head and feet which were broken off and the fractures ground smooth. The surface color is orange (2.5 YR 5/8) and the paste is light yellowish brown (10 YR 6/4). The base is indented.

The present diameter is 19.3 cm. and the height is 13.6 cm. The wings and tail of a bird are painted in red and black mat paints on the upper body. The rim is painted red and has black dashes on the four sides.

Neckless jar: A small globular jar (Pl. 35 c), 8.7 cm. high and 15.5 cm. in diameter, has buff (5 YR 6/3) paste and a yellow (5 YR 6/8) surface. The interior is speckled with drops of dark brown paint. The exterior has a banded pattern of feather tips in dark brown with red panel dividers. The rim is painted red.

Bowl: Half of a small hemispherical bowl (Pl. 35 e) is 13.3 cm. in diameter and 5.0 cm. high. The paste is white (10 YR 8/2). The surface color is orange (5 YR 6/8). The interior is decorated with an overall feather pattern quartered by rows of diamonds. The rim and the exterior down to 2.5 cm. below the rim is painted red. A narrow dark brown line is painted below this.

Bowl: The major portion of a bowl with a flaring rim (Pl. 35 f) has a dead white paste (10 YR 8/1) and an orange (5 YR 6/8) surface color.

It is 22.4 cm. in diameter and 8.4 cm. high. The base is rounded and the lip is thinned. Decoration is limited to the interior and consists of a nearly obliterated motif in red and black in the center and a paneled band of feather tips on the flaring rim. The rim is painted red.

Bowl: A hemispherical bowl (Pl. 35 *d*) with a flattened base is 25.6 cm. in diameter and 7.2 cm. high. The paste is white (10 YR 8/2) and the surface color varies from white to yellow (5 YR 6/8). The interior is decorated in an all-over pattern in red and dark brown. The rim is paint-

ed red. Two pairs of dark brown dashes are the only exterior decorations.

The preceding five specimens all came from the burial area northeast of Site 4.

Sherds: Small sherds from jars came from Sites 3 and 5. These show the typical red and brown paint on a whitish surface. A sherd (Pl. 35 *a*) from the base of a hemispherical bowl also came from Site 3. The exterior is fire clouded and the paste is burned a dark gray. The interior is yellow with brown and red decoration.

OTHER POTTERY TYPES

JEMEZ BLACK-ON-WHITE

This type has been described by Reiter (1938). Sherds belonging to seven different vessels were recovered. From Site 6 came 13 sherds belonging to a single large jar (Pl. 32 *c*). Two sherds from a minimum of one jar came from Site 3. Three sherds from a minimum of one bowl, and one jar sherd came from Site 2. Sites 10 and 13 each yielded a jar sherd. It seems unlikely that Jemez Black-on-white was made after 1696, although it may have continued in use.

BISCUIT B

About half of a jar (Pl. 32 *a*) came from Site 6. This type has been described by Mera (1934). If this vessel was brought into the Gobernador by pueblo refugees, it must have been an heirloom piece at the time.

SLIPPED RED WARE

Sherds from one bowl and two jars of a slipped red ware came from Site

3. The bowl (Pl. 36 *e*) has a gray (7.5 YR 5/0) paste with opaque gray angular inclusions which may be crushed sherds. Both interior and exterior surfaces are slipped red (10 R 3/6) and show deep horizontal marks from the polishing stone. The paste of the jar sherds is the same gray, but with light brown margins, and has opaque white (tuff?) and vitreous black rock inclusions. These jars are slipped red (10 R 3/6) on the exteriors and are unslipped brown (10 YR 6/4) on the interiors. The bowl may be a Zuni type and the jars are possibly related to Mera's (1939: 12) Posage Red.

ABERRANT POLYCHROME JAR

One jar (Pl. 36 *d*) from the northeast burial area at Site 4 is aberrant in most attributes. The surface is reddish yellow (7.5 YR 6/6) and so is the paste except for a light gray carbon streak. The paste contains abundant amounts of quartz sand visible without magnification. The rim, the neck for 3 cm. below the rim on both

the interior and exterior and the body of the jar are slipped with a thin red (2.5 YR 4/6) paint. The neck and shoulders are unslipped reddish-yellow and bear a feather tip design in red and black. Also on this field are an isolated "awanya" figure and a

rectangle made up of a solid and a hatched triangle. A black band of sawteeth encircles the neck just below the rim. The black paint is mat surfaced. This vessel is possibly a Navajo product.

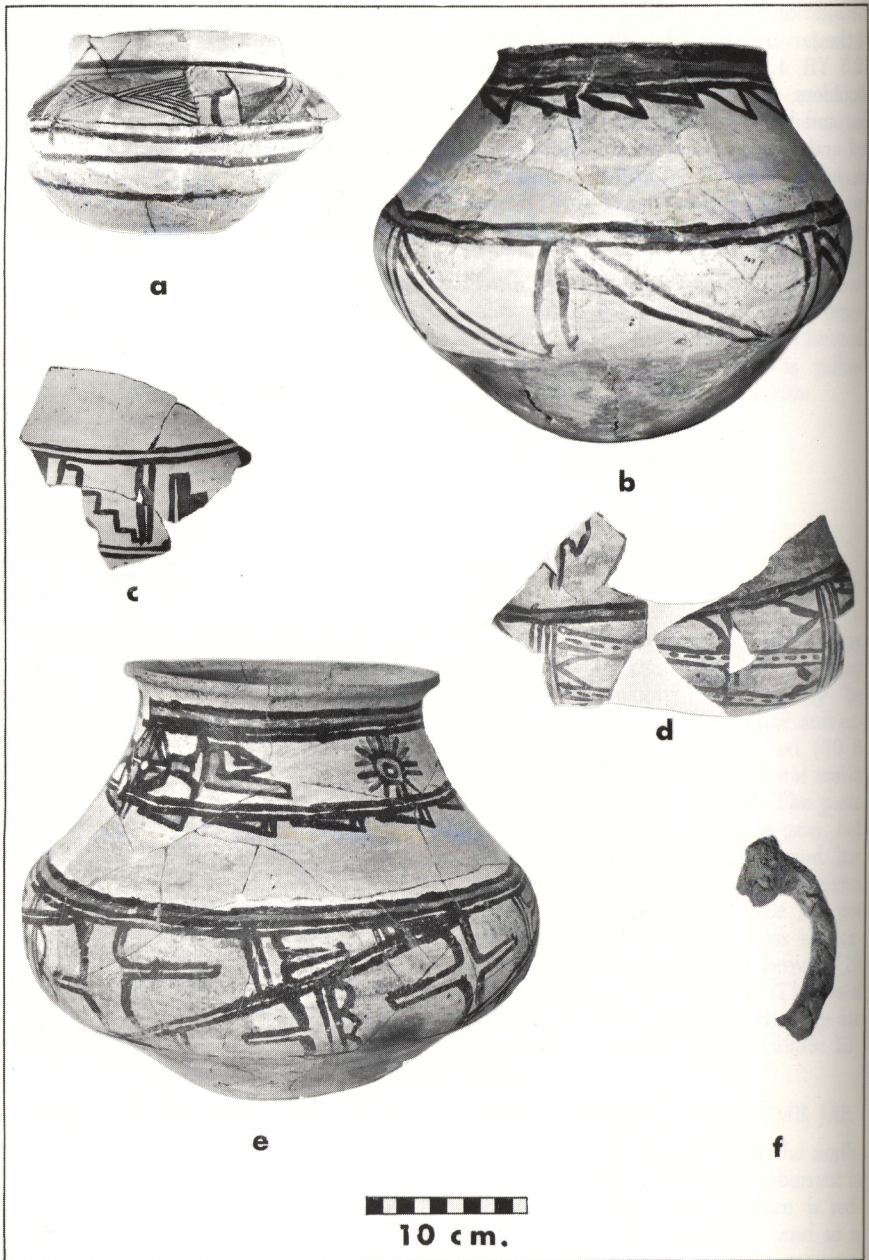


PLATE 32. Pottery of various types. *a*, Biscuit B jar from Site 6; *b*, *d*, *e*, Kotyiti Glaze Polychrome jars; *b*, *d*, north refuse heap at Site 4; *e*, northeast burial knoll, Site 4; *c*, Jemez Black-on-white jar sherd from Site 8; *f*, handle of sand tempered ware from Site 11.

