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TABLE ROCK PUEBLO
ARIZONA

PAUL S. MARTIN
JOHN B. RINALDO

FIELDIANA: ANTHROPOLOGY
VOLUME 51, NUMBER 2
Published by
CHICAGO NATURAL HISTORY MUSEUM
SEPTEMBER 16, 1960
TABLE ROCK PUEBLO
ARIZONA
TABLE ROCK

Upper, mushroomed rock from which pueblo takes its name.

Lower, top of rock, showing six miniature channels that had been pecked into surface.
TABLE ROCK PUEBLO
ARIZONA

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FIELDIANA: ANTHROPOLOGY
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Preface

In the season of 1958, we excavated a fifty-room pueblo, located on the ranch of Mr. Mark Davis, who permitted us to excavate the site and to ship back to the Museum all of the materials that were recovered and that are described herein. We owe a great debt to Mr. Davis and we are happy to acknowledge it.

The site was first reported by Spier (1918). He noted the presence of Hopi-like yellow pottery and Zuni glazes from several other sites in the vicinity.

Dr. John B. Rinaldo observed the pueblo in 1956 during the course of his extensive survey of the Springerville, St. Johns, and Show Low areas.

In 1958, Dr. William Beeson, sometime Instructor of Anthropology at the University of Illinois and now on the staff of Sacramento Junior College, Sacramento, California, found the site during the course of his archaeological survey.

Since Zuni glazes and Jeddito Black-on-Yellow pottery had been definitely reported, we thought it advisable to dig this site before pot hunters destroyed it.

The pueblo is located on a low natural hill of sandstone outcropping about 500 feet east of the present channel of the Little Colorado River and about one mile east of St. Johns, Arizona. Just east of the site a few hundred feet is a similar one, on top of which a few rooms were located and later dug.

Between these two hillocks stands a mushroom-shaped rock, the result of differential erosion. The top of this rock was relatively flat and tilted slightly toward the south. Six miniature channels had been pecked into the surface of the rock and all of the channels drained into tiny basins or pockets that had been gouged out of the sandstone.

If the channels and basins are contemporaneous with our site, then I would venture to guess that this rock was "sacred" and that the channels served some ceremonial purpose. At any rate, the shape of the rock is unique in the area, attracted our fancy at once (as it probably did that of the Indians who lived there), and suggested a possible name for the site.
Naming a site is difficult but important. Our first thought was to call it the “Davis Site” after the name of the owner; but there is at least one Davis site already in the literature (Di Peso, 1958). Rather than give it a number, such as XY 33 (which to me lacks imagination) we named our pueblo “Table Rock Site” after our curiously shaped rock.

Excavating the Table Rock Site was part of our long-term project of archaeological researches in the upper Little Colorado Drainage. This pueblo yielded valuable information on the later history of the Mogollon Indians and may give us clues to their ultimate fate.

One of the pleasantest aspects of developing an archaeological project is the searching for and finding of men and women who are willing to assist in making the work successful. Compensation is surely not an important factor, because most of our assistants worked for nominal wages; some even paid all of their expenses! To work thus with people and to make new and warm friendships is a remarkable and rewarding experience.

It is with deep gratitude that I express my thanks to many individuals for various kinds of assistance.

Mr. Howard Anderson of the staff of the Department of Anthropology deserves thanks, for it was he who struggled with the classification of the pottery types and who patiently ground to 3/1000 of an inch 110 potsherds for petrographic analysis. Mr. Anderson is co-author with me of the chapter on the pottery.

Mr. Mark Winter, Mrs. John Rinaldo, and Miss Elizabeth Morris assisted Mr. Anderson in the field, especially with washing the artifacts, and classifying, cataloging, and packing the specimens. Mr. Roland Strassburger was again expedition photographer and general camp assistant, and he deserves praise for turning out creditable pictures, often under adverse conditions of lighting, camera leaks (discovered later), heat, and wind. Mrs. Martha Perry and Miss Molly Reichoff cooked for us and looked after our general welfare, for which I thank them. The digging crew, under the direction of Dr. Rinaldo, deserves mention because they labored under very trying conditions of dust and unprecedentedly high temperatures, often in the neighborhood of 130 degrees in the sun: Wilfred Barreras, Arden Brady, Michael Cornog, Eldon Cox, Tom Cox, Arnold Gillespie, Joe Goodman, Emerson Mulford, and Alfred Padilla.

Our neighbors in Vernon contributed much to the success of the Expedition and merit great thanks from all of us: Mr. and Mrs. Tom Cox, Mr. and Mrs. Donald Goodman, Mr. Milton Gillespie, Mr. and Mrs. Leonard Penrod, Mr. Kenneth Penrod, and Mr. and Mrs. Eben Whiting.

We are also grateful to Mr. C. E. Gurley and Dr. Charles W. Keney, of Gallup, and to Mr. Frank Turner, of Albuquerque, for their generous help with transportation, health, and material supplies.
In the preparation of this report, we received assistance from the following anthropologists: Drs. William Beeson, Elaine Bluhm, Harold S. Colton, E. B. Danson, Rex Gerald, Emil W. Haury, Clement C. Meighan, Elizabeth Morris, John C. McGregor, Erik K. Reed, Ray Thompson, and Dr. Richard and Dr. Nathalie Woodbury.

Dr. Anna O. Shepard was most patient and helpful in giving us valuable suggestions concerning the preparation of ceramic thin sections and the making of petrographic analyses of potsherds; she also checked the results of about 25 per cent of our diagnoses.

Dr. Terah L. Smiley, of the Laboratory of Tree-Ring Research, University of Arizona, dated the pinyon sample that we sent him; and Dr. Hessel de Vries\(^1\) of the Natuurkundig Laboratorium, Groningen, The Netherlands, conducted the Carbon 14 tests on a portion of the log sent to Dr. Smiley. We wish to thank both of these experts for their assistance.

At the Museum, Mr. Bertram J. Woodland, Associate Curator of Petrology, and Dr. Albert Forslev, Associate Curator of Mineralogy, made the ceramic analyses; and Dr. Fritz Haas, Curator Emeritus of Lower Invertebrates, checked the shells. We are greatly indebted to these gentlemen.

Miss Lillian Ross, Associate Editor of Scientific Publications, improved our diction, removed patent errors and contradictions, and is responsible for a usable, attractive format.

Mrs. Virginia B. Turner, my secretary, merits thanks for typing our often illegible manuscript and for making up the tables of sherd counts.

Mr. John Pfiffner, Staff Artist, made the maps and sections.

The continuation of our studies of the causes of the rise and fall of cultures, and of our search for systematized formulations that might have predictive value has been possible only through the sympathetic and sustained interest of President Stanley Field, Dr. Clifford C. Gregg, Director, and our Board of Trustees. To them we are deeply grateful.

Chapters 1 (Description of Pueblo Details) and 3 (Artifacts) were written by Dr. John B. Rinaldo; and 2 (Pottery) and 4 (Summary) by me. Mr. Howard Anderson contributed the detailed analyses and other technical paragraphs to Chapter 4.

June, 1959

Paul S. Martin

\(^1\) Deceased December 23, 1959.
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I. Description of Pueblo Details

LOCATION OF SITE

The Table Rock Site (fig. 62) is located on a relatively low sandstone and gravel hill across the Little Colorado River from St. Johns, Arizona, the county seat of Apache County. The elevation here is about 5,700 feet above sea level. A number of gravel-topped sandstone outcroppings are spaced along the east bank of the Little Colorado; between them are flat bottom lands that are used as irrigated fields at present and were probably cultivated by the prehistoric Indians.

The river, which now flows just a few hundred feet west of the site, was probably the principal source of water for the people who lived in the several prehistoric villages on both sides of the stream. There are no springs in the immediate vicinity.

WALLS

Foundation.—No prepared foundations; walls based on sandy gravel or sandstone bedrock, but rarely on trash (except in Rooms 1 and 4). Start at floor level or 10 cm. above. Nine or more rooms built on steep slope and walls situated lower on slope had been undermined and washed out. Stubs of partition walls excavated.

General Construction.—Most walls of composite construction; that is, of two facings more or less interlocked on interior of wall. No true core. Three types of masonry sometimes combined in one wall. Occasionally some larger stones, laid as through stones, extend from one wall surface to opposite surface. Component stones laid up in medium thin (1 cm. thick) layer of mud mortar with little stone-to-stone contact. No consistent pattern in joints between wall stones. Some at the middle of the stone in the next course above, others near the end of this stone. Placement of joints somewhat haphazard and irregular.

Wall Stones.—Local tan to red sandstone, or (rarely) green sandstone. Quarried in thin, laminated slabs 2–5 cm. thick, 12–20 cm. long, and 3–10 cm. narrower than long. Less often, stones block-like, 10–20 cm. long, 5–10 cm. thick, and about same width as thickness. Some stones chipped and rough-hewn, many laminated slabs, none dimpled or pol-
Fig. 62. Map showing Table Rock Pueblo, St. Johns, Arizona.
ished. Much larger slabs, averaging 35 cm. in height and width and up to 10 cm. in thickness, were used in Type I masonry (see below). Some of these slabs were 80–100 cm. high and proportionately long.

**Mortar.**—Of local clay, brown or gray in color, mixed with some sand (may be natural inclusions), ranging in hardness from crumbly soft (can be scratched with finger nail) to firm and hard (can be scratched with pen knife). Softer mortar contains more sand.

**Spalls.**—True bearing spalls or stop spalls rare. Numerous false spalls—small, flat, thin flakes or slab fragments placed in mortar to fill up some spaces between courses of wall stones or to level them up. Few round pebbles used in spite of local abundance on site. No potsherd spalls. Spalls not characteristic of this masonry.

**Plaster.**—Walls of all rooms with firepits (and some without) plastered with from one to six (average two) layers of plaster. Layers from 2 mm. to 2 cm. thick. If more than one layer had been applied the first coat was usually thicker and of coarser texture. This coat filled in the hollows in the wall surface and some of the interstices between wall stones. Succeeding coats of finely milled adobe clay, usually undecorated and soot black, sometimes brown.

**Masonry.**—Type I (fig. 63): Predominant feature is use of courses of quite large slabs set on edge as part of facing; most often occur as course at base of wall, with slabs set 5 to 20 cm. apart and spaces between them filled with rubble masonry of small laminated stones set in a thick cushion of adobe mud mortar. Rubble masonry of slabs and flakes or (infrequently) blocks used in upper part of wall.

In ten walls of this type, another series of large slabs set vertically was used in the upper part of the wall. However, this occurred only once in both faces of the same wall (wall between Rooms 13 and 14).

On both faces 41 meters (13 per cent) of all the masonry was of Type I; 60 meters (19 per cent) had one face of this type; in most instances the opposite face was of Type II. In 27 rooms 56 walls of this type of masonry occurred. This pattern of construction was used only for interior walls.

Type II (fig. 64): Rubble masonry ordinarily of composite construction built up of medium-sized laminated or less often rough-hewn slabs laid in a thin cushion of adobe mud mortar. Courses rarely level; sometimes pinch out before they run the length of the wall. Stones in each course not matched in size or color, but some courses tending to be uniform in thickness. Many stones not tabular in shape, but usually one straight vertical edge of each stone set flush with visible surface of wall. However, since the interior surfaces of the dwelling room walls were covered with mud plaster there were many minor inconsistencies and undu-
Fig. 63. Partition wall of Type I masonry, large slabs set on edge at base, Room 16. Meter stick at right.

Fig. 64. Random rubble masonry wall (Type II), Room 42. Scale in center of 10 cm. units.
lations in wall surfaces. Also, larger stones were interspersed in the courses, or two thin slabs, used instead of one thick stone, formed a pattern of component stones similar to that of Type I masonry.

In all walls 192 meters (approximately 60 per cent) were of Type II masonry on both faces. In 31 rooms there were 83 instances of Type II masonry. It was used for both interior and exterior surfaces.

Type III (fig. 65): A minor type, using block-like stones, roughly rectangular in shape and almost as thick as wide. In laying stones up, more mortar was used at ends of stones and less between courses than in Type II. Also, courses tended to be more even, and the stones were better matched.

Only 23 meters (7 per cent) of walls were of this type. It occurred in eleven instances in seven rooms and was used only for interior surfaces.

Dimensions.—Walls ranged in thickness from 10 cm. to 30 cm. (average 21 cm.); present wall heights ranged from 20 cm. to 150 cm. (average
Fig. 66. Rectangular doorway in southeast corner of Room 21.

79 cm.). Longest continuous wall (unbroken by abutments), 6 meters long. No correlation between type of masonry and dimensions of wall. Walls of Type I masonry about same height and thickness as Type II walls.

Mural Decoration.—Three small fragments of mural painting on south and north walls of Room 22. Two, uncovered on separate layers, on south wall, the outermost design in yellow paint on a dark brown or black background—a poorly preserved geometric design consisting of a broad yellow stripe outlining an area. This appeared to terminate in a zigzag or three triangles with a dot above the apex of each, but this end of the painting had deteriorated so badly that we could not discern any feature clearly. Other murals with a white stripe on dark brown background.

Doorway.—Only one lateral door in pueblo; located in southeast corner of Room 21 (see fig. 66). Height, 60 cm.; width, 45 cm. Lintel and sill of stone slabs; sides of masonry. South side of door formed by south wall of room. Sill approximately 25 cm. from floor. Shape of door rectangular. Entry into another room (excavated only 50 cm. beyond door).

Niche (fig. 67).—Located in north wall of Room 10 near northeast corner, 50 cm. above the floor. Has stone slab sides and lintel. Height, 16 cm.; width, 20 cm.; depth, 15 cm.
Fig. 67. Niche in north wall of Room 10.

Fig. 68. Ventilator through wall base (Type I), Room 27. Meter stick for scale.
VENTILATORS.—Type I (fig. 68): Openings in south wall of Rooms 21 and 27, connecting with vertical shaft outside wall. Opening in Room 21: height, 18 cm.; width, 12 cm.; adobe plastered sill 60 cm. above room floor; possibly had a pole lintel. Exterior shaft of masonry and adobe chimneylike flue closed at top with small ring slab (see p. 249, fig. 69). Opening in Room 27: height, 30 cm.; width, 28 cm.; depth, 45 cm. Slab sides and back extending to vertical shaft. Sill of opening plastered 20 cm. above room floor.

Type II: Openings about 20 cm. square through partition walls. Plastered with mud adobe on masonry sides, lintel and sill. One in north wall, one in south wall of Room 23 in line with firebox. Sills about 50 cm. above room floor (fig. 70). In exterior walls selenite may have been used in such openings.

Type III (fig. 71): A chimneylike flue, 40 cm. by 30 cm. on a side, located in northeast corner of Room 3. Walls of rubble masonry plastered over on surface toward room. Round opening, 12 cm. diameter, through west wall (in direction of firepit). Surface soot-blackened. Walls meet in curve. Sill of opening about 10 cm. above floor of room.

Buttress (?) (fig. 72).—Northeast corner of Room 6 filled with adobe clay structure reinforced on surface with uniformly spaced upright sticks. Structure possibly intended to strengthen corner.

FLOORS

MATERIALS.—Brown gravel or red sandstone bedrock terraced off and covered with layer of red-brown adobe clay 2–3 cm. thick (fig. 73). Surface smooth and fairly even but not polished; usually gray, especially near firebox. Floor paved with adobe in all rooms with firepits and some without firepits. Floor adobe curves up to wall plaster.

In Room 18, the smallest room in the pueblo, the east half of the floor was paved with two large flagstones, the only flagstone paving in the secular rooms. A number of floors were bedrock.

ALTERATIONS.—Room 1 had two floors 10 cm. apart or less at the south end. Room 4 had three floors with less than 10 cm. of fill between adobe clay layers.

Bins (?).—Sub-floor pits next to walls in Rooms 12, 13, and 23. The pits in Rooms 12 and 13 roughly semicircular in shape and less than 50 cm. in length; shallow. The former contained a blade and a sledge hammer (p. 256), the latter a polished stone die, a perforated disc, and a painted mano. Another pit against the west wall of Room 23 contained remnants of bins with small stone slabs set on edge adjacent to small
Fig. 69. Top of vertical ventilator shaft, Room 21. Arrow points magnetic north.

Fig. 70. Direct opening of ventilator through partition wall (Type II), Room 23. Meter stick at left.
Fig. 71. Chimneylike form of ventilator (Type III), northeast corner, Room 3. Arrow points magnetic north.

Fig. 72. Buttress at junction of walls for Rooms 2, 3, 5 and 6. Arrow points magnetic north; meter stick for scale in Room 5.
Fig. 73. Typical floor arrangements, Rooms 22–24. Arrow points magnetic north; meter stick in background (Room 24).
“lapstones” or paint grinding slabs, one coated with red pigment, the other with a black spot.

Firepits (fig. 74).—Firebox type, rectangular in shape; sides and bottom usually lined with stone slabs that project a few centimeters above the floor and form a rim. The bottom of a single slab same shape and size as firebox, slab sides placed like “playing card house” or wall abutments of rooms. Length, 40–85 cm., average, 43 cm.; width, 29–60 cm., average, 35 cm.; depth, 10–25 cm., average, 17 cm.

Contents: White wood ash and charcoal. Five rooms (6, 16, 24, 27, 38) were equipped with oblong stone pot supports (see p. 256) placed near the center of one long side. In the south group of rooms pot supports were placed against the north side, in the north group of rooms against the south side.

Half a Jeddito Black-on-Yellow bowl was found in the firepit in Room 13.

Exceptions: Firepit in Room 27 with adobe rim and floor. Room 3 very large, with stone coping at south end only.

Most fireboxes were oriented with the long axis east and west. Exceptions were the firepits in Rooms 7, 13, and 38, which were oriented north and south.

Ash Pit.—Square in shape, stone-slab-lined like firepit, 20 cm. on a side, 8 cm. deep; filled with white wood ash. Located north of firepit in Room 24.

Double Firepit or Oven (fig. 75).—Two slab-lined rectangular structures with partition wall. One section shorter and deeper, the longer section possibly roofed over with stone slabs. Wood ash and charcoal in both. Located near east wall of Room 4.

CEILINGS OR ROOFS

Height.—Actual height unknown. Highest present standing wall, 150 cm.; height of present standing walls in other rooms added to height of upper walls which have fallen but are nearly intact and were measured on ground, 142 cm. Allowing for slight excavation of floors and two or three missing courses, estimated height between 150 cm. and 200 cm.

Construction.—Rotten beams, poles and adobe with stick impressions found in sixteen rooms. One beam socket(?) discovered.

Two or three beams or vigas (average 10 cm. diameter) run across one dimension of room; poles (about 5 cm. diameter) cross those at right angles; next above these usually brush, or more rarely sticks or splints
Fig. 74. Stone-slab-lined firepit and ash pit in Room 24. Arrow points magnetic north.

Fig. 75. Double firepit, southeast corner, Room 4. Plaque is size of playing card.
and usually on top a layer of adobe clay. In some rooms there was a final layer of stone slabs. The actual means of support for the beams is unknown; they may have rested in masonry sockets in walls, or in the top layers of masonry. Direction of beams at right angles in adjoining rooms. This may have given added support to walls inadequately bonded or not bonded together.

One ceiling beam supported midway by post. This beam ran lengthwise of exceptionally long room (length 3.7 meters).
Fig. 77. Kiva I; ventilator tunnel and stone-slab-faced south platform area in foreground; firepit, ash pit and large stone slab hatchway cover near center. Arrow points magnetic north; meter stick in background.

Hatchways.—Entry by means of door through roof. At least three of these framed by ring slabs or “stone closes”—a large slab of stone with an oval or rectangular hole big enough for a man to squeeze through (see p. 249). These were found among roof slabs, beams or other roof fill in Rooms 5, 6, 25, and 42.
DIMENSIONS OF ROOMS

Roughly rectangular in shape; length, 1.5–3.7 meters, average, 2.8 meters; width, 1.3–2.9 meters, average, 2.3 meters.

KIVA I
(Figures 76, 77)

Location.—In a small cove on south side of “saddle,” southeast of rooms near foot of west hill.

Shape.—Roughly rectangular; north wall shorter than south wall.

Dimensions.—Length, 4.75 meters; width, 4.0 meters (south wall) and 3.9 meters (north wall). Greatest present height of wall, 80 cm.

Walls.—Type I masonry, veneer facing (slabs on edge at base). South platform (?) faced with vertical slabs. Some slabs on edge quite large; one in west wall 80×70 cm. False spalls, made of thin slabs. Mortar like that of dwelling rooms. Plaster: Two thin coats of fine-textured clay. Thick at base of wall.

Floor.—Hard-packed clay; curves up to meet wall plaster; found only in northwest corner and in vicinity of firepit.

Firepit (fig. 78).—Rectangular in shape; lined with thick sandstone slabs set on edge; stone slab floor. Filled with fine white wood ash and bits of charcoal. Length, 52 cm.; width, 47 cm.; depth, 25 cm. Located in center of southern section of kiva, in line with ventilator tunnel and deflector.

Ash Pit.—Rectangular in shape, lined with stone slabs set on edge on east and west sides, partition slab between ash pit and firepit. Single slab forms east side of firepit and ash pit. South side of ash pit formed by deflector. Filled with fine white ash. Length, 50 cm.; width, 47 cm.; depth, 30 cm.

Deflector.—Large thick sandstone slab, 55 cm. long and 80 cm. high. Continuation of ventilator tunnel roof rests on this slab on north end and on face of platform at south end.

Platform(?).—In south end of kiva; area outlined by row of wall stones on south, lower courses of east and west walls, and several slabs set on edge as north side or face of “platform.” Area 4 meters long (width of kiva) and 100 cm. wide. Top of slabs set on edge for “facing” 28 cm. above floor level.

Ventilator.—Tunnel shaft runs north and south through center of “platform” area. Sides of long (140 cm.), thick (15 cm.) slabs. Shaft 60 cm. deep, 80 cm. over-all width. Floor of clay. Roofed over with
DESCRIPTION OF PUEBLO DETAILS

Fig. 78. Detail of firepit, ash pit and ventilator complex in Kiva I. Arrow points magnetic north.

stone slabs and adobe. Tunnel extends 35 cm. beyond south wall and opens just north of inside of “platform”; forked at inner end.

Roof.—No evidence.

Hatchway.—Unusually large square stone slab resting on floor northeast of firepit is believed to be hatchway cover.

KIVA II
(Figures 79, 80)

Location.—Between Room 39 (on east) and unexcavated room adjacent to Room 1 on west.

Shape.—Roughly rectangular, north wall shorter than south wall.

Dimensions.—Length, 4.1 meters; width, 3.3 meters (south wall), 3.1 meters (north wall). Greatest present height of wall, 1.55 meters.

Walls.—Of masonry, mostly Type II (coursed laminated slabs), except section at east end of platform and north along the wall to the northwest corner of Room 39, which is transitional to Type III (blocks). Thickness 20–22 cm. Veneer of slabs set on edge at base of north wall and at base of east wall north of platform. Vertical slabs, set on end, form face of southern platform. Mortar like that of rooms. North two-thirds of west wall fallen into adjacent room. Plaster: 2–3 coats of fine-textured clay, each fairly thin, undecorated. Thick at base of wall.

Floor.—Strip 45 cm. wide along west wall up to bedrock ledge, and area south of deflector paved with hard-packed adobe. Remainder paved
Fig. 79. Plan and section of Kiva II.
Fig. 80. Kiva II, south platform; firepit and ash pit in foreground. Arrow points north; meter stick in background.
with rectangular flagstones. Floor of platform also paved with flagstones (average length 98 cm., average width 56 cm.). In center flagstones long axis runs north and south; in east and west halves of chamber axes run east and west. Beneath flagstones a sprinkling of fine wood ash on surface of clean sand; below 15 cm. layer of sand was sandstone bedrock. Many paving stones cracked. Floor perforations: Row of three holes (3.5 cm. in diameter) in east half of room, hole (4.5 cm. in diameter) west of firepit, and larger hole (5.0 cm. in diameter) north of firepit. Long, decayed stick lay on sand directly beneath one hole which has tapered "awl-sharpening" groove beside it. Possibly anchor holes for loom.

Firepit (fig. 81).—Rectangular in shape, lined with thick sandstone slabs set on edge. Sandstone bedrock floor. Filled with fine wood ash and bits of charcoal. Length, 50 cm.; width, 40 cm.; depth, 25 cm. Located in southern half of kiva in line with niche, ash pit, deflector and ventilator tunnel opening.

Ash Pit.—Rectangular in shape; deflector slab forms south side; adobe and upright slab arms of deflector form east and west sides; thick slab partition between ash pit and north side of firepit; floor bedrock. Covered with thick slab, ends of which rest on deflector arms. Length, 50 cm.; width, 35 cm.; depth, 25 cm.

Deflector.—Large sandstone slab 60 cm. long, 30 cm. high. An arm of adobe and an upright slab on each side of ash pit. Ash pit cover plastered to deflector. Another arm from west end of deflector extends to platform, connecting at west side of ventilator opening.

Niche (fig. 82).—In center of north wall in line with firepit, ash pit and ventilator opening. Rectangular in shape (25 cm. square); lined with small thin rectangular slabs. Has two levels divided by small ring slab which is floor of top level (lower level even with floor of chamber). Nine worked sherds found below, seventeen above. Turquoise pendant below; possibly kachina kihu or kachina niche (see pp. 173, 174). Perforated slab in niche may have been sipapu (see p. 175).

Platform.—In south end of kiva, floored with flagstones, faced with slabs set on end at intervals. Width, 100 cm.; height, 50 cm. Has short ell (also floored with flagstones) extending along west wall 80 cm., ending at a projection of the bedrock. Beyond this bedrock the west wall had fallen. Slabs at front edge of platform marked with series of vertical grooves similar to so-called "awl-sharpening" grooves.

Bench.—The short L-shaped extension of the platform and the bedrock projection may have formed a bench. If this "bench" extended farther north it has been destroyed by the fallen wall.
Fig. 81. Detail of firepit, covered ash pit and mouth of ventilator tunnel beneath south platform, Kiva II.

Fig. 82. Kachina kihu and adjacent flagstone floor, north wall stick at right.
Fig. 83. Room K with stone-slab-lined firepit in center. Arrow points magnetic north; meter stick in background.
Ventilator.—Rectangular opening next to west arm of deflector is mouth of tunnel shaft running at angle southwest to crevice in bedrock behind south wall. Tunnel floored over with double layer of stone slabs held up by rods (35 cm. high, 35 cm. wide at mouth).

Roof.—A series of beams across shorter dimension (east and west); above these, poles at right angles (north and south). Many wall rocks and much plaster in fill on top of roof members; other elements of roof destroyed.

Hatchway.—A large worked stone slab, found in the fill layer near center of east wall, appeared to be hatchway cover. Metate resting in fill directly over firepit and between roof timbers that possibly had fallen through hatchway.

ROOM K OR PIT-HOUSE KIVA(?)  
(Figure 83)

Location.—Northeast of surface dwelling rooms.

Shape.—Rectangular; north and east walls a little longer than south and west walls.

Dimensions.—Length, 4.1 meters; width, 2.75 meters; depth below surface, 90 cm.

Walls.—Of veneer masonry except for central section of north wall. East, south, and west walls of Type I masonry (slabs on edge at base). North wall of Type II masonry (coursed laminated slabs). Mortar brown and hard. Spalls rare. Plaster: Single layer, undecorated, brown to black; 0.5 to 1.0 cm. thick; curved at base of wall to meet floor plaster.

Floor.—Level, even; gray color on surface; 4–5 cm. thick; laid on bedrock or gravel.

Firepit.—Rectangular in shape; lined on sides with sandstone slabs set on edge. Slab on north side projects above floor and other slabs. Floor of pit, bedrock. Filled with fine white wood ash. Length, 43 cm.; width, 42 cm.; depth, 10 cm.

Niche.—In center of south wall in line with firepit and ventilator opening. Rectangular shape, lined with plaster and with large plainware sherd for sill or floor. Height, 15 cm.; width, 18 cm.; depth, 10 cm.; sill 10 cm. above floor.

Ventilator.—In center of north wall opposite firepit. Has stone slab sill and lintel. Height of opening, 25 cm.; width, 20 cm.; sill 8 cm. above floor.

Roof.—No evidence. Upper part of walls eroded away.
GENERAL ARRANGEMENT OF PUEBLO PARTS
(Figures 84-87)

We excavated all or parts of over 50 rooms and there was evidence of perhaps 6 or 8 rooms we didn’t excavate. On the west knoll, close to the river, the rooms were arranged in two rows on the north and south sides of an irregularly shaped narrow passageway which ran along the spine of the knoll. Rooms had been built down both slopes to the north and south, and down the east slope into the “saddle” between the east and west knolls. One kiva (Kiva II) was incorporated into this larger grouping of rooms midway between the rooms on the slope to the saddle and the group up on the level. However, it was east of the majority of rooms with firepits and other “dwelling room” features in this section. The other kiva was in a little cove southeast of most of the rooms.

A much smaller, compact group of rooms was situated on the east knoll. There was no evidence that this group of rooms had ever been connected with those of the west knoll. There was a fair amount of trash and a very few indications of fragmentary walls on the slopes on both sides of the “saddle,” but the trash was of limited extent and the saddle itself was bare rock. A deep semi-subterranean pit-house kiva(?), Room K, was situated northeast of the rooms on the east knoll.

The rooms on the west knoll were oriented toward the passageway which ran between the two banks of rooms. The firepits of the south bank of rooms were in line and closer to the north wall than to the south wall, and the rooms were constructed in as straight a file as space permitted. Features such as the niche and ventilators are also in the north walls for the most part. The north bank of rooms, although not as uniform in the arrangement of interior features, is definitely also oriented toward the passageway, with the wall features in the south walls and the interior features in the south half of the room.

NUMBER OF STORIES

The majority of rooms had too few wall stones in the fill to indicate more than one story. The original height of the pueblo was measured on walls which had fallen over flat on the ground with their component stones held by the mortar virtually as they had been in the standing wall. None of these walls were more than one story (2 meters) high.

In a number of the rooms we found metates, manos, broken pottery vessels, and other tools in the roof fill among the roofing slabs, or in such a position as to convey a definite impression that they had been on the
Fig. 85. West end of Table Rock Site, showing arrangement of pueblo rooms.
Fig. 86. Section of Table Rock Site near east end, showing arrangement of pueblo Rooms 31-38.
Fig. 87. Kiva I in foreground and Rooms 31–38 in background.
Fig. 88. Floor plan and walls of Room 21, showing details of room arrangement and wall construction.

roof and had fallen into the rooms with the collapse of the ceiling framework.

The number of wall stones in the fill indicated that Rooms 16 and 21 may have had two stories. Room 11 also appeared to have had more than one story. The lower story lay beneath the decayed ceiling framework and a fairly compact layer of clay which was first uncovered as a floor and was later found to be part of the ceiling of the lower story. This layer had been badly eroded, particularly in the north half of the room, and a hatchway was not located. The walls of the upper story above this ceiling-floor were offset above the walls for the lower story (see p. 171).
SEQUENCE OF CONSTRUCTION

The alignment of firepits and the continuity and alignment of the wall which forms the north wall of Rooms 3, 6, 10, 13, 14, 16, 20, 23, 24, and 26 and the south wall of Rooms 2, 5, 12, 30, 18, and 22 seem to indicate that these rooms were constructed as a unit, with a ground plan in mind. However, there is also some indication, provided by wall junctures and floor levels, that the rooms were not all constructed at the same time. The most conclusive evidence of such a lapse of time was found in Room 24. This room was built against the west wall of Room 23, and also had a lower floor level. Consequently the lowest half meter of the east wall in Room 24 consisted of the gravel bank below the west wall of the adjoining Room 23, which had been formed when the terrace was cut back to level off the floor for Room 24. The lower part of the north and south walls of Room 24 abutted against the gravel bank; above, they abutted against the upper portion (masonry) of the east wall, as the north and south walls of Room 24 were based 50 cm. lower than the east wall.

Other periods of construction may be indicated by the abutment of Room 20 against Room 16 (see fig. 84), and by the abutment of Room 4 against Rooms 7 and 8 and the construction of Rooms 4 and 1 on trash.

Some difference in time of construction is also indicated by the slight offset between the upper and lower walls of Room 11. The upper section of the east wall of this room coincides with the west wall of Room 7, whereas the lower section is offset to the west about 10 cm. Moreover, the lower section of this east wall and the entire south and west walls are of Type III (block) masonry, which occurs only rarely at this pueblo and appears to be earlier than the other masonry types.

Thus, although it is not conclusive, the evidence points to the prior existence of two groups of rooms clustered around the small, more or less central open areas (areas 9, 15 and 17) of the passageway (see fig. 84); subsequently, rooms apparently were added to these two nuclear groups. However, the general impression of unity conveyed by the similarity in masonry, firepit positions, and wall alignments in the southern section does not imply any great lapse of time between these construction periods.

USES OF ROOMS

Most of the rooms in the two rows on the higher area of the west knoll had rectangular stone-slab-lined fireboxes. A number of these rooms with higher standing walls were also equipped with some form of ventilator. Metates, manos, pottery bowls, cooking(?) jars and some
other tools such as axes or bone awls were frequently found near the firepits and usually on the side of the room in the direction of the inner passageway (areas 15, 17, etc.). The few caches and possible bins discovered were beneath the floors of these rooms. With one exception (Room 38) they are among the larger rooms; the walls were plastered and the floors paved with adobe. They appear to have been used as dwelling rooms.

They might have been used for family or small group ceremonies, for some rooms contain painted manos, lapstone-palettes, possible painted metates (in six “dwelling rooms”), a painted mural decoration (in Room 22), and a cache of a painted mano, a stone die and disc beneath the floor of Room 13.

Other rooms lacked firepits and they were mostly smaller, their floors were frequently rougher, their walls less often plastered, and with one or two exceptions they contained fewer artifacts. Apparently these were storerooms. Room 11, for example, contained a number of large jars and a great variety of artifacts. The bedrock floor was virtually filled with storage(?) jars, bowls, and other artifacts.

Kivas I and II were designated Rooms 41 and 43 respectively when we first began to excavate them. However, as certain architectural features common to most kivas were uncovered, it soon became certain that they were this type of ceremonial room. They fall within Smiley’s (1952, pp. 22–23) definition of a kiva as “a room possessing a firepit, a hatchway over the firepit, and one or more of the following features: deflector, ashpit, sipapu, bench, platform, recess, wall niche, loom anchor, and either subterranean or ground level placement.” Both rooms possessed firepits (as did many dwelling rooms). We cannot be certain that there were no lateral doorways in either kiva because of the eroded condition and low walls in Kiva I and the fallen west wall in Kiva II, but in view of the fact that only one such doorway was found in the dwelling rooms, and the presence of what were apparently hatchway covers near the firepits it seems a reasonable possibility. Both kivas also possessed deflectors, ash pits, platforms (although the platform in Kiva I is open to question because of its eroded condition), and a semi-subterranean placement. They were constructed in the sloping side of the hill, just below the shoulder, with the platform or ventilator end (“back,” in Smith’s terminology, 1952b, p. 6) of Kiva II built into the side of the hill, and the “front” end opposite the ventilator of Kiva I. Kiva II also had an L-shaped extension of the platform which might be interpreted as a “bench,” and it had a north wall niche (kachina kihu) and loom anchor holes. Furthermore, both kivas were larger than the dwelling rooms and
with a more symmetrical and central arrangement of the firepit and its associated features. Both kivas lacked a sipapu and a recessed southern platform. In common with many “Western Pueblo” kivas such as the Hopi kivas and the Hawikuh Zuni kiva, they were rectangular, over three meters wide and over four meters long, oriented with the ventilator end pointing generally southeast, with paved flagstone floor (Kiva II only), plastered walls, a stone slab (rather than masonry) deflector, and rectangular slab-lined firepits.

Some parallels to other kivas seem of particular interest and may or may not be mere coincidence: (1) The flagstones are similarly laid out in the floor of Kiva II and the floor of Hodge’s rectangular Hawikuh kiva (Hodge, 1939, fig. 2); (2) the broad “arms” at each side of the Kiva II ash pit (and the ash pit cover) are like those of Kiva R-4 at Kokopnyama (Haury and Hargrave, 1931, pls. 23 and 24); (3) the Kiva II ventilator has a southwest skew like that of Kiva II, Ariz. W:10:52, Point of Pines (Smiley, 1952, p. 55, fig. 8A), which, according to Smiley, is not uncommon in prehistoric kivas; (4) the kachina kihu or spirits’ entrance niche in the north wall of Kiva II resembles those of modern Hopi kivas (Stephen, 1936, pp. 19–20, figs. 385 and 387; Mindeleff, 1891, pp. 122–123, fig. 22).

There remains the problem of Room K. It fills Smiley’s definition of a kiva and might be considered a kiva. It had a firepit, lacked a lateral door, and must have been entered through a hatchway. It had a wall niche in the south wall and a ventilator through the north wall (exceptional orientation). It had been built partly (at least 90 cm.) below the ground surface. The firepit was lined on each side with a stone slab, and that on the north side (toward the ventilator) projected above the floor and the other sides. This slab may have served as a form of deflector. The wall and floor plaster was thick and soot-blackened. The walls, unlike those of the surface dwelling rooms, were of veneer masonry (except for the central portion of the north wall), and the room was larger than the surface dwelling rooms. It contained very few artifacts and very little pottery and nothing on the floor to indicate its use. In spite of the fact that it had many kiva-like features it was different from the kivas at this ruin and may have been used for a house. It lacked an ash pit, a bench or platform, or a true deflector. If the niche in the south wall in line with the firepit was a kachina kihu, it had an orientation the opposite of that which is generally customary in Hopi kivas.

**KIVA NICHE**

The niche (fig. 82) in the north wall of Kiva II seems to be the most significant feature of this structure. It was indicated above
that a closely similar feature has been recorded from historic Hopi kivas (cf. Mindeleff, 1891, pp. 121, 123, figs. 22, 25; Stephen, 1936, pp. 10, 719, 721, figs. 385, 387, 449). Stephen calls this type of feature a "kachink-i" (translated "kachina shrine") and he uses this term for niched found in this same relative position even though they may be of different sizes (cf. Stephen, 1936, figs. 385 and 449). Parsons, in her footnote on this subject (Stephen, 1936, p. 10), uses the term "kachina house" and defines it as follows: "...a niche in ledge at end of kiva on main floor or an adjacent chamber. Masks and altar paraphernalia are kept here. The kiva ladder is so placed that upon entering the kiva the face will always be directed towards the kachink-i. The ground altar lies in front of it."

The relative position of the niche in Kiva II corresponds exactly to the situation as Parsons defines it above for Hopi kivas: (1) In Hopi kivas a person descending the ladder faces the niche; in Kiva II an unpaved area between the deflector and the mouth of the ventilator was probably the ladder pit, and a person descending this ladder over the firepit would face the niche in the north wall. (2) In Hopi kivas the ground altar lies in front of the kachink-i and in Kiva II an unusually long narrow flagstone which extended south from the area of the niche seems to have been placed there to provide a special smooth area for a ground altar. The floor area of the flute society altar, for example, is roughly of these proportions (Stephen, 1936, fig. 426).

A variation in the concept of the kachink-i is expressed by Smiley (1952, caption for fig. 2) and Roberts (1932, pp. 60–61; 1939, p. 212), who indicate that this niche is also thought of as a "spirits' entrance." Roberts found these niches at the Village of the Great Kivas near Zuni and again at Allantown, and says concerning them that at Acoma they are "considered the 'doorway' through which the spirits of the gods enter and leave the kiva." The presence of the ring slab or perforated slab as a divider between the two levels of the niche in this Kiva II and the discovery of worked sherds and turquoise sealed in this niche seem particularly suggestive in this connection. There is a close similarity between the ring slab and the one found on top of the ventilator shaft of Room 21. There is also some likeness to the ring slabs or fragments found at the mouths of the ventilator tunnels in Kiva 2, Ariz. W:10:52, at Point of Pines (Smiley, 1952, pp. 55–57), in Kiva I, Village of the Great Kivas (Roberts, 1932, p. 73), and at Allantown (Roberts, 1939, p. 69). Furthermore, there is a general similarity to the larger perforated slabs found at this site (see p. 249), at Hawikuh (Hodge, 1922, p. 6; 1923, p. 26, pl. 16), at Kintyiel (Mindeleff, 1891, pp. 192–194, pl. C), and at
Four Mile Ruin (Fewkes, 1904, pp. 160–161), and those slabs were hatchway frames or lateral door frames.

If we combine the concept of these perforated slabs as hatchway frames and that of the kachina niche as a “spirits’ entrance,” it does not seem unreasonable to conjecture that the lower level of the niche was regarded as a “kachina house” and the perforated slab as the entrance through which the kachinas were thought to pass into an upper kiva—in this case either the upper level of the niche or the kiva chamber proper. This also seems to fit in with the Hopi origin myth of emergence from an underworld, which the kiva represents (see Stephen, 1936, pp. 137, 151), and the return to it after death. In Kiva II, the ring slab in the niche may have been regarded as the sipapu or place of emergence; hence the absence of a hole in the usual place in the flagstone pavement.

If the niche was a kachina shrine and a spirit entrance, what do the worked sherds and the turquoise in the upper and lower levels represent? They are smaller than most worked sherds and are of several shapes. They are not much like the gaming pieces recorded for the historic Zuni (Culin, 1907, p. 799), and even the round ones are not large enough to be unfinished spindle whorls (which might accompany weaving in the kiva).

Another surmise is that each worked sherd was meant to symbolize a man. Those in the lower compartment (about thirteen in number; the count is not exact, for a few are broken) might represent former inhabitants who had died and gone back to the underworld, and the sherds in the upper level might represent men living when the kiva was abandoned (there are approximately seventeen of these sherds). There were perhaps 20 to 26 dwelling rooms in the pueblo, and probably 25 or 26 adult men in the community, if we estimate one or more to a dwelling room. Since there were two or more kivas (Kivas I and II and Room K), and these figures are at best approximate, we cannot actually divide the adult male population by the number of kivas and come out with an accurate estimate of kiva membership (which might in turn be checked with an estimate of seating capacity in the kivas). Nevertheless, it does not seem out of line with the assumed number of dwelling rooms, the assumed seating capacity of Kiva II, or the number of sherds in the niche to guess at 13 to 17 ceremonial participants. It is simply a guess; there is nothing in the way of analogy in historic Pueblo culture. The worked sherds and turquoise may have been merely offerings. However, the circumstances are suggestive.
II. Pottery

Some 26,000 sherds were recovered from the excavations in the rooms, in areas adjacent to the site, and in the trash on the north side of the pueblo. The pottery was analyzed every day in the field, and the sherds were classified for the most part according to the types established by Gila Pueblo, the Museum of Northern Arizona, the University of Arizona, and Dr. Erik K. Reed (Reed, 1955). All sherds were saved and shipped to the Museum.

A number of types that came in daily were unfamiliar to us at first. Even now, we are not completely satisfied with our analyses and classifications of the plain brown and plain red wares, but we have tried to bring order into the chaotic picture, and we feel the classification is the best possible one at this time.

The sherds from the rooms were excavated in two levels: fill and floor. Fill sherds may be defined as all material from the surface to within 20 centimeters of the floor; and floor sherds may be identified as those resting on the floor plus those in the first 20 centimeters of the fill. Table 1 (pp. 213–214) presents types, counts, and percentages for sherds from several rooms from which the yield was great. Since Kiva I is situated at the bottom of the mound and since many sherds from above washed into it, the materials from it represent a kind of midden.

We constructed several seriations and graphs in an effort to determine relative chronology, the sequence in which the rooms were built, and fluctuations in the popularity of pottery types; but these seriations and graphs yielded little or no information. Several reasons for this may be advanced: (1) ineptness on our part; (2) brief occupation of the site; (3) lack of certain key pottery types in sufficient quantities from many of the rooms; and (4) lack of comparative materials from other sites.

Table 2 presents types, counts, and percentages for the whole site. Since we could detect no significant differences between the counts of sherds from fill and floors of rooms, these are lumped together with all the sherds from the middens, which also yielded no significant stratigraphy.

In addition to the 25,732 sherds, we recovered 45 whole or restorable vessels. A list of these follows:

Room 1: An Alma Plain scoop; from the floor.
Fig. 89. Pinnawa Glaze-on-White bowl with red bottom, from fill of Room 18; diameter, 21.6 cm.

Fig. 90. Puerco? Black-on-White jar, Puerco variety, from floor, Room 2; greatest diameter, 31.4 cm.
Room 2: A Puerco(?) Black-on-White jar; on the floor (fig. 90).

Room 5: A White Mound Black-on-White bowl, a Woodruff Smudged bowl, and an Alma Plain jar; all found accompanying a female skeleton about 20 cm. below the floor of Room 5, in natural gravel. The skull was below footing of north wall. It is obvious that this burial occurred long before the pueblo was placed there (figs. 91, 92).

Room 6: A Four Mile Polychrome bowl; on the floor.

Area 9: A white-on-red jar and an Alma Plain jar; both on the floor.

Room 10: Two Alma Plain jars, a perforated-rim brown ware plate like Belford Perforated Rim plates (Di Peso, 1958, p. 93) and like those reported by Haury and Hargrave (1931, p. 68), and a white-on-red bowl (type undetermined); all found on the floor.

Room 11: A Tonto Polychrome Jar, a red-on-white jar, a Jeddito Black-on-Yellow bowl, and two Alma Plain jars; all from the floor. A Tonto Polychrome ladle; from the fill (fig. 93).

Room 12: Two white-on-red bowls (type undetermined), a Gila Polychrome bowl, an indented corrugated jar, an obliterated corrugated jar, and a neck-indented corrugated jar; all found in the fill.

Room 13: An Alma Plain jar from below the floor; a white-on-red ladle (type undetermined) from the floor (fig. 94); and a Jeddito Black-on-Yellow bowl in the ashes of the firepit.

Room 14: An obliterated corrugated jar; from the floor.

Room 16: A Kwakina Polychrome jar; from the fill. An Alma Plain jar; from the floor.

Area 17: An Alma Plain jar and an indented corrugated jar; both from the fill.

Room 18: A Pinnawa Glaze-on-White bowl; from the fill (fig. 89).

Area 19: A Four Mile Polychrome bowl; from the fill.

Room 20: An Alma Plain bowl; from the floor.

Room 21: A San Francisco Red bowl; from the floor (fig. 95).

Room 22: A Gila Polychrome bowl; from the floor (fig. 96).

Room 24: A perforated-rim red plate from the fill, and one from the floor (fig. 97). These resemble the one found in Room 10.

Room 26: A Tonto Polychrome jar; from the floor.

Room 27: An Alma Plain jar; from the floor.

Room 29: An Alma Plain jar and a Gila Polychrome bowl; from the fill.

Room 30: A white-on-red jar (type undetermined) and two Alma Plain jars; all from the floor.
Fig. 91. Alma Plain jar, St. Johns variety, with burial, below floor, Room 5; height, 11.1 cm.

Fig. 92. White Mound Black-on-White bowl, with burial, below floor, Room 5; diameter, 21.6 cm.
Fig. 93. Tonto Polychrome ladle, half-gourd type, handle restored, from trench, Room 11; length, 19.0 cm.; greatest diameter, 8.7 cm.

Fig. 94. White-on-red ladle with design similar to exterior designs on Four Mile Polychrome bowls; type unnamed; from floor, Room 13; length, 27.5 cm.; greatest diameter, 12.2 cm.
Fig. 95. San Francisco Red bowl, St. Johns variety, from floor, Room 21; diameter, 17.7 cm.

Fig. 96. Gila Polychrome bowl with 10 mending holes, from floor, Room 22; diameter, 28.7 cm.
Fig. 97. Brown plate similar to Belford Perforated Rim plates but with plain rim, from floor, Room 24; diameter, 28.7 cm.; height, 5.8 cm.

Fig. 98. White-on-red jar, type unnamed, from fill, Room 39; greatest diameter, 23.8 cm.; height, 17.6 cm.
Fig. 99. Kwakina Polychrome bowl, from floor, Room 33; diameter, 26.8 cm.

Fig. 100. Gila Polychrome gourd effigy, from trench B; height, 17.0 cm.; greatest diameter, 13.8 cm.
Room 39: A white-on-red jar (fig. 98), type undetermined; from the fill. A Kwakina Polychrome bowl (fig. 99) and a Tonto Polychrome jar; both from the floor.

Room 42: A Jeddito Black-on-Yellow bowl; from the fill.

Kiva II: Two Alma Plain Jars and an obliterated corrugated jar; from the fill.

Room J, East Knoll: An indented corrugated jar and an obliterated corrugated jar; from the fill.

Trench B: A Gila Polychrome gourd-effigy (fig. 100).

It will be noted that about 50 per cent of these vessels came from “fill” or on top of roof debris. We assume that these pots had been left standing on the roofs when the pueblo was abandoned.

CLASSIFICATION OF POTTERY IN THE FIELD

Never before have 26,000 sherds bothered us so much proportionately as did this collection. We had the relatively unfamiliar and not very well classified Zuni glaze types to deal with, and also a mass (approximately 12,000 sherds) of plain brown and textured utility wares that are fairly dull to work with and very difficult to classify. Most of the painted wares were ultimately assigned to already existing types, and this was done with relative ease. The plain brown types, the red types, and the textured types presented a far greater problem of classification.

The lack of comparative materials, coupled with the possibility of overlooking significant features in this mass of brown ware, necessitated an arbitrary and temporary system of classification in camp that resulted in an astonishing array of types and sub-types!

After we returned to the Museum and re-examined these sherds we decided to give them a rigorous technical examination in order to see if revision were possible, and if order could be brought out of this rather chaotic state. It may be stated here that the multitudinous numbers of types were thereby drastically reduced.

The following technical analyses were used to help us in our classification of the pottery types.

CLASSIFICATION OF POTTERY IN MUSEUM LABORATORIES

Placement of the decorated and textured wares presented little difficulty since their obvious features did not necessitate detailed analysis. The plain and polished red wares, however, confronted us with a differ-
ent set of circumstances. Our attempt to discover a correlation between paste composition and surface features was not successful. We obtained information regarding the paste of the plain and red wares, but our findings were not sufficiently diversified to use as a basis for classification. Ultimately we had to rely on the hazardous method of comparison of appearance for placement of much material. I use the term "hazardous," since individual impressions regarding such matters vary greatly.

The various procedures used to analyze and classify the sherds were, in general order of procedure: (1) refiring; (2) disaggregation, the separation of a sherd into its component parts, and X-ray diffraction; (3) polished sections and X-ray fluorescence; and (4) petrographic analysis of a thin section.

Refiring at 900°C for approximately fifteen minutes indicated that the culinary wares were produced from ferrous clay and were originally fired in an uncontrolled atmosphere. Complete oxidation of the Alma Plain (St. Johns variety) was achieved in our furnace at 800°C. Raw clay extracted from the site was formed into six briquettes and fired at 600°-700°, 800° and 900°C., at intervals. As with the sherds, complete oxidation was achieved by 800°C.

Disaggregation serves a double purpose in analytical procedure. The primary one is the observation, with a 48x binocular, of apparent inclusions in their entirety, that is, the whole particle, rather than the relatively small segments observed in fresh fractures.

Polished sections can be produced quite readily and were therefore utilized extensively to obtain a comprehensive view of the paste with a minimum expenditure of time. Since most of the Table Rock material was sherd-tempered, this method was particularly helpful in the detection of textural differences between this type of inclusion and the surrounding paste when a color contrast was not in evidence.

Dr. Forslev analyzed one polished section of gray indented corrugated by means of X-ray fluorescence. His findings indicated the presence of rubidium, a rather uncommon chemical element. Its presence may prove useful for further comparison of such material.

Although no single method was used independently, Mr. Woodland's petrographic examination constituted the backbone of our analysis. Thin sections gave us our greatest assurance when dealing with possible intrusives and establishing criteria whereby they could be designated as such by comparison with indigenous types. Longitudinal sections provided the greatest surface area, while a transverse cut gave us a profile that made possible an examination of both the interior and exterior surfaces. Suspected coatings visible under reflected light on much of our plain polished
ware evaded positive identification since they were too opaque to permit the use of transmitted light and the polarizing prism. The close similarity between certain forms of sherd temper and volcanic products frequently presented difficulties that even our petrologist could not readily resolve.

Application of both the old-fashioned method of megascopic comparison and the more precise means of microscopic analysis indicated to us that the latter is practical only when dealing with problems that require concrete solutions such as identification of inclusions. We use the term “practical” since the time involved in this type of investigation can be extensive. It became quite apparent to us that the gap between the two methods is considerable, and a coordinated effort by the archaeologist and the petrologist must be instituted before sound results can be expected.

Approximately eighty usable sections were prepared, in relative proportion to the total number of each of the types investigated.

Pinnawa Glaze-on-White, 1
Kechipawan Polychrome, 1
Kwakina Polychrome, 1
Four Mile Polychrome, 1
Gila Polychrome, 2
Tonto Polychrome, 1
Tularosa Black-on-White, 2
Type A white-on-red, 2
Type B white-on-red, Four Mile designs, 4
Type C white-on-red, St. Johns Polychrome designs, 2
Type D white-on-red, 2
Type E white-on-red, 2
Tularosa White-on-Red, St. Johns variety, 2
Alma Plain (Polished and Unpolished), St. Johns variety, 30
San Francisco Red, St. Johns variety, 4
Comparative material from other sites, 26

We have not incorporated all the results of our petrographic analyses into the descriptions. The petrographic notes are on file in the Museum.

**POTTERY TYPES**

It may seem absurd to base conclusions concerning 26,000 sherds on the petrographic examination of 80 thin sections. I should point out, however, that we have examined about 2,000 sherds by the various technological methods outlined above; and we have also selected at random at least 2,000 more sherds representing proportionately all types and have examined fresh fractures with a binocular microscope (48x). These examinations have been carried on concurrently with the analytical methods
Fig. 101. Sherds of Belford Perforated Rim plates. Top: exterior of plate; bottom: interior.
and were especially helpful in dealing quickly and accurately with large numbers of sherds.

The 26,000 sherds, therefore, were assigned to 36 types, most of which have been established. We have listed a few kinds of sherds without type name because we were not sure to what type they belonged. These have been given a descriptive name, such as white-on-red. Of these 36 types, 29 have been placed in the painted, decorated category; 6 in the utility categories (plain and textured wares); and one in San Francisco Red.

**Native Types**

Archaeologists frequently divide the pottery from a given site into two major divisions: native (local or indigenous) and trade. Perhaps this is an easy method for some collections, but we found that it was difficult to handle our Table Rock Pueblo material in that way.

After all the laboratory tests had been run we were able to make some conjectures concerning the pottery. It is entirely possible that we are wrong. Perhaps all the pottery we recovered was made at the site on the Davis Ranch; or, conversely, perhaps all of it was imported.

We think much of it was locally made and we are proceeding on that assumption.

The native types are:

1. Alma Plain Polished, St. Johns variety.
2. Alma Plain Unpolished, St. Johns variety.
4. Indented neck-corrugated.
5. Plain corrugated.
6. Indented corrugated.
7. Obliterated corrugated.
8. Tonto Polychrome, St. Johns variety.
10. Some of the white-on-red types.

Descriptions of the Alma Plain types, San Francisco Red, and the textured types are presented at the conclusion of this chapter.

A word of explanation concerning our use of the terms “Alma Plain Polished” and “Alma Plain Unpolished.”

As I have stated several times, this mass of plain brown ware was a “headache.” It was only after elaborate laboratory analyses and re-examination of most of these sherds that we decided to reduce the number of plain types to two varieties of Alma Plain. In so doing, I hope we are following the spirit of the suggestions put forth by Wheat, Gifford and
Fig. 102. Sherds of Tularosa Black-on-White pottery.
Wasley (1958) and the slight emendations by Phillips (1958) to the terms "type" and "variety."

Alma Plain and its varieties doubtless represent a ceramic system, a brown ware "tradition," and connote a Mogollon pottery type the life span of which was long (at least 800 to 1,200 years). As will be seen by reading the descriptions below, the range of our Alma Plain varieties falls well within the so-called classic range of Alma Plain pottery as described originally by Haury (1936b), with one notable difference.

The difference is that all the paste from our 1958 Alma Plain contains, among other things, sherd temper. Otherwise the correspondence is close. Thus we may have violated the temporal ideas set forth by Wheat and others, but we feel justified in so doing because our plain brown pottery is indistinguishable by ordinary methods of sorting from Alma Plain that we have dug up for 15 seasons in and around Reserve, New Mexico. In other words, by using the term "Alma Plain, St. Johns variety," we immediately conjure up for the reader a Mogollon context; and that is what we want to do.

Now to discuss the terms "Polished" and "Unpolished." In his original definition, Haury (1936, p. 32) says that Alma Plain is polished on unslipped, exposed surfaces and usually hastily polished and scraped on interiors. In the description given in the Forestdale Valley report, Haury (1940, p. 69) stated that all surfaces were lightly polished with stone but occasionally were smoothed by hand.

Much of our Alma Plain was polished and much was not. The polished intergraded with the unpolished. At one end of the range, the surfaces are almost lustrous; at the other end, they have been smoothed with a hand or a yielding tool such as cloth or buckskin, and as a result they are actually coarse, rough, and unpolished. When sorting, it was easy to separate the two extremes; but it was not simple to distinguish those sherds that fell in the "middle," so to speak, and they were in the majority!

The paste of the polished and the unpolished is similar, but it shows a range of variations; at one end of the range we find more and larger quartz particles, fewer and larger sherd fragments and greater porosity; at the other extreme we find fewer and smaller quartz particles, greater abundance of small sherd particles, and greater denseness and hardness. