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NAVAHO ARCHAEOLOGY OF UPPER BLANCO AND LARGO CANYONS, NORTHERN NEW MEXICO

MALCOLM F. FARMER

UPPER BLANCO and Largo Canyons in Rio Arriba and Sandoval Counties, northern New Mexico (Fig. 5), are in an area known to modern Navaho Indians as *dinêtah*, "Navaho country,"[1] "Navaho

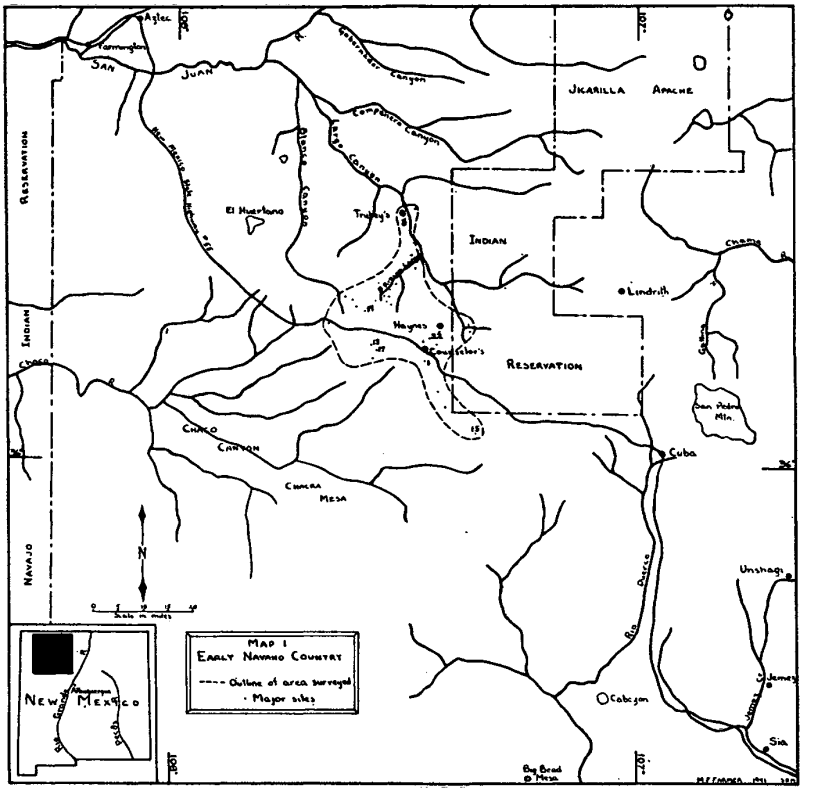

FIG. 5

homeland place,"[2] and is recognized by them as the homeland of their ancestors. A number of Spanish records also refer to it as Navaho country.[3] Anthropologists have, therefore, turned to the region as a source for data on the early Navahos. Surveys and some excavations of sites

[1] Haile, 1938, p. 38. Bibliography, see pp. 99–104 of this Journal.

[2] Harrington, 1940, p. 513. [3] See Kluckhohn and Spencer, 1940, pp. 5–10.

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have been made.[4] The part of *dinêtah* discussed in this article has been visited by field workers at various times and a number of sites located.[5] In July and August of 1938, a project was undertaken by the author to survey more extensively in the region and to excavate at some of the sites.[6]

Most of the sites were fortified. Towers of the upper Largo were strategically located on buttes and high points above the canyon and so placed in relation to each other that they formed a chain of observation points. Fortification walls were common. Buttes and mesa points often had walls along their edges or across narrow places. A wall two hundred feet long was located on a mesa rim in upper Blanco Canyon. Some sites were located in strategic positions in relation to trails. Site No. 22 commanded a wide view of a trail that was said by Navaho field assistants to have been used by Ute war parties as well as by Navaho travelers and raiding bands.

A number of petroglyphs were recorded, especially in Rincon Largo,[7] a western tributary of Largo Canyon. One group had been ground and pecked on the vertical face of a sandstone ledge. It included animal and bird tracks, crude animal and human figures, one of a man on horseback,[8] some geometric figures, and others that might be interpreted as ceremonial. Another group in the same canyon has been reported by Van Valkenburgh.[9] A figure in that group was said by Navahos of Fort Defiance, Arizona, to be that of a Navaho minor diety. At a fortified butte to the south of Blanco Canyon and overlooking the Chaco drainage, an hourglass-shaped figure was ground in the sandstone. This same figure is used ceremonially by modern Navahos in body painting and on artifacts.[10]

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[4] Among those who have worked in the area are A. V. Kidder in 1912, N. C. Nelson in 1916, E. H. Morris, Dr. H. P. Mera, W. S. Stallings, Jr., E. T. Hall, Jr., R. F. Van Valkenburgh, Dr. and Mrs. J. Y. Keur, R. L. Malcolm and F. C. Hibben. Bandelier records a number of earlier reports of the region.

[5] R. F. Van Valkenburgh, survey in 1936 and 1937, with intermittent visits since that time; Miss S. E. Murphey, survey and excavation in 1937; and C. T. R. Bohanan, survey in 1937.

[6] This article is a summary of "Field and Laboratory Reports; Archaeological Work Done in the Old Navaho Country, Summer of 1938," in manuscript. I wish to thank Mr. E. R. Fryer, Navajo Service, Window Rock, Arizona, for his interest and support of the project; Mr. R. F. Van Valkenburgh, Office of Indian Affairs, Field Service, Window Rock, Arizona; Dr. Clyde Kluckhohn, Harvard University; Dr. H. S. Colton, Museum of Northern Arizona, Flagstaff, Arizona; Mr. and Mrs. James Counselor, Counselor's, New Mexico; Dr. A. O. Farmer; the Navahos who assisted, and many others who were more than helpful. Labor was furnished by CCC-ID.

[7] Van Valkenburgh, 1941*a*, p. 123. [8] Keur, 1941, p. 63.

[9] Van Valkenburgh, 1938*a*, pp. 153–157.

[10] Matthews, 1902, p. 23, fig. 3. Franciscan Fathers, 1910, p. 367. Haile, 1938, p. 59.

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An area of approximately two hundred and fifty square miles of mesa and canyon country was included in the survey. In the parts covered, twenty-nine sites were located. These gave an excellent picture of the occupation of the region by early Navahos. Data concerning the sites are brought together in Table I.

TABLE I
SUMMARY OF SITE DATA

Site Number	Dwellings					Temporary Camp Sites	Fortification	Fortified Butte	Ramada	Sweat House	Lean to's	Caches	Burials	Dance Grounds	Oven	Trash Dump	Petroglyphs
	Forked Stick	Cribbed Log	Circular Stone Wall	Stone Tower	Unit Type Stone												
1	3	–	–	–	–	–	–	–	–	1	–	1	?	–	–	x	–
2	2	–	–	1	–	–	x	x	–	–	–	–	–	–	–	x	–
3	2	–	–	1	1	–	x	x	–	–	–	–	?	–	–	x	–
4	?	–	–	1	1	–	–	–	–	–	–	–	–	x	–	x	–
5	4	1	–	–	–	–	–	–	?	x	–	–	–	–	–	x	–
6	?	–	–	1	1	–	x	x	–	?	–	–	–	–	–	x	–
7	–	–	–	–	–	x	–	–	–	–	–	–	–	–	–	?	–
8	–	–	–	–	–	x	–	–	–	–	–	–	–	–	–	–	–
9	–	–	2	–	–	–	–	–	–	–	–	–	–	–	x	x	–
10	–	–	2	–	–	–	x	–	–	–	–	–	–	–	–	–	–
11	2?	–	–	1	–	–	x	x	–	–	–	–	–	–	–	x	–
12	?	–	–	–	1	–	x	–	1?	–	–	–	–	–	–	x	x
13	5	–	–	–	–	–	–	–	–	–	x	–	–	–	–	x	–
14	1	–	–	–	–	–	–	–	–	–	–	–	–	x?	–	–	–
15	?	–	?	–	–	–	–	–	–	–	–	–	–	–	–	x	–
16	3?	–	–	–	–	–	x	x	–	–	–	–	–	–	–	x	–
17	4?	–	–	–	–	–	x	x	–	–	–	–	–	–	–	x	–
18	6?	–	–	–	–	–	x	x	1	–	–	–	–	–	–	x	–
19	3	–	–	–	–	–	x	x	–	x?	–	–	–	–	–	x	–
20	–	–	–	–	–	–	x	–	–	–	–	–	–	–	–	x	–
21	3?	–	–	–	–	–	x?	–	–	–	–	–	–	–	–	x	–
22	–	–	–	–	–	–	x	x	–	–	–	–	–	–	–	–	–
23	–	?	–	–	–	x	–	–	–	x	–	–	–	–	x?	x	–
24	–	?	?	–	–	x	–	–	?	x?	–	–	–	x	–	x	–
25	–	–	–	–	–	–	x	x	–	–	–	–	–	–	–	–	–
26	–	–	–	–	–	x	x	x	–	–	–	–	–	–	–	–	–
27	3?	–?	–	–	–	–	x	x	–	–	–	–	–	–	–	x	x
28	–	–	–	–	–	x	–	–	–	–	–	–	–	–	–	x	–
29	–	–	–	–	–	x	–	–	–	–	–	–	–	–	–	–	–

– = Absence x = Presence ? = Questionable

ARCHITECTURAL REMAINS

Forked Stick Dwellings. Forty-three dwellings of the forked stick type[11] in various states of preservation were noted during the survey. Later, one at Site No. 1 and one at Site No. 13 were excavated. The average diameter of dwellings was about 3.66 m. Those still standing were 1.82 m to 2.44 m in height. The exact arrangement of the forked logs could seldom be determined because of the poor preservation of the

[11] Page, 1937*b*, p. 47.

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majority of the structures. It was determined, from those that were standing and from the relative positions of the timbers in the fallen ones, that there were from three to six main logs arranged in a conical framework, forked ends interlocked. The rest of the timbers were piled against this frame to form the walls. The doorway was to the east in most dwellings. Sometimes there was an entrance passage; in other cases the door posts were set on the perimeter of the circle of the floor area. Dwellings of the forked stick type were found at Big Bead Mesa, Guadalupe Canyon, New Mexico.[12] Dwellings of a similar nature have been reported from the southwestern part of Colorado in Uncompahgre Ute territory.[13] An excellent account of the Navaho manner of constructing this type of house is given by Mindeleff.[14]

The various features of the two excavated forked stick dwellings are recorded in Table II.

TABLE II[15]

Site	*#1*	*#13*
House type	Ic	Ic
Diameter	3.35 m	4.27 m
Floor	Sandy	Packed
Doorway	a, east	c, east
Position of Fireplace	dc	dc
Diameter of Fireplace	55.88 cm	66.04 cm
Presence of		
Deflector	x	—
Bin	S	—
Remarks	Metate on floor	Large chopper on floor

The amount of pinyon and juniper wood used in a forked stick dwelling was quite large. In the one excavated at Site No. 13 were the remains of twenty-one large timbers, some 3.05 m long and 25.4 cm in diameter at the base, and forty-eight smaller poles and sticks. The final covering must have used up many more.

Trash Dumps. At many of the sites there were trash dumps or ash heaps[16] where ashes, floor sweepings and other trash from the dwellings had been deposited. Frequently, the trash dump was 2 m to 3 m northeast of the doorway of the dwelling, but there was no regularity in the location. Trash was often dumped around the bases of towers and on the talus of fortified buttes. A very good example of the latter type was found at Site No. 17. Because of the amount of debris and the apparent depth of the deposit, a test trench was dug in the fill. The trench was approximately 4.25 m long, 1.0 m wide, and 1.2 m deep. The strata of the debris were mixed and irregular, containing lenses of ash filled soil, bits of charcoal, broken rock, fragments of bone, potsherds, corncobs,

[12] Keur, 1941, pp. 21–34, Tables B, C and D.
[13] Wormington, 1940, and 1941.
[14] Mindeleff, C., 1898, pp. 487–493.
[15] Symbols as used in Keur, 1941.
[16] Keur, 1941, pp. 36–37.

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and whole and broken artifacts. The time span represented by the deposit did not seem to have been very long. No changes in the occupation of the site were indicated. There was, however, more deer bone in the deepest part of the fill. Other bones were identified[17] as jack rabbit, wood rat, squirrel, sheep and horse. The incisor tooth of a porcupine was also found.

Other Architectural Remains. Although forked stick dwellings were a particular objective of the work, other structures important to the whole picture of the area were visited. The towers of crudely coursed sandstone slabs are an impressive structure of the area. A very fine example was seen at Site No. 3 in Largo Canyon near Trubey's,[18] seventeen miles north of Counselor's.[19] It was situated on a flat bench on the west side of the canyon about five hundred feet above the canyon floor. The structure was two stories high, with four rooms, and an additional room built against the east side of the butte on which it stood. The butte was of sandstone and about 2.44 m high and 4.27 m in diameter. The tower was between 3.66 and 4.27 m high and roughly circular, the wall following the outline of the butte. The additional room was 3.35 m by 2.13 m, the base of the butte forming one wall. Entrance to the tower was through the roof of the lower room and a doorway in the east side of the tower. The sandstone slabs of the walls were set in an abundance of mud and plastered, inside and out, with the same material. The tower was very well preserved. Only part of the southwest wall and a part of the roof had collapsed. Of the lower room, only the walls and some roof beams remained. The tower roof had beams of heavy pinyon logs, covered with a layer of smaller timbers, a layer of brush, and a final layer of sandstone slabs. The whole may have been covered with a layer of earth. A low parapet had been built around the top. The inside of the tower was divided into four semi-circular rooms by a north-south partition and a second floor. A hooded fireplace in the lower west room connected with a chimney leading out through the corner of the room directly above. Through the ceiling of the upper west room was an opening, large enough for a man to climb through, which gave access to the roof. There were a number of loop holes in the walls, but no windows. Just below the tower on the west side were the remains of two forked stick dwellings. Pottery at the site indicated a date in the 1700's.

The association of towers and other Pueblo-like structures and hogan-like dwellings has been observed in the Largo, Gobernador, and other canyons in the region by Kidder and others.[20] Kidder suggests that the

[17] Bones identified by Dr. H. Howard, Los Angeles Museum, Los Angeles, California.
[18] Van Valkenburgh, 1941*a*, p. 161. [19] *Ibid.*, p. 44.
[20] Notably Kidder, Nelson, Morris, Mera, Hibben, and Keur.

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stone structures may have been built by Pueblo people from the Rio Grande valley who took refuge in *dinêtah* after the Pueblo Revolt against the Spanish in 1680[21] and that the hogan-like structures were made by Navahos or other people who built similar dwellings.[22] From the character of the remains and the associated pottery and artifacts, the Navaho seem to have been the ones who built the forked stick dwellings near the Pueblo-like structures. There is evidence, however, that the Navaho themselves took over the tower building complex. In a letter of Ugarte y Loyola written in 1788, he tells of the Navaho building " . . . ten rock towers within their encampment. . . . "[23] The origin of the tower complex is far from clear. Towers had a wide use in earlier times in southeastern Utah and southwestern Colorado[24] and in parts of northwestern New Mexico.[25] Closely related to the problem is the architecture of the dwellings of the Largo phase as reported by Mera[26] and the Gallina phase reported by Hibben.[27] Also patent to the question are the Spanish traits in the towers of the 1700's. The hooded fireplace and the stone slabs on the roof are possible traits of this class.[28] The Spanish also built towers. Two photographs of a very interesting tower at Manzano, New Mexico, assigned to Spanish origin have been published in *El Palacio*.[29] This tower is circular with a diameter of about 4.88 m and a height of about 4.57 m. It has a doorway about 1.83 m above the ground which is reached by steps. The construction is roughly coursed stones set in mud and the outside may once have been plastered with mud. The roof beams are covered by a layer of timbers and a layer of rock slabs.

Two circular, uncoursed sandstone walls about 1 m high and 2.75 m in diameter, one abutted against a large boulder, were located at Site No. 9 in Rincon Largo. These are of the type discussed by Malcolm from the Chaco region.[30] Mrs. Keur found the type at Big Bead Mesa. Because of their location and the pottery found, the ones in Rincon Largo seem to be fairly recent.

There are a number of very recent Navaho camps in the region, many of them in use at the present time. These were noted but not studied at the time of the survey. However, some of them are important. Two were examined which related to the work. One cribbed-log dwelling[31] of a late date was near some older forked stick dwellings and sweat

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[21] Reiter, 1938, Vol. II. [22] Kidder, 1920, p. 329.
[23] Ugarte y Loyola, 1788. [24] Fewkes, 1919. [25] Hibben, 1937; 1938.
[26] Mera, 1938. [27] Hibben, 1938. [28] Mindeleff, V., 1891, p. 168.
[29] Anonymous, 1923, and 1925. [30] Malcolm, 1939, pp. 6–11.
[31] Page, 1937*b*, p. 48.

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houses[32] at a site near Haynes, some four miles north of Counselor's. There was also a bake oven of rock at the site. There was a trading post at Haynes about thirty years ago and some of the dwellings were in use then. Another cribbed-log dwelling was in a small rincon west of Site No. 1. This one was about 4.88 m in diameter and built of pinyon and juniper logs and poles. All of the more recent dwellings and the ones used by the Navahos in the area today are of the cribbed-log type with some modern square houses showing Mexican and American acculturation.

TREE-RING MATERIAL

Tree-ring specimens were obtained from timbers at a number of sites, but the material was far from satisfactory. However, it gives some idea of the period represented by the remains.[33] No satisfactory material was obtained at Site No. 1. From Site No. 13, two dates were determined: 1762 ± 15 A.D. from the excavated dwelling, and, from another forked stick dwelling at the site, 1725 A.D. (outside dated ring) with an unknown number of rings lost on the outside. One date was obtained from a log found in a crevice at the north end of the small mesa at Site No. 17: 1745 ± 10 A.D. These dates give a possible range for the two sites of 1735 to 1777 A.D. The range of dates from Big Bead Mesa are 1673+X to 1812 ± 20 A.D.[34] Stallings has reported on tree-ring dates for some tower sites excavated by E. H. Morris in *dinétah*.[35]

Site No.	*Name*	*Cultural Stage*	*No. of Specimens*	*Range of Dates*
L.A. 1868	Gobernador Canyon	Pueblo V	1	1732–33
L.A. 1869	San Rafael Canyon	Pueblo V	1	1752 ± 3
L.A. 1872	San Rafael Canyon	Pueblo V	1	1737 ± 10
	San Juan Canyon	Pueblo V	2	1723 ± 1
	Miscellaneous			1727 ± 1

The towers seem to date mostly in the 1700's with forked stick dwellings before, during, and after this century.

ARTIFACTS

Two basic types of metates were found, a slab, and a trough open at one end. They had the same distribution, but the trough type seemed to be more common at camp sites. A very good example of the slab type was found at Site No. 18 in upper Blanco Canyon. It was of reddish sandstone, rectangular in outline and cross-section, with slightly rounded ends. It was 52 cm long, 26.5 cm wide and 7.5 cm thick. A much

[32] Page, 1937*a*.
[33] Dates by H. T. Getty and E. T. Hall, Jr.
[34] Keur, 1941, p. 68.
[35] Stallings, 1937, p. 3.

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smaller and thinner metate of the same type was found on the floor of the dwelling excavated at Site No. 1. No whole trough metates were found. Fragments of the type, however, indicated about the same dimensions as the slab type, perhaps a little thicker. All the metates were of sandstone.

Manos were of two general types, oval and rectangular. The oval is usually of sandstone and used on one or both faces. One of granite was found. A typical specimen was 17.1 cm long, 9.5 cm wide, and 3.8 cm thick. The rectangular "two-handed" type is long and narrow. These often have a longitudinal ridge on one face making a triangular cross-section. One typical specimen was 23.3 cm long, 8.4 cm wide, and 3 cm thick. Sandstone is the usual material.

Two types of hammerstones were found during the survey and at excavated sites. One is a spherical rock used as it was picked up; the other a rock adapted for use by percussion flaking. Common size for both is about 6 cm by 5 cm. The flaked ones are usually rather flat.

Shaft smoothers were found at a few sites. They are rectangular in outline and cross-section and had a longitudinal groove on one face. Reddish sandstone was the usual material. These shaft smoothers are of the type used in pairs and are found quite commonly on sites of the Great Plains. They are sometimes termed the "nail-buffer" type. Strong reports them from Nebraska,[36] and Kidder found the type at Pecos.[37]

A shaft polisher, or perhaps a straightener, was found at Site No. 11. It is of a mottled gray rock, 8.4 cm long, 5.9 cm wide, and 4.7 cm thick. It has a plano-convex cross-section, with a longitudinal groove on the rounded side. The rock was discolored, perhaps by heat, as the tower ruin where it was found showed signs of fire.

Thirty-two projectile points in all were found in the excavated remains and during the survey (Table III). There was no general type. Materials included obsidian, chert, chalcedony, and petrified wood. The workmanship varied from crude to fairly good with no correlation as to type. Some points seem to have been reworked. One triangular point of black obsidian, with a straight base and two side notches, had been blunted, making a chisel-edged point. The average length is about 3.5 cm.

The ordinary type of scraper from the sites is a primary percussion flake with a little secondary flaking on one edge. These crude tools may also have been used for cutting. One snub-nosed end scraper was found at Site No. 19 in upper Blanco Canyon.

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[36] Strong, 1935, p. 86. [37] Kidder, 1932, pp. 80–82, Fig. 56.

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TABLE III[38]

PROJECTILE POINTS

Type		*Surface Find*	*Excavated*
Not stemmed			
Leaf shaped, base rounded	(NAb$_1$)	1	
Triangular, straight base, rounded corners	(NBa)	1	1 (#1)
Triangular, straight base, concave edges	(NBa)		1 (#17)
Triangular, straight base, two side notches	(NBa)	4	2 (#17)
Triangular, concave base	(NBb)	1	
Triangular, concave base, two side notches	(NBb)	4 (1:#17)	
Stemmed			
Contracting stem, shouldered only	(SAa)	2 (1:#17)	
Contracting stem, shouldered only, notched base	(SAa)	2	
Contracting stem, shouldered only, slightly convex base, two side notches	(SAa$_1$)	1	
Parallel sided stem, shouldered only, slightly convex base	(SBa$_1$)	1 (#13)	
Expanding stem, shouldered only, straight base	(SCa$_2$)	2 (1:#17)	
Expanding stem, shouldered only, convex base	(SCa$_1$)	2	
Expanding stem, shouldered and barbed, straight base	(SCb$_2$)		1 (#1)
Expanding stem, shouldered and barbed, convex base	(SCb$_1$)	2 (1:#13)	
Unclassified		2 (1:#13)	2 (#1, #13)

The various artifacts found in the region of upper Blanco and Largo canyons are similar to those found at Big Bead Mesa.[39]

Corncobs found in the excavations and on many of the sites indicate rather poor crops. The ears are small, usually with eight rows of kernels. There was, however, quite a number of corncobs, so perhaps quantity may have made up for quality.

TABLE IV

ARTIFACTS FROM EXCAVATED SITES

	Site #1		*Site #13*		*Site #17*		
	*S.**	*Ex.*†	*S.**	*Ex.*†	*S.**	*Ex.*†	*Total*
Flakes, rejects, cores	4	7	12	12	3	10	48
Scrapers, knives	—	2	—	—	—	1	3
Points	—	3	3	1	4	4	15
Choppers	—	—	1	2	1	—	4
Drills	—	—	—	—	—	1	1
Hammerstones	—	2	2	2	7	—	13
Axes	—	—	—	—	—	—	0
Mauls	—	—	—	—	—	—	0
Manos	1	1	2	—	1	—	5
Metates	—	1	—	1	—	—	2
Shaft smoother	—	—	—	—	—	3	3
Rubbing stones	—	1	—	—	—	3	4
Concretions	—	—	1	—	—	—	1
Worked bone	—	1	—	—	—	5	6
Antler	—	—	—	—	—	3	3
	—	—	—	—	—	—	—
Totals	5	18	21	18	16	30	108

* S. = surface find. † Ex. = excavated.

[38] Table arranged according to classification scheme of Gifford and Schenck, 1926, pp. 80–81, and Strong, 1935, pp. 88–89. The numbers in parentheses are the site numbers of the 1938 Survey where the points were found.

[39] Keur, 1941, pp. 56–62.

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Animal bones found during the work included those of the following species: deer, cottontail rabbit, jack rabbit, antelope, porcupine, wood rat, squirrel, horse, sheep and cattle. Deer bones were the most plentiful; those of rabbits, the next. Remains of domestic animals were not common.

Although no burials were located during the survey or in the excavated remains, a number of places were noted where a more thorough search would perhaps have resulted in the finding of some skeletal material. A number of crevices in the edges of the mesas would have been possible burial places.

POTTERY

Broken pottery was found on the surface at most of the sites and in the excavations. Two major groups of types were represented, those believed to have been manufactured locally, and those traded. Of the local pottery types, there were examples of plain and decorated wares. From the sherd samples, a number of types and sub-types were classified of which only the main ones will be given here. The first of these is a plain gray pottery which has been termed Dinétah Scored. It was made by spiral coiling and then the coils obliterated by scraping the exterior and interior. The core is dark gray, sometimes with a gray center and darker margins. It contains medium sized irregular fragments of quartz and some mica. The fracture is irregular, sometimes crumbly. It may be potsherd tempered. Walls vary from 5 mm to 6 mm in thickness. The exterior surface color is various shades of gray with some fire clouds. The interior is gray. The exterior is scraped diagonally with a tool that left many regular striations. The rim is slightly flared with rounded margin. Shapes include wide-mouth jars with rounded or pointed conical bottoms, sometimes indented. A small, seed jar shape was common in one variation of the type. The rim sherds of jars sometimes had small notches broken in the edge. One jar sherd with a vertical oval neck lug was found. Decoration was limited to the rare occurrence of small fillets of bits of clay pressed into the surface of the neck and pushed sideways. One sherd had a decoration of a row of fingernail indentations. Of a total of 1054 plain sherds examined, 513 were Dinétah Scored. The type was found at all sites and in the excavations. A whole vessel of this type was found cached at Site No. 1. It seems to be the same type described by Malcolm from the Chaco region,[40] by Kidder as Blackware from the Gobernador and Largo sites,[41] and by Mrs. Keur as Navaho Utility Ware from Big Bead Mesa.[42] It is quite similar to later Navaho pot-

[40] Malcolm, 1939, p. 12.
[41] Kidder, 1920, p. 325.
[42] Keur, 1941, pp. 46–47.

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tery[43] and is thought to be ancestral to it. The diagonal striations on later Navaho pottery were made with a corncob used as a scraper.[44]

The second most common type, eighty sherds, is one that may or may not be of local origin. The number of sherds from the excavated sites possibly indicates some local manufacture. It is a brown pottery with fairly thick walls, spiral coiled with the interior surface scraped and smoothed. On the exterior surface, the coils are smoothed but only partially obliterated, making an irregular surface. The core is grayish-tan with tan margins and contains small irregular quartz particles, some black angular fragments, and some mica. The fracture is irregular. Thickness ranges from 6.5 cm. to 8.5 cm. The major shapes seem to have been a small jar and some larger jars with rounded or pointed conical bottom. Both had flared rims and rounded rim margins. It may be related to Gallina utility ware.[45] The best examples of the type were found at Site No. 15 with some other Gallina-like material, i.e. a leaf-shaped blade of white chalcedony with two side notches, one on each side halfway between point and base. This is a characteristic artifact of the Gallina phase.[46]

A number of types of local decorated pottery were found. The largest group is red-and-black-on-orange, sixty-six of 175 sherds. This type seems to be an outgrowth of Gobernador Polychrome.[47] Some sherds are polished on both surfaces; some are merely smoothed. The polished variety is closer to Gobernador Polychrome. The core of this type contains some angular white and gray fragments, some quartz, and may be potsherd tempered. The texture is medium fine. Vessel walls are strong with a fairly regular fracture and a range of thickness from 5 mm. to 7 mm. Exterior surface color is usually an orange-tan; bottoms are usually slipped red. Interiors are yellow-orange to orange. Decoration is geometric in design with plain black lines, wide red bands outlined with black, and solid triangles, sometimes with a hook or a cross at their apex. The usual shape is a deep bowl with a shoulder and a slightly concave region between the shoulder and rim. Some sherds indicate a jar form. Decoration is usually on the exterior in the concave area, but interiors are sometimes decorated. Rim margins are painted red. The surfaces of this type very often scale. The type was found at twelve sites. It was weakly represented at Big Bead Mesa.[48] This type may be related to the second type described by Tschopik in his paper on Navaho decorated pottery[49] as having a lusterless orange-buff ground color and painted with thin matte black or with matte black and brick red.

[43] Hill, 1937. [44] Observed in use, Canyon de Chelly, Arizona, 1935.
[45] Mera, 1935, pp. 8–10. [46] Hibben, 1938, pp. 134–135.
[47] Kidder and Shepard, 1936, p. 373; Keur, 1941, p. 47.
[48] Keur, 1941, p. 48. [49] Tschopik, 1941, p. 70.

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The second decorated type is a dull red-on-tan. It is represented by only a few sherds from one site. The paste and other characteristics are similar to Gobernador Polychrome, but the surface is more buff, both exterior and interior, and it has naturalistic designs in a dull reddish brown paint on the exterior. The general appearance of this type is similar to the first style of modern Navaho decorated pottery as determined by Tschopik.[50] He describes it as ". . . characterized by an orange to buff, lusterless ground painted in dark red-brown . . ." The third decorated type, a red brown-on-orange buff, is related to the other two types but shows some differences as to thickness of walls, shapes, and decorations. It has the crudity of modern Navaho decorated pottery.[51] A fourth type, a polished red with black line decoration was represented by a few sherds. These were of a globular, small mouthed jar with slightly flaring rim. There was a line around the neck with a series of short vertical lines from it towards the rim and diagonal lines in a group of three down the side. Some drops of reddish-orange paint had been spilled on the interior. The exterior color and finish were similar to a vessel found by the author in Canyon de Chelly, Arizona, in 1935. This specimen, however, was a small bowl and undecorated. The rim had been pressed in on four sides making the orifice square with rounded corners. This trait was noted on an example of the first decorated type from a Largo Canyon site. A fifth type, a dull red and brown on a dull reddish background was found associated with Dinétah Scored in the trash dump at Site No. 17. Its paste is related to Gobernador Polychrome, but the design is broad red lines on the interior and dull black lines on the exterior on a smoothed, dull reddish-tan background. The shape was a shallow bowl, almost a tray.

The intrusive pottery included 106 sherds from six sites indicating influences on *dinétah* from the Upper Rio Grande region, the Jemez region, the Middle Rio Grande, and the Little Colorado or Acoma-Zuni region.[52] The Upper Rio Grande is represented by Pojoaque Polychrome and perhaps some other Tewa Polychrome derivatives. The Jemez region is represented by a sherd of what may be Jemez Black-on-white,[53] found on the surface at Site No. 17. From the Middle Rio Grande, there is Puname Polychrome. The Little Colorado region is represented by Ashiwi Polychrome.

Two groups of sherds resemble material illustrated by Kidder from Pecos.[54] These had the unpaneled repeated figure bands with the common semi-circle element. One was a single red line on a white back-

[50] *Ibid*, p. 70. [51] *Ibid*, Pl. VIII.
[52] Areas as outlined in Mera, 1939. [53] Reiter, 1938, pp. 123–153.
[54] Kidder, 1931, pp. 131–150; Kidder and Shepard, 1936, pp. 374–380.

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ground. The other had double black lines on a cream-white background. Between the lines was a row of dots. The angles formed by the base line and the inside of the semi-circle were filled with black paint for a short distance with a narrow black line parallel to its edge. These sherds may be of the Tewa Polychrome group.

In addition to these types, there are some that are difficult to place as to possible origins. One is a dull red and brown-on-cream white. The line work is very fine. It may be from the Acoma-Zuni region. The type has also been found on some Navaho sites of the early and middle 1800's in the region just north of Fort Defiance, Arizona.[55] Another type has a red slipped bottom with black-on-white decoration above the shoulder. The interior is gray, unslipped, and shows scraping marks. It is very well made. A third is black and red-on-white, with a yellowish slip on the interior. It may be from the Little Colorado region of the time when the people there were trying to make copies of Hopi pottery.[56] One type had a particular significance because it was found associated with Dinétah Scored and the fifth local decorated type described above, in the trench at Site No. 17. It is black and red-on-white, with the interior slipped red and well polished. It was a bowl shape with slightly incurved and flattened rim. This shows possible Tsia Polychrome influence.

A pottery type that shows some Spanish or other non-Indian influence was found on the surface at Site No. 17. It was part of a small hemispherical bowl with a raised ring base.

The pottery found during this work, and that from other sites on which published data are available is arranged in Table V to show the geographical extent of the various types.

CONCLUSION

A great deal of work has yet to be done in *dinétah* and vicinity to solve its many problems. The reconstruction of Navaho history by means of archaeological techniques is just being established and promises to be interesting and informative. There is, in this material, the opportunity to study cultural dynamics with much supporting data from ethnological and historical sources. The recent paper on Big Bead Mesa in New Mexico is a start in this direction.

Pueblo Indian refugees from the Rio Grande region were in *dinétah* after the Pueblo Revolt of 1680 which gave a very good opportunity for the Navaho to borrow many Puebloan elements. This must have had important effects on the Navahos. Reiter,[57] in his report of work at the Jemez Pueblo of Unshagi, New Mexico, gives a number of refer-

[55] Author's field notes, 1938. [56] Mera, 1939. [57] Reiter, 1938.

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TABLE V

ASSOCIATION OF POTTERY BY AREAS

Pottery Types	*Gobernador Canyon (Kidder, 1920)*	*Lower Largo Canyon (Kidder, 1920)*	*Upper Largo Canyon*	*Upper Blanco Canyon*	*Big Bead Mesa (Keur, 1941)*	*Chaco Canyon (Malcolm, 1939)*
Dinétah Scored	X	X	X	X	X	X
"Early Navaho" Polychrome	X	X	X	X	X	X
Gobernador Polychrome	X	X	X	X	X	—
Ashiwi Polychrome	—	—	X	—	X	X
Puname Polychrome	—	—	X	X	X	—
Tewa Polychrome	X	X	—	—	—	—
Pojoaque Polychrome	—	—	X	—	—	—
Ogapoge Polychrome	—	—	X	—	—	X
Jemez Black-on-white	—	—	X	—	—	—
Gallina Utility(?)	—	—	X	—	—	—
Three Color Glaze Ware (Rio Grande type)	X	—	—	—	—	—
Early Historic Glazed Ware	X	—	—	—	—	—
Black-on-yellow or pink (Keresan region)	X	—	—	—	—	—

ences to people from the Jemez region going into the old Navaho country. A number went in 1696[58] to escape the returning Spaniards. They were reported living among the Navaho in 1705.[59] There is also the relationship of early Navaho to earlier Anasazi and related people, particularly to the Largo phase[60] and the Gallina phase.[61] The building of towers and the use of conical bottom pottery and Gobernador Polychrome pottery may be indications of connections. It may be that remnants of these people were among those who joined the early Navaho as is told in the genesis legend. Jenness[62] has recently suggested that the Athabascans came south from western Canada as early as 1000 A.D. and introduced bows and arrows and the Mongoloid physical strain in Pueblo I (Developmental Pueblo) times. This offers interesting possibilities, but will need a great deal of evidence to substantiate it.

Influences from other regions, as shown by the dwellings, pottery, and artifacts, also had some effects. The distribution of forked stick dwellings in Colorado and Utah show connections with the Intermontane Area.[63] This connection may be strengthened by the plain utility pottery. Promontory Ware found at Great Salt Lake, Utah, has some similarities to earlier and later Navaho types.[64] Steward has recently suggested the possibility that the Promontory people were Athabascans

[58] Bloom and Mitchell, 1938, p. 107. [59] Hodge, 1916, p. 244.
[60] Mera, 1938. [61] Hibben, 1938. [62] Jenness, 1940, p. 387.
[63] Spier, 1928, pp. 180–182. [64] Steward, 1937*a*, p. 44.

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because of a number of northern traits in their culture and because they appeared in the area rather suddenly, probably at about 1000 A. D. Anasazi sites in the region were abandoned about the same time or soon after.[65] This is in agreement with what Jenness considers the time that the Athabascans were coming into the Southwest.[66] Navaho connections with the Intermontane Area have also been noted by Harrington.[67]

Plains traits are also present. It may be, however, that instead of acquiring these traits in the Plains proper, the Navaho received them after they arrived in the Southwest as a part of a general Plains influence that came west and was felt by the Pueblo people as well as the Navahos. The possible origin of the conical bottom pottery in the "Woodland" pottery[68] or its relationship to pottery of a similar character from sites on the Dismal River in Nebraska and adjacent regions in remains of the protohistoric period[69] needs a great deal more investigation from both the Navaho and the "Woodland" points of view. Other traits such as the arrowshaft smoothers strongly suggest the Plains connections. These implements, however, are also found in the Intermontane Area.[70]

As has been pointed out previously[71] there is a great need for "dirt" archaeology relative to the early Navaho, and all the possible relationships to other areas and cultures must necessarily remain mostly speculation until concrete evidence is uncovered. Jenness has pointed out the danger of a reconstruction of native history based too extensively on ethnological and linguistic evidence.[72]

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San Diego, California
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[65] Steward, 1940, pp. 472–474. [66] Jenness, 1940, p. 387.
[67] Harrington, 1940, p. 523. [68] Mera, 1938. [69] Keur, 1941, pp. 55–56.
[70] Steward, 1940, p. 470. [71] Keur, 1941, p. 1. [72] Jenness, 1940.

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