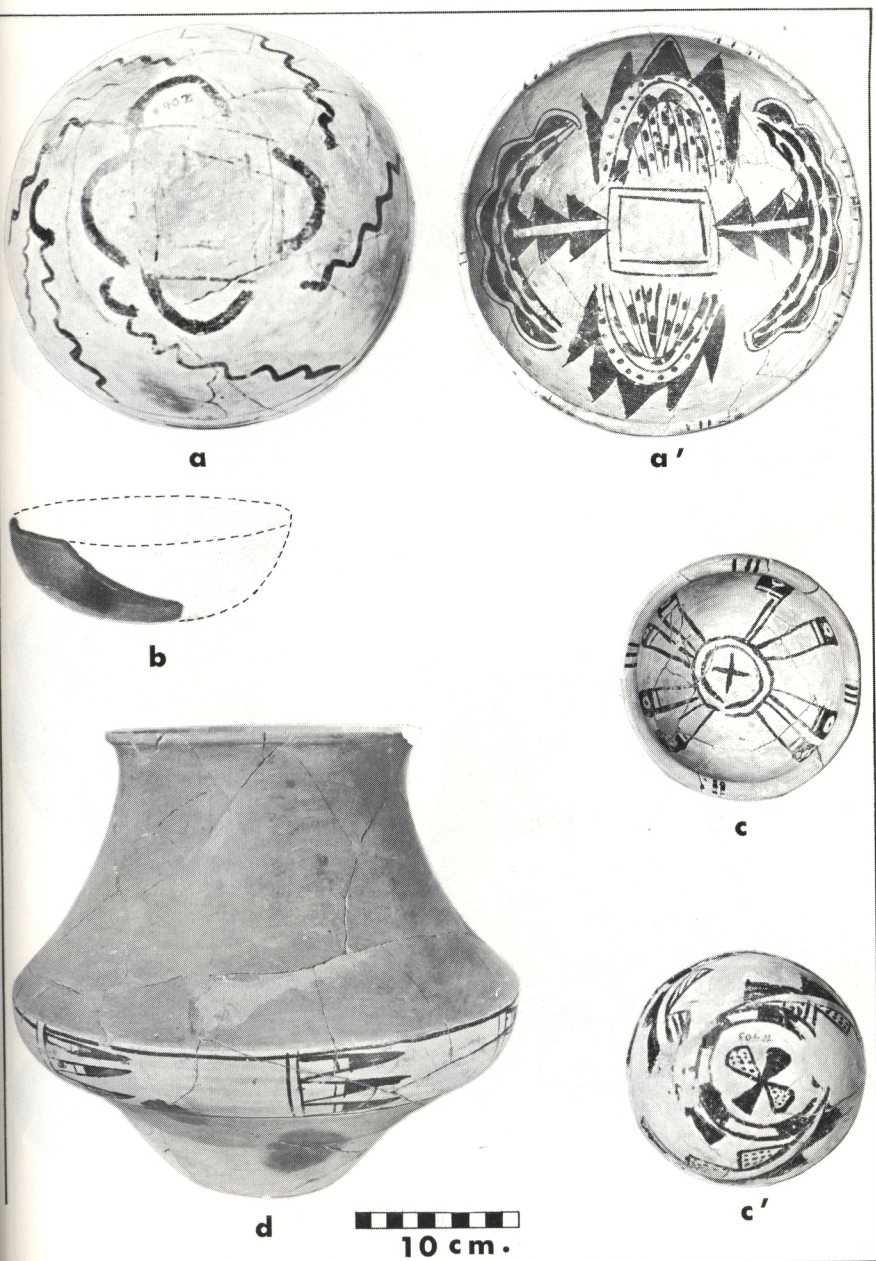


PLATE 33. Tewa pottery vessels. *a, c*, Tewa Black-on-white from northeast burial knoll at Site 4; *b*, Tewa Red-on-brown, east refuse area, Site 3; *d*, Pojoaque Polychrome jar from northeast burial knoll at Site 4.



PLATE 34. Tewa pottery vessels. *a, b, g*, Tewa Polychrome; *d, f*, Ogapoge Polychrome; *c, e*, Tewa Polished Black; *c*, from Site 3. Remainder from N.E. burial area, Site 4.

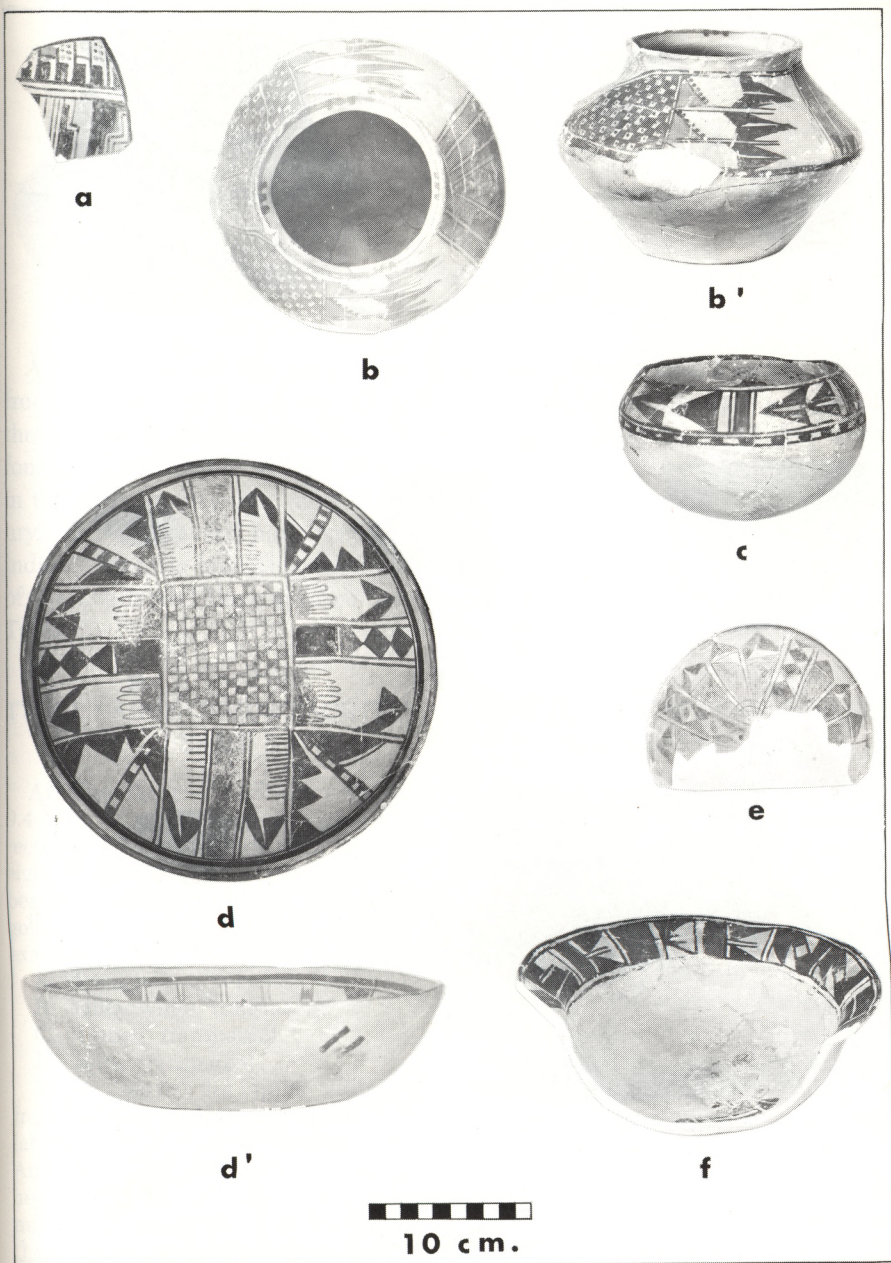


PLATE 35. Payupki Polychrome. *a*, east refuse area, Site 3; remainder from northeast burial knoll, Site 4.

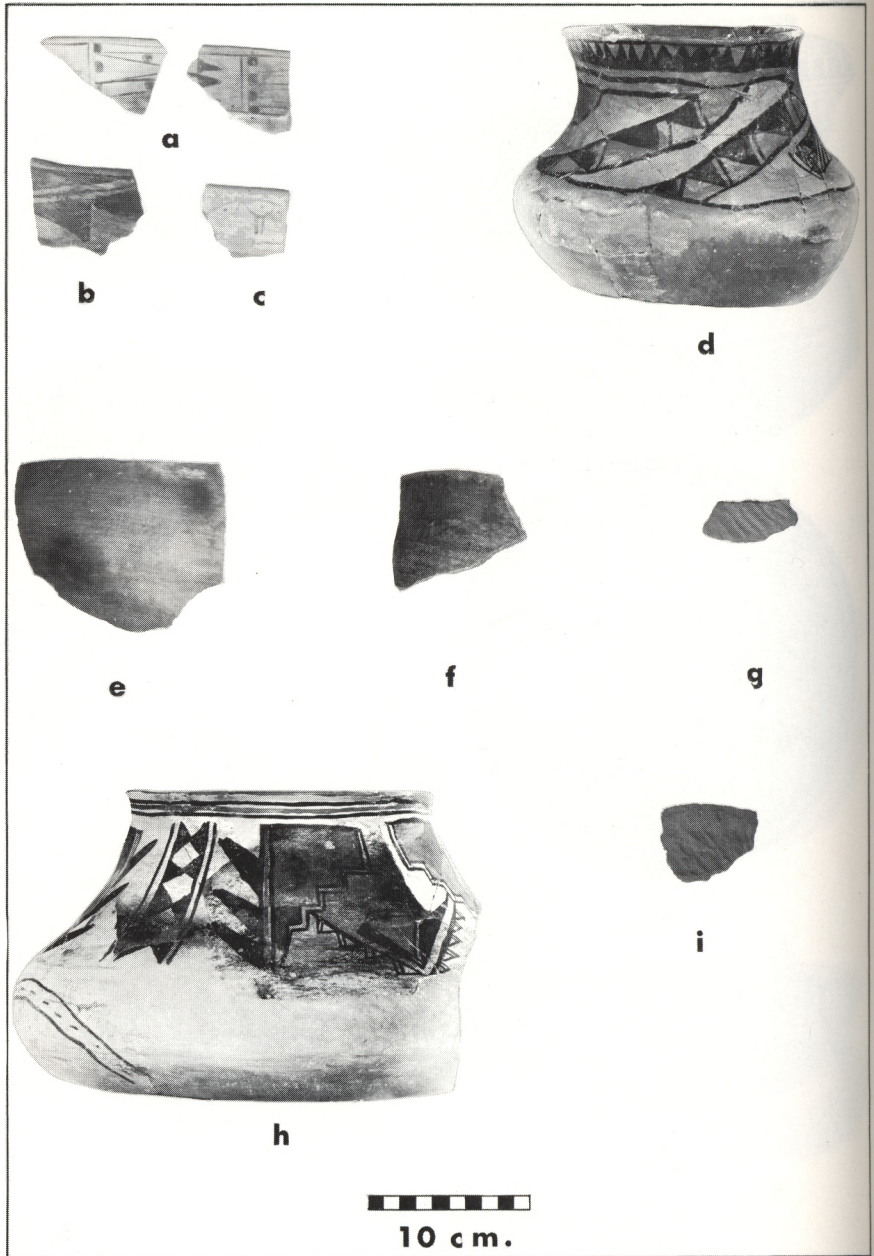


PLATE 36. Pottery of various types. *a-c*, Tewa Polychrome; *d*, aberrant polychrome jar from northeast burial knoll at Site 4; *e, f*, slipped red ware; *g, i*, Gobernador Indented from Sites 2 and 11, respectively; *h*, Puname Polychrome; *a-c, e, f, h*, from east trash area, Site 3.

EUROPEAN TRADE BEADS

A vast number of European trade beads came from Burial 1 at Site 4 and from Burials 1 and 2 at Site 6. Arthur Woodward examined a sample of these beads in 1933 for Morris and again in 1963. All of the beads that were found are expectable in 18th century sites. A few of them have beginnings in the 17th century, but most of them were not made before the 18th century. Dr. Woodward has ventured the opinion that the bulk of the beads indicate that the burials were made near the period of 1750-1769. Drawings of the beads and their approximate frequency are shown in Figure 15 and Table 6.

TYPE I. LARGE CRUDE FACETED BEADS

Average diameter 10.5 mm.; length 9.4 mm.; 2 mm. range in either direction. These are crude with usually eight facets which may vary in number because of irregularity. Traces of gold paint are visible on several examples.

- A. Transparent, colorless.
- B. Milky white, translucent.
- C. Amber, transparent.
- D. Blue, transparent.

These beads are quite different from faceted trade beads found with later fur trade sites in western North America. The latter are more regular and the facets are sharp and were made by grinding. The facets on these beads are rounded and were made by moulding. Woodward dates them *ca.* 1650-1690.

TYPE II. CRUDE TRANSPARENT RED GLASS BEADS

Beads of this type generally have crude molded facets, but are occasionally globular to flattened globular. They are uniform in color. Several beads fused together are not uncommon.

A. Faceted. Beads of this subtype have from three to nine facets with rounded edges. A few look like smaller versions of Type I. They average about 4 mm. in length and width, but range from 2 to 8 mm. Length and width are usually nearly the same.

B. Globular to flattened globular. Diameters average 3.8 mm. and lengths, 2.0 mm. These beads are probably simply one extreme of type II-A.

C. Spherical. Length 7 mm.; diameter 4.0 mm.; ends rough.

D. Elongate octagonal. Ends smoothed. Length 6.0 mm.; diameter 3.5 mm.

E. Same as II-A, only dark garnet in color.

Woodward dates them from about 1730 to 1800.

TYPE III. ELONGATE QUADRANGULAR

A. Transparent green glass beads with four molded facets. Their color is a uniform dark bright green. The cross section is an irregular quadrangle. The beads taper from one end to the other. Average length 7.0 mm.; diameter 3.2 mm. The facets are rounded.

B. Same as III-A, only translucent black.

Woodward places these in the early 18th century.

TYPE IV. TRANSLUCENT LIME GREEN TUBULAR BEADS

These beads are circular in outline and the perforated ends are flat. Average diameter 2.9 mm.; length 1.9 mm. They are uniform in color and size. The surfaces are dull. Approximately 800 examples. Woodward places these in the 18th century.

TYPE V. SMALL SEED BEADS

Small beads in many colors which generally have a flattened globular shape, but occasionally are short tubes were very common. Subtypes are based on color.

A. Transparent glass beads in a number of shades of dark blue. About 5,070 have a flattened globular shape and average 3.9 mm. in diameter and 2 mm. in length. Length-diameter ratio varies within the ranges of 2.1 to 4.9 mm. diameter and 1.0 to 2.5 mm. lengths. About 240 short tubes

range from 2.1 to 2.9 mm. in diameter and from 2.1 to 3.2 mm. in length. Gold paint is present on some examples.

B. Translucent yellow. Shapes are either short tubes or globular with the perforated ends flattened. Size range: 2.2 to 3.2 mm. diameter; 1.5 to 3.0 mm. in length.

C. Translucent light green. Globular shape flattened on perforated ends. Average size: 2.1 mm. diameter, 1.6 mm. length.

D. Transparent green. Either flattened globular or short tubular. Size range: 2.0 to 3.0 mm. diameter; 1.0 to 2.0 mm. long.

E. Opaque yellow. Flattened globular only. Two sizes: 3.8 mm. diameter by 2.0 mm. thick and 2.0 mm. diameter by 1.0 mm. thick.

F. Opaque white. Many show traces of iridescent gold or white paint. Flattened globular and short tubular shapes. Size average: 3.0 mm. diameter by 1.9 mm. long. These beads have a shiny white core which is exposed on the perforated ends, and an outer coating of dull white glass.

G. Clear colorless glass beads. Flattened globular and short tubular shapes. Size range: 2.9 to 3.2 mm. diameter; 1.8 to 2.9 mm. long.

H. Transparent aquamarine. Flattened globular shape. Size range: 2.7 to 3.8 mm. diameter; 1.9 to 2.0 mm. length.

I. Opaque black. Flattened globular and short tubular shapes. Size range: 2.9 to 4.0 mm. diameter; 2.3 to 2.5 mm. long.

J. Baby blue translucent. Flattened globular and short tubular shapes. Average size: 2.8 mm. diameter and 1.7 mm. long. Fairly uniform size and color.

K. Dark transparent amber. Globular shape. Diameter 2.2 mm.; length 2.0 mm.

L. Opaque blue. Flattened globu-

lar shape. Size range: 2.5 to 4.0 mm.; length 1.0 to 2.7 mm.

M. Translucent medium blue. Globular shape. Diameter 3.0 mm.; length 2.0 mm.

N. Translucent white. Globular shape. Diameter 3.7 mm.; length 3.2 mm.

Woodward places these types as beginning in the 18th century.

TYPE VI. LARGE FACETED TRANSLUCENT BLUE BEADS

These beads are crude and have five or six molded facets. They are a slightly different blue than Type I-D and are not double-faceted. Size range: 9 mm. in diameter by 1.3 mm. long to 9 mm. in diameter by 8 mm. long. These resemble fur trade beads from the west coast, but are cruder.

TYPE VII. LARGE GLOBULAR TRANSLUCENT BLUE GLASS BEADS

The one bead is 9.0 mm. in diameter and 7.1 mm. long. It is the same color as Type VI.

TYPE VIII. OPAQUE TURQUOISE-COLORED BEADS

Beads are placed in this category on the basis of material. The composition resembles turquoise, but bubbles in the paste, the shapes, and edges indicate that the substance is an opaque glass. The colors are green to blue. The blue is the blue of good turquoise and the green is that of cheap turquoise. The latter may actually have been blue to begin with, but altered through chemicals in the soil. Three subtypes are based on shapes.

A. Bi-conical. Beads with this outline average 3.0 mm. in diameter and 5.5 mm. in length. There is slight

range in size except for one example 5.0 mm. in diameter and 9.0 mm. long.

B. Irregular faceted. These average 3.0 mm. in diameter and 3.7 mm. in length. They are either single faceted with 4 facets, or double faceted with four facets at each end of the bead.

C. Globular. Size range: 2.9 to 4.0 mm. diameter; length 2.0 to 3.9 mm.

Woodward dates these from *ca.* 1730 to 1800.

TYPE IX. TUBULAR TRANSPARENT AMBER BEADS

A. This subtype has two applied squiggled bands of opaque yellow glass encircling the tube. Diameter 3.0 mm.; length 4.1 mm. Two examples, but on one the opaque yellow glass has scaled off leaving only the impression.

B. Same only no applied design.

Woodward dates subtype A to the 18th century.

TYPE X. BI-CONICAL TRANSLUCENT DARK BLUE BEADS

These beads average 3.0 mm. in diameter and 5.0 mm. in length. Woodward places them *ca.* 1650-1690. Pratt (1961, no. 40) places them from 1625-1637 in northeastern North America.

TYPE XI. TRANSLUCENT WHITE BEAD WITH DIAGONAL GROOVES

This bead is 7.0 mm. long and 9.0 mm. in diameter. The surface is decorated with grooves which curve diagonally from top to bottom. Traces of gold paint remain in these grooves. Woodward places it *ca.* 1650-1690.

TABLE 6. European Trade Beads by Site and Burial.*

Type	Site 4		Site 6	
	Burial 1		Burial 1	Burial 2
I. A	35			
B	25			1
C	22			
D	37			1
II. A	5,800		200	100
B	200			
C	1			
D	1			1
E			20	
III. A	315		17	
B			1	
IV.			800	
V. A	4,800		500	
B	700		250	
C	23			
D			28	
E	60			
F	7			
G	9			
H	5			
I	150			
J	1			
K	4			
L	1			
M	2			
N	4			
VI.	3			
VII.	1			
VIII. A			100	
B	1		38	
C			80	
IX. A	1		1	
B			2	
X.	5			
XI.	1			
XII.	1			
XIII.	1			
XIV.	1			
XV.	1			
XVI. A	2			
B			1	
C			1	
D			1	
E			2	
XVII.	20		1	

*Quantities of over 200 are estimates based on volume rather than actual counts.

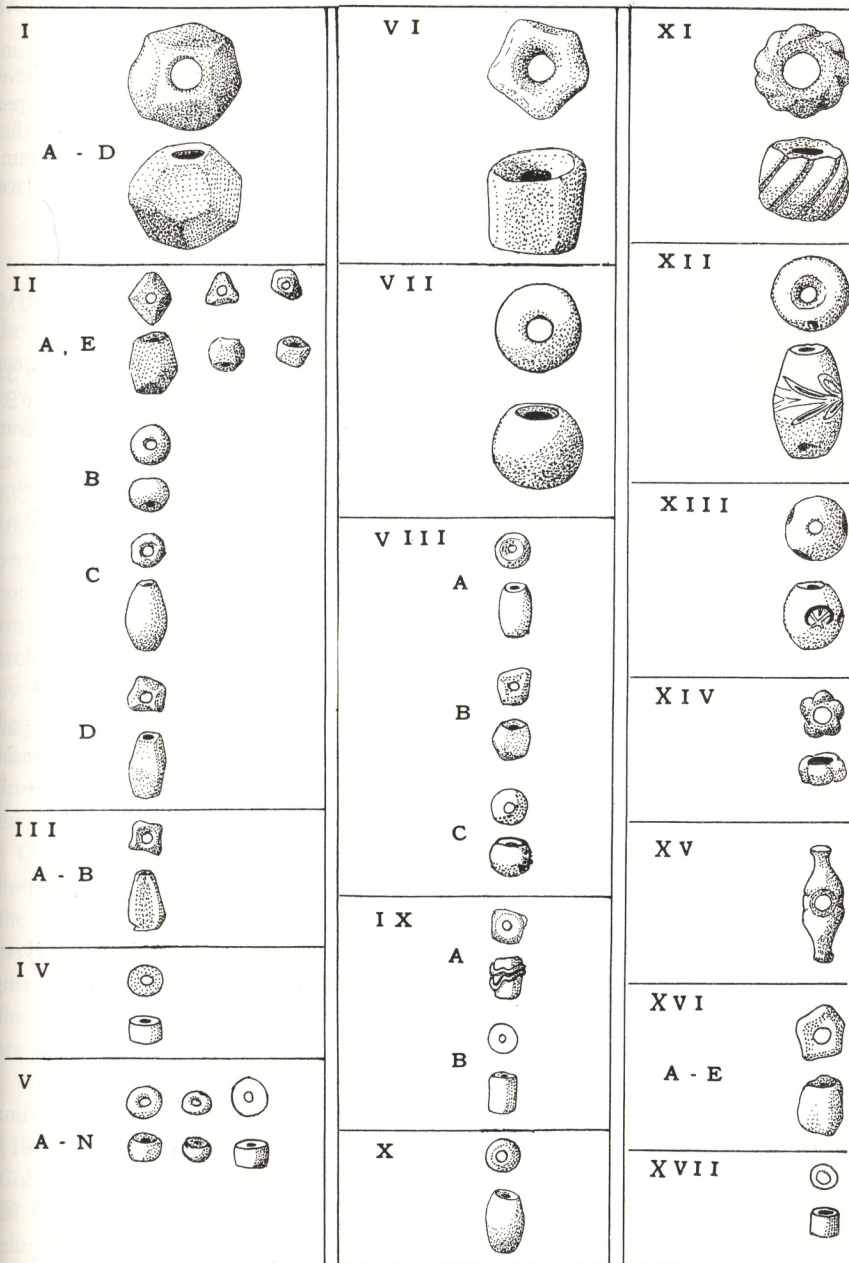


FIGURE 15. Sizes and shapes of European trade beads. Actual size.

**TYPE XII. INLAID BI-CONICAL
RED BEAD**

This bead is 11.0 mm. long and 7.0 mm. in diameter. It is red with an inlaid floral pattern in opaque yellow. Woodward dates it to the 17th century.

**TYPE XIII. OPAQUE WHITE
BEAD WITH INLAID DESIGN**

This bead is globular and is 6.0 mm. in diameter and length. The inlaid design consists of three dots. Each dot has a blue outline, and red central area on which is inlaid a five-armed white swirl. A five-pointed star in red forms the center of the swirl. Woodward places this bead in the 17th century.

**TYPE XIV. TRANSPARENT
GREEN BEAD WITH PETALOID
OUTLINE**

This bead is 4.0 mm. in diameter and 3.0 mm. in length. The outline is like a six-petaled flower. Woodward places it in the 18th century. Pratt (1961, No. 91) illustrates a similar blue one dated at 1710-1745.

TYPE XV. KNOBBED RED BEAD

This bead is thick at the center and tapers to knobbed ends. Two grooves encircle the central area. The perforation is transverse rather than longitudinal. Diameter 4.1 mm.; length 10.6 mm. Woodward places it in the 18th century.

**TYPE XVI. IRREGULARLY
FACETED BEADS OF MEDIUM
SIZE**

These beads range in size from 3.0 to 5.5 mm. in diameter, and from 2.0 to 6.0 mm. in length. They have from three to eight rounded facets.

- A. Deep transparent aquamarine.
- B. Translucent yellowish-white.
- C. Transparent dark blue.
- D. Opaque white.
- E. Light translucent blue.

**TYPE XVII. BEADS OF
MEDITERRANEAN CORAL**

These trade beads made of pink coral are short tubes and average 2.4 mm. in diameter and 2.6 mm. in length.

In general, the beads are 18th century types with a smattering of types originating in the 17th century. This fits with the historical and tree-ring evidence.

CONCLUSIONS

The Navajo and other Athabascan speaking groups have long occupied the attention of many anthropologists. One question which has been of sustained interest over the years, and on which there is still disagreement, is when did these Athabascan speakers whose close linguistic relatives are to the north, mostly in Canada, arrive in the Southwest? The Athabascans are sometimes represented as causing the "Great Pueblo fall" in the late 13th century, and sometimes as not arriving until about the beginning of the 16th century and absorbing much of their culture from the Puebloan peoples of the Southwest. The latter hypothesis that the Athabascans did not arrive until the 16th century has gained most support from recent investigators (Gunnerson 1956; Hester 1962) partly because there is no archaeological data of sufficient specificity which would indicate that raids by Athabascan speakers were responsible for the movement of Puebloan peoples from the Four Corners during the late 1200s, whereas there is some historic information and some meagre archaeological data indicative of the presence of the ancestors of the modern Athabascans in the Southwest during the 16th century.

Gunnerson (1956) has concluded on the basis of her survey of distributional, linguistic, and historic data that the southern Athabascans dominated the High Plains between the Platte and Canadian Rivers between *ca.* 1525 and 1700, and that these proto-historic inhabitants of the plains pushed into the Southwest along its eastern periphery beginning in the early 1500s. In the process they became differentiated into the southern Athabascan groups we know today, one of which is the Navajo.

Archaeological evidences of 16th and 17th century Navajo are, however, unfortunately meagre and are all in need of additional substantiation. Hall (1944: 100) gives one tree-ring date of 1541 ± 20 on hogan wood from the Gobernador area. Keur (1944: 84) mentions another early date of 1656 ± 20 for a hogan in Pueblito Canyon, but other dates on the same hogan cluster gave dates in the middle 1700s, and one suspects that a deadfall may have been used in construction. Hester (1962, Table 14) lists additional tree-ring dates for Navajo sites, but again the few dates falling in the 16th

and 17th centuries either lack sufficient published data on the associations of the date with other items of culture or with each other, are single dates, or are not bark dates. The "Dinetah phase" components which presumably date between 1500 and 1696 in the Navajo Reservoir District (Hester and Shiner 1963) are so meagre and mixed that one wonders that it was possible to separate them from the later Gobernador phase components.

Whereas present archaeological data give only hints at the Navajo occupation in the Southwest beginning sometime between 1500 and 1696, it is only after the Pueblo Revolt of 1696 that abundant remains appear, and it is to this latter period that the sites described in this report belong. The archaeological data for this period throw little light on Navajo origins but do indicate a time of intensive absorption of Puebloan culture by the Navajo.

Kidder (1920), who first brought these northern masonry sites with associated hogans to the attention of anthropologists, suggested that they were built by refugees from the Jemez pueblos on the Rio Grande following the unsuccessful Pueblo Revolt of 1696. Since Kidder's publication, these and comparable sites have generally been referred to as "refugee sites." Kidder's interpretation has been followed in a general way by later workers (Hall 1944; Keur 1944; Dittert, Hester, Eddy 1961; Hester 1962). The problem encountered in accepting Kidder's hypothesis completely is that data now available, particularly tree-ring dates and ceramic associations, indicate that the large masonry sites were not built and occupied until some 20 years after the revolt of 1696. This information does not invalidate Kidder's interpretation since the culture shown in the sites is obviously a mixture of Pueblo and Navajo traits, but simply indicates that we must look elsewhere for a slightly earlier occupation by a mixed Pueblo and Navajo group. Such an occupation has been found in the Navajo Reservoir District (Dittert, Hester, Eddy 1961; Hester and Shiner 1963) on the San Juan River proper on the northern border of the Gobernador District.

The sites in the Navajo Reservoir District lack absolute dates, but the ceramic associations consistently indicate an earlier occupation than in the Gobernador District. In the Gallegos Canyon area, a portion of the Navajo Reservoir about 20 miles northwest of Canyon Gobernador, at least half of the intrusive painted sherds are Jemez Black-on-white; other types present are Hawikuh Polychrome, Rio Grande glazes V and VI, Vallecitos Black-on-white, Sankawi Black-on-cream, one possible sherd of Puname Polychrome, and various sherds of Hopi painted and utilitarian wares. Dinetah Scored, Gobernador Indented, and Gobernador Polychrome are also reported (Dittert 1958: 20). In the survey of the other portions of the Navajo Reservoir District (Dittert, Hester, Eddy 1961: 154) Jemez Black-on-white is again the most common intrusive type, and is apparently followed in

frequency by Hawikuh Glaze Polychrome and Hopi (Jeddito) yellow ware. Minor amounts of Vallecitos Black-on-white, Sankawi Black-on-cream, Tewa Polychrome, Puname Polychrome, and Ashiwi Polychrome are present as trade wares. Gobernador Polychrome, Dinetah Scored, and Gobernador Indented are also reported as locally made types. Only one sherd of Gobernador Filleted has been found (Dittert, personal communication). These authors suggest that the Navajo remains in the Reservoir District are slightly earlier in time than sites to the south. The excavation of a sample of sites in the Navajo Reservoir District has corroborated the results of the above survey (Hester and Shiner 1963). The ceramic picture for the Gobernador District is significantly different.

Combining the data from Keur's (1944) survey with that from the sites reported herein, the following situation holds for the Gobernador District: Dinetah Scored is the most common type, and minor amounts of Gobernador Filleted are present; Gobernador Polychrome is the second most common type and the most common painted type; Ashiwi Polychrome is the next most common type and the most common intrusive type; and Puname Polychrome, the various Tewa types, Payupki Polychrome, and the late Rio Grande and Zuni glazes follow in a descending order of frequency.

The two key types in the above distributions are Jemez Black-on-white and Ashiwi Polychrome. The former is very common in the Navajo Reservoir District and rare in the Gobernador District; the latter is very common in the Gobernador District and rare in the Navajo Reservoir District. These distributions are clearly indicative of a difference in time in the occupations of the two areas. The comparative abundance of late glaze wares in the Navajo Reservoir District and their comparative scarcity in the Gobernador District, and the rarity of Puname Polychrome in the former area and its greater relative abundance in the latter area are similarly strong indicators of different temporal ranges for the two areas. Ceramics changed rapidly in the period of unsettled conditions following the revolt of 1696. It is likely that the manufacture of Jemez Black-on-white ceased at this time although existing vessels certainly continued in use. Glaze paint similarly declined in use and then disappeared with the result that Hawikuh Polychrome developed into Ashiwi Polychrome in the Zuni area, and Kotyiti Glaze Polychrome developed into Puname Polychrome on the Rio Grande. Gobernador Polychrome had its initial development in the Navajo Reservoir District from Rio Grande prototypes. A variety of Gobernador Polychrome first called Gobernador-Navajo Transitional (Dittert 1958), but later named Frances Polychrome and reduced to the status of a variety of Gobernador Polychrome (Hester and Shiner 1963) could be an initial part of the development of the type. Two sequent ceramic periods are clearly indicated, although both are included within the Gobernador phase, a phase of Navajo

cultural development dating from approximately 1696 to 1750 when the Navajo were joined by refugees from the Rio Grande pueblos. A shift in the center of population from the San Juan River proper south to the canyons of the Gobernador District during this phase is indicated.

This group of people who first occupied the area along the San Juan River in the present Navajo Reservoir District and who later shifted southward into the Gobernador District were judging from archaeology and history a mixed Indian group which formed as a result of the unsuccessful Pueblo Revolt of 1696. In 1696 Jemez Indians, Tewas from Santa Clara and San Ildefonso, and Keres from Cochiti moved northward from their homes on the Rio Grande and joined the Navajo (Forbes 1960: 270-72) in order to escape Spanish domination. It is from these four groups—Jemez, Cochiti, Tewa, and Navajo—that the 18th century inhabitants of the Gobernador seem likely to have been descended. The Tewas from Santa Clara and the Picuris also abandoned their homes on the Rio Grande and moved eastward to El Quartelejo in western Kansas, and portions of some of these same groups moved westward to the Hopi mesas (Forbes 1960: 270-72), areas still outside the sphere of Spanish control.

The strictly archaeological evidence that the migrants to the Navajo came from the Rio Grande rather than from other puebloan areas rests primarily on the pottery. The shapes of the vessels as well as the decorative style of Gobernador Polychrome are indicative of Rio Grande prototypes. The designs are for the most part similar to those on Jemez Black-on-white and in a few instances are identical. I suspect that there are strong resemblances to early Tewa Polychrome (Mera 1939: 11), also, but there is no adequate collection of the latter type with which to make comparisons. The color pattern of Gobernador Polychrome, black and red on yellow or buff, was widespread throughout the Puebloan area by 1700, although either late Rio Grande Glaze V (Kidder and Shepard 1936: 250-53) or early Tewa Polychrome could be the specific source of the color pattern as well as of the vessel shapes. Judging from the archaeology, Gobernador Polychrome developed as a type before the southward shift into Frances, Gobernador, and Largo canyons.

The population shift from the San Juan River into the canyons of the Gobernador District logically correlates with the Ute and Comanche advance of 1716-20 (Hill 1940: 397; Hyde 1959: 66) dependent at least in part on the greater mobility afforded these raiding groups by the acquisition of the horse. The archaeological evidence for this interpretation rests on changes in settlement patterns and in the size of defensive structures. The earlier pattern is one of hogan clusters dispersed over a wide area sometimes associated with small, masonry pueblitos in defensive locations. This is the picture presented by the data from the survey of the Navajo Reservoir

District (Dittert 1958; Dittert, Hester, Eddy 1961; Hester and Shiner 1963), and this pattern can also be seen in the Gobernador District. The later pattern exemplified by Sites 3, 4, and 6 described herein is one of large masonry citadels up to 40 rooms in size at which, one suspects, the inhabitants of hogan clusters in the vicinity gathered during times of stress. Other large masonry fortresses besides those at Sites 3, 4, and 6 are known in the Gobernador District (Kidder 1920; Farmer 1942; Keur 1944;) whereas they are absent in the Navajo Reservoir District (Shiner and Hester 1963: 73). In the Rabal document (Hill 1940) in which life in the Navajo province between 1706 and 1743 is described by eye-witnesses, every informant references attacks upon the Navajo by the Ute and Comanche. One informant reported that the "Indians live in the valleys when the Yutes do not make war on them, and when they are hard pressed in these places they live on the tops of mesas where they have their dwellings." As a result of these attacks there seems to have been a gradual consolidation of small groups into large defensive units in the canyons south of the San Juan River, and the abandonment of the San Juan itself. The large masonry fortresses at Sites 3, 4, and 6 suggest that they were built by accretion and the range of tree-ring dates for each site, while not conclusive, supports this view. The earliest tree-ring date for a large fortified site is very near 1716 (Appendix I, Site 6), and while it is again inconclusive because of the limited number of dates, it is of interest that 1716 is the date previously referenced for the start of Ute and Comanche hostilities against the Navajo.

I should probably reiterate at this time a point previously made amply clear by Underhill (1953: 97) that these masonry fortresses were not primarily for defense against the Spaniards as the period of their occupancy was a comparatively peaceful one in Spanish-Navajo relationships, but for defense against the Ute and Comanche.

To the Spaniards living in New Mexico between 1700 and 1750 the inhabitants of the *Provincia de Nabajoo* northwest of Jemez to the San Juan River were generally Navajos although Roque de Madrid in 1705 (Hodge, Hammond, and Ray 1945: 278) reported some Jemez living among them. The Rabal document (Hill 1940) contains the most complete ethnographic account of the Navajo country of which the Gobernador District formed a part during the period to which the archaeological remains described in this report pertain. The archaeological picture for the Gobernador corroborates in almost every respect the picture of life in the Navajo country as described for the period of 1706-43 in the Rabal document.

The Indians are described as using wooden implements for agriculture and growing maize, beans, pumpkins, and watermelons in the lowlands adjacent to the mesa tops. Horses, goats, and sheep are reported, but only the tracks of cattle. Storage pits and water reservoirs are also mentioned. The

archaeological evidence for agriculture consists of the corn husks from the tablita at Site 17 and the representations of maize on the pipe and on the petroglyph at Site 4. The digging sticks from Site 16 confirm the reported use of wooden implements for agriculture, and the original function of the bottle-necked burial pits at Site 4 may have been for storing food. The reuse of food storage cysts as burial crypts at least in later periods is abundantly attested to by finds in Canyon de Chelly. Horse and sheep bones as well as the bridle bit, portions of bridle trappings, and the wool from the textiles, confirm the reported presence of horse and sheep. Evidence for the impounding of water is present only at Site 6 although additional search would probably have resulted in more such finds. Keur (1944: 77, 79) has previously reported corn, squash, and wooden hand ploughs from the Gobernador sites she investigated. The extent of the commitment of the Navajo to agriculture prior to their arrival in the Southwest is unknown. History indicates that they were at least partly agricultural by 1630 (Ayer 1916: 39-57). The influx of refugees in 1696 from the heavily agricultural Pueblos probably strengthened this economy.

Hunting is not stressed in the Rabal document, although there are several references to buckskin. Bones of mule deer and elk came from the sites and are also reported by Keur (1944: 79).

The local craft industries mentioned in the Rabal document are basketry, weaving of textiles, and the dressing of buckskin. Both coiled basketry with a two rod and bundle foundation and diagonally twined basketry were recovered archaeologically. The former is, I suspect, of Puebloan derivation. The latter may be Navajo but a Ute or Paiute origin cannot be ruled out. The weaving industry was apparently well developed by the first half of the 18th century as the Rabal document refers to textiles as a significant item of trade. The shed rods for looms, the possible wooden spindle whorl, and the textile fragments (Appendix II) support this early observation. Loom weaving is of presumed Puebloan origin and probably was incorporated into Navajo culture at this period of time. The buckskin knife sheaf and fragment of hide from Site 6 and the buckskin mask from Site 17 indicate work in skin. One suspects that skin working is a very ancient Navajo trait.

Pottery is not mentioned in the Rabal document unless the words "jicaxa" and "jicara" translated by Hill (1940: 414) as basket also mean pot. The archaeological record, however, shows abundant pottery of local manufacture. The local painted ware is unquestionably of Puebloan derivation. The origin of Navajo utility ware is, however, less obvious. It could also be of Pueblo derivation. Dittert (1958) has previously suggested a Jemez inspiration for the indented type. Dinetah Scored is possibly also more closely related to Puebloan than to Plains types. The main shape of Dinetah Scored—a long-necked jar with a bulging midsection, flaring rim, and lower portion

which tapers to a flat or rounded base—is essentially the same shape as many Rio Grande painted ollas of this same period. Mera (1939: 9-11) notes that this shape first appeared in Puebloan ceramics of the Pajarito Plateau about 1650. The other possible ancestors of Navajo utility ware are the Plains Apache ceramics of the Dismal River aspect, or an earlier prototype for both wares.

Data on clothing and ornamentation are meagre. Black woolen dresses for women and buckskin clothing for men are described in the Rabal document. The fragmentary remains of what looked to Morris like a woven V-necked poncho from a child burial are all the information that archaeology provides on clothing. Another burial, apparently that of a woman, showed the hair tied at the back of the head with a bundle of wool yarn. Ear bobs of shell and necklaces of glass and shell beads were also worn. The custom of beading articles of clothing which reached its fullest development during the 19th century on the plains does not seem to have been practiced. Although small glass seed beads were present in quantity, where ascertainable, they were all strung as necklaces. The closest thing to beadwork were the few large beads at the neck of the above mentioned poncho. Bells, metal crosses, and buttons of European manufacture were also worn.

Dwellings which can be specifically identified as forked stick hogans are not mentioned in the Rabal document in which houses of stone located on mesa tops are the only structures described. These descriptions probably refer to pueblitos and larger fortresses. That hogans were not observed is probably because these structures were hidden in the trees on the natural terraces of the canyon walls where we find their remains today.

Architecturally the Gobernador sites contain Spanish, Pueblo, and Navajo traits. The idea of building with stone and adobe quite probably came to the Navajo with the influx of Refugees during the Gobernador phase. The construction techniques, roofing of vigas and wooden slabs, cribbed log roofs, bins, loopholes, wooden lintels, rectangular rooms, notched log ladders, hatchways and stone towers are generically Puebloan. What are decidedly non-Puebloan are the random arrangement of rooms and the entrance passageways into many rooms. The random arrangement may be explained as the result of growth of the larger structures by accretion and the passageways as defensive in nature. The hooded fireplaces are of Spanish derivation as no such features have been found in prehistoric Puebloan structures. The forked stick hogan and the sweat lodge seem to be the only structures of this period relating specifically to the earlier Navajo cultural tradition. Of considerable interest is the absence of kivas in the larger ruins. The closest approach to a Puebloan kiva is Room 18 at Site 6 which I would hesitate to interpret in this manner. The situation suggests that Navajo religious patterns prevailed during the Gobernador phase, even though many Puebloan

elements were incorporated into Navajo ceremonies at this time judging from the many Gobernador phase pictographs reported by Schaafsma (1963), as well as the ceremonial regalia from Site 17.

Trade relationships are attested to by both the Rabal document and by the abundance of Spanish and Pueblo trade goods found at the sites. The high percentage of Ashwiwi Polychrome suggests that much trade was with the Zuni.

Of considerable interest is the fate of the pueblo refugees who joined the Navajo. Did they return to the Rio Grande, move to the Hopi mesas which were free from Spanish domination, die out as the result of Ute and Comanche attacks, or become absorbed by the Navajo? Some refugees certainly returned to the Rio Grande from the various areas to which they had scattered (Reiter 1938: 39; Wedel 1959: 467), although references to the return of refugees specifically from the Navajo country seem to be lacking. Both history and archaeology indicate that the Gobernador District was largely abandoned between about 1750 and 1775. Reeve (1960: 202) notes that in 1753-54 the Utes caused the Navajo to abandon portions of their area and move to Canyon de Chelly and Cebolleta. The most recent tree-ring date on sites described herein is close to 1749 (Appendix I, Site 3). The most recent tree-ring dates for the Gobernador District as a whole are 1764 \pm 20 for a Pueblito in Munoz Canyon, and 1771 \pm 5 for a hogan on Gobernador Knob (Keur 1944: 84). Farmer (1942) reports a date of 1762 \pm 15 on a hogan site in Upper Largo and Blanco Canyons. The entire picture suggests gradual abandonment of the Gobernador District from northeast to southwest between about 1750 and 1775. If any refugee families did return to the pueblos at this time, native traditions did not record the fact. Traditional evidence says that the "Hemis became Navajo in Long Canyon" (Reiter 1938: 38). Similarly the Black Sheep Clan and the Coyote Pass Clan are reported to have originated from Puebloan pro-genitresses (Van Valkenburgh and McPhee 1938: 45). By 1750-75 any descendants of refugees living with the Navajo were probably socially and culturally Navajo and moved with them when the Gobernador District was abandoned.

Specific areas to which the inhabitants of the Gobernador District moved are difficult to identify. Big Bead Mesa (Keur 1941) about 100 miles to the south shows an immediate post Gobernador phase occupation, but the probable total absence of locally made painted pottery and the near lack of any Navajo painted ware suggests that the Navajo residing there were not former residents of the Gobernador District. A rather crude painted ware called usually either Navajo Painted or Navajo Polychrome does center in Canyon de Chelly (Hurt 1942) and in other areas west of the Gobernador District (Brugge 1963). This type is generally believed to be a late degenerate version of Gobernador Polychrome. Although the Navajo of Canyon de Chelly

were presumably undergoing much the same type of acculturative influences because of resident Hopi among them (Mindleff 1891: 30; Hodge 1912: 100), as were the Gobernador Navajo with Rio Grande Puebloans among them at the same period of time, there are suggestions of continuity between the two pottery types. Large masonry units with Navajo associations ceased to exist in Navajo culture after the Gobernador phase possibly because defensive citadels were no longer required, although Brugge (1963: 22) has presented a good case for a revivalistic movement inherent in the Blessing-way tabus as causative in the decline of masonry structures and indeed of painted pottery in the period following the Gobernador phase.

With the Pueblo Revolt of 1696 an era in Navajo history began. Loom weaving, painted pottery, masonry architecture, and a general infusion of Puebloan blood and culture came to the Navajo. In the decades of the Gobernador phase and later these traits were repatterned and reinterpreted to fit the Navajo way.

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APPENDIX I: TREE-RING DATES FROM THE MORRIS SITES,
GOBERNADOR DISTRICT, NEW MEXICO

The purpose of this appendix is to list the tree-ring dates associated with sites excavated in the Gobernador Canyon area of New Mexico by Earl Morris in 1915. In addition to the specimens originally collected by Morris (LAH and H series), subsequent collections were made by the Laboratory of Anthropology at Santa Fe (RG series) and by the Gila Pueblo at Globe (GP series). The sites in question fall under several classification systems, depending on who was making the collections, and are correlated in Table I. The Morris designation will be used in this report.

All listed samples (Table II) are now in the collections of the Laboratory of Tree-Ring Research. Dates derived from specimens in the LAH and RG series have been previously published, whereas dates from the GP and H series (with the exception of H-6) have not been systematically reported. The given dates have been checked by members of the Laboratory of Tree-Ring Research staff and are to supersede earlier references.

TABLE I. Correlation of Gobernador Morris Sites.

Morris No.		Gila Pueblo No.		Laboratory of Anthropology No.
Site 3	=	Largo 5:1	=	LA 1869
Site 4	=	Largo 5:2	=	LA 1871
Site 5		=		LA 1872
Site 6		=		LA 2135

TABLE II. Tree-Ring Specimens from the Gobernador Morris Sites.

Spec. No.	Type	Species*	Date, A.D.*	Remarks	Reference
LAH-35-1	WD-sect.	DF	1675p-1742v	One of sites 1-6. Probably near cutting date.	Smiley (1951, No. 43h) Stallings (1937:3)
LAH-35-2	WD-sect.	PNN	1488±p-1699vv	One of sites 1-6.	Smiley (1951, No. 43h) Stallings (1937:3)
LAH-35-3 and GP3325	WD-sect.	PP	Not datable	Site 4. From masonry house, immediately north of approach; same log as GP3325.	None.
RG 693	WD-sect.	PNN	1569±p-1749vv	Site 3. San Rafael Canyon. No other provenience.	Smiley (1951, No. 43d) Stallings (1937:3)
RG 694 and RG 695	WD-sect.	PNN	1643p-1732v	Site 4. San Rafael Canyon. Both from same original log. Probably near cutting date.	Smiley (1951, No. 43i) Stallings (1937:3)
RG 696	WD-sect.	PNN	1630p-1727v	Site 5. San Rafael Canyon. Probably near cutting date.	Smiley (1951, No. 43e) Stallings (1937:3)
RG 789-1	WD-sect.	DF	1648p-1737v	Site 6. Frances Canyon. No other provenience.	Smiley (1951, No. 43k) Hall (1951:27)
RG 789-2	WD-sect.	DF	1603p-1742v	Site 6. Detached sect. east of tower. Probably near cutting date.	Smiley (1951, No. 43k) Hall (1951:27)
RG 789-3	WD-sect.	PNN	1603p-1721v	Site 6. Top of tower. Probably near cutting date.	Smiley (1951, No. 43k) Hall (1951:27)

RG 789-4	WD-sect.	PNN	1614p-1716v	Site 6. No provenience. Probably near cutting date.	Smiley (1951, No. 43k) Hall (1951:27)
RG 789-5	WD-sect.	PNN	1539p-1717+vv	Site 6. Base of tower. West side.	Smiley (1951, No. 43k) Hall (1951:27)
GP 3315	WD-sect.	PNN	1583±p-1730vv	Site 3. San Rafael Canyon. Entrance of large central hogan.	None
GP 3316	WD-½ sect.	PNN	1526-1725vv	Site 3. Entrance of large central hogan.	None
GP 3317	WD-sect.	PNN	1379p-1644+vv	Site 3. Roof pole of Hogan 1.	None
GP 3318	WD-sect.	PNN	1621±p-1738vv	Site 3. Roof pole of Hogan 3.	None
GP 3319	WD-radial cut	PNN	1609p-1748vv	Site 3. Roof pole of Hogan 3.	None
GP 3320	WD-½ sect.	PNN	1412±p-1736vv	Site 3. Rafter in N.E. masonry house.	None
GP 3321	WD-sect.	PNN	1566±p-1749vv	Site 3. Rafter in masonry house, rooms 7-8. Probably near cutting date.	None
GP 3322	WD-sect.	PNN	1407-1742vv	Site 3. Roof support in masonry house, rm. 13.	None
GP 3323	WD-sect.	PNN	1475-1722vv	Site 3. Roof support in Hogan 7.	None
GP 3324	WD-sect.	PNN	1397±p-1726vv	Site 4. From masonry house, immediately north of approach.	None
GP 3325 and LAH-35-3	WD-sect.	PP	Not datable	Site 4. From same log as LAH-35-3.	None

GP 3326	WD-½ sect.	PNN	1645p-1725vv	Site 4. Masonry house, in west central part of site; tentative date.	None
GP 3327	WD-pie cut	PP	1645p-1733vv	Site 4. Second story of masonry house, rm. 3 or 5.	None
GP 3328	WD-sect.	PNN	1581p-1727vv	Site 4. Masonry house, in east central part of site.	None
H-2	WD-V-cut	PNN	1768-1915B	Site 3. Living pinyon cut in 1915. Cutting date.	None
H-3	WD-½ sect.	PNN	1340p-1723vv	Site 3. Ancient pinyon with roots.	None
H-4	WD-Frag.	PP	Not datable	Site 4.	None
H-5	WD-V-cut	Jun.	Not datable	Site 4.	None
H-6	WD-sect.	DF	1655p-1735v	Site 6. From masonry ruin. Probably near cutting date.	Smiley (1951 No. 43h) Stallings (1937:3)

*Explanation of Symbols; *Species*, DF—Douglas Fir; PNN—pinyon; PP—ponderosa pine; Jun.—juniper. *Dates*, “p”—pith ring present; “—”—may be several missing rings near end of ring series; “v”—outer ring variable about circumference indicating possibility of outside rings lost from sample; “vv”—outer ring very variable about circumference indicating possibility of outside rings lost from sample; “B”—presence of bark indicating cutting date.

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APPENDIX II: GOBERNADOR TEXTILES

There are four separate catalog entries of textiles from the Gobernador sites: (1) two lengths of human hair cord, (2) a hank of yarn, (3) a length of string, and (4) a number of fragments of a poncho or shirt.

CORD

The two lengths of human hair cord came from Room 19 at Site 6. The cord consists of two-ply hair string, loosely Z-spun and Z-plyed. Three such strings are then Z-twisted to make the finished cord. The longer piece measures 30 cm. long by about .8 cm. in width. (The "spinning" and twisting may have been done simply as a means of dressing the hair while it was still on the head.)

YARN

The yarn had been tied at the back of the head of burial 3 at Site 6. It

consists of a hank of two-ply, Z-spun, S-plyed wool yarns, dyed orange-brown in color. This hank was used as a hair tie. It brings to mind the turban-like yarn head-covering found on the Hidden House mummy (Kent 1957: 619). Morris states in his field notes that the hank of yarn made "two circuits of a bob of hair caught together at the back of the skull."

STRING

The length of fiber(?) string was found with the cache of ceremonial objects at Site 17. It consists of three Z-spun threads, S-plyed. Length, 35 cm. Width, .2 to .3 cm.

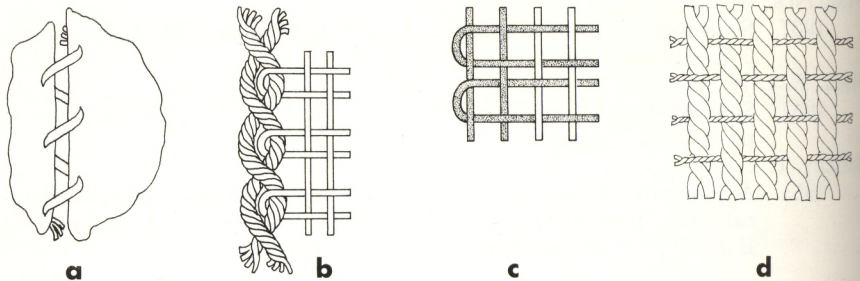


FIGURE 16. Weaving techniques on Gobernador textiles. *a*, saddler's stitch joining two fragments of Type I cloth; *b*, weft selvage on Type I cloth; *c*, weft (?) edge of Type II cloth; blue threads are stippled; *d*, Type III cloth with fine, two-ply, blue wefts (?), and thick, two-ply, brown and blue warps (?).

SHIRT FRAGMENTS

There are some 16 fragments of what Morris describes as part of a V-necked shirt: "On the breast of a child there were several thicknesses of rather coarsely woven brown wool cloth, with a pattern of alternate green and brown stripes. The garment apparently had been a V-necked shirt, caught together at the front tip of the V in several thicknesses." This burial has been designated as burial 2 at Site 6. Because of the small size of the fragments and their total lack of coherence, it is not possible to reconstruct the manner in which the shirt was fashioned. Known Pueblo and Navajo neck-openings on shirts were made simply by cutting a hole or slit for the head, rolling the raw edges under and stitching them down. No ties were appended to the opening, nor was any special weave technique used to finish it off. Examples of southwestern Indian shirts thus furnish us no clues to establishing the interrelationship between the several Gobernador fragments. As they stand the fragments consist of (1) a portion of a tie end or tassel formerly decorated with copper bells and beads, and

(2) remnants of three different types of woven cloth.

Tassel: This is composed of thick, natural color (grayish white) wool strings. It is possible that other fibers besides wool are present. Some of the strings are two-ply Z-spun, Z-plied; others are two-ply, Z-spun, S-plied. In some cases two strings are twisted together with a Z-twist. One ply of a string was passed through the metal loop at the top of a bell, and then the string was folded back on itself and knotted to others. The fragment is too stiff and matted to analyze with more exactness. It may represent the warp ends of a warp-rep tie or of a braided tie, made into a decorative tassel by the addition of bells and beads. (For a good illustration of warp-rep, or warp-float, belts with long warp fringes, see Amsden 1949, Plate 21.)

Type I Cloth: Type I cloth is represented by two small scraps of plain weave sewed together along their weft edges with a saddler's stitch (Fig. 16 *a*). (Two tiny fragments, probably of the same type, are not separately described. They are so small and brittle that it is not possible to work with them.) The scrap is 4.1 cm. wide

(with wefts) and 5.0 cm. long (with warps). The material is wool, tan to brown in color, and probably not dyed. The weaving technique is plain weave, over-one, under-one. Warps per cm.: 10. Wefts per cm.: 10 to 11. Both warp and weft are single-ply, Z-spun. Warps are very tightly spun and fine; wefts are somewhat softer, and tend to fill out over the warmps. The cloth is weft-face, but not a tapestry. (By definition, in tapestry weave warps are completely concealed by wefts.) The selvage of the larger fragment is composed of two strings, S-twined along the weft edge (Fig. 16 *b*). One string is composed of four Z-spun, S-plied threads. The other string is composed of fine Z-spun, S-plied threads. The selvage of the smaller fragment is similar, but the exact number of plies in each string could not be determined without destroying the fragment. There are, however, at least three threads in each string. The two fragments are sewn together with three-thread string. Each thread is Z-spun and the three are very slightly plied with an S-twist. The stitch is a saddler's stitch and joins the fragments along their weft edges.

Type II Cloth: Nine small scraps remain of what was once probably a single cloth. None of the scraps is very large; the longest is about 10 cm., and the widest remaining fragment measures 1.6 cm. Most of the fragments are of single-ply, Z-spun wool. The threads running the length of the pieces are softly-spun, thick brown wool, probably natural color, not dyed. Threads running the width of the pieces are indigo blue dyed, and tend to be somewhat more tightly spun. Brown threads are close-packed so as to conceal blue threads. They number about 11 per cm. Blue threads are widely spaced, numbering only three to four per cm. Two fragments are basically the same as the above, but eight threads in from one edge of each

are four, two-ply, Z-spun, S-plied brown threads, instead of the regular single-ply brown. The weave is plain weave, over-one under-one. These fragments could be either plain weave tapestry with blue warps and brown wefts, or warp-face (warp-rep) cloth, with brown warps and a blue fill. They resemble warp-rep belting, or ties, found among prehistoric Pueblo cottons, and in contemporary Pueblo and Navaho collections (Kent 1957: 529-35; Amsden 1949, Pl. 21). There is no true selvage, but portions of one edge, paralleling the brown threads, remain. Blue threads loop about the outer strand, and return into the weave. There are no extra selvage strings, but the two threads at the edge are blue rather than brown. The lack of extra threads would be highly unlikely were the edge a warp selvage, since reinforcing strings are customarily twisted between warps as the loom is strung. The lack of selvage threads does occur, however, on some weft edges, and is a characteristic of warp-rep belting. The nature of the one finished edge, and the use of blue threads as a filler indicate strongly that these pieces are remnants of a warp-face, warp-float tie. The blue threads may have been floated on the surface of the piece to create a pattern. It seems unlikely, otherwise, that dyed yarns would have been wasted by using them where they would never show.

Type III Cloth: There are two small fragments of this type of wool cloth. One is 2.7 cm. by 1.1 cm., and the second is 2.7 cm. by 2 cm. The threads are two-ply, Z-spun, and S-plied throughout. One set of elements is soft and thick, and includes some brown and some blue threads. The other set of elements is fine, very tightly twisted, blue threads. The thick threads number around 13 per cm.; fine threads number 6 per cm. The weave is plain weave, over-one, under-one

(Fig. 16 *d*). As in the case of Type II cloth, this is either a tapestry weave with soft wefts and fine blue warps, or a warp-rep cloth with thick, soft warps and blue wefts. There is a stripe of eight of the soft blue threads in one fragment. The pieces are identical to Type II except for the use of two-ply threads for both warps and wefts. As for Type II, I am inclined to think of this as warp-rep, rather than tapestry.

One small fragment shows bits of Type II and III combined. Most of the fragment is like Type II—single-ply brown threads woven over single-ply blue. This is attached to a small scrap of cloth like that described as Type III. The exact means of attaching these two cloths is obscured by the matted condition of the specimen. Presumably they were sewed together. I do not think any significant knowledge of the original structure of the shirt would be gained by trying to an-

alyze this fragment further, and more probing would sever the two cloths completely.

Blue threads of Types II and III cloth were tested by Carlson for indigo by placing a drop of nitric acid on them as is described by Amsden (1949: 93). Both fragments did turn yellowish particularly around the edges. As a check a thread from a Jicarilla Apache shirt of commercially dyed indigo dating to 1865-70, and from a Navajo blanket dating to 1879 were similarly tested. Both turned the same yellow color as the archaeological specimens, although the reaction was more pronounced. We concluded therefore that barring unknown substances formed as a result of the decay of the burial causing this reaction, the dye used was indigo.

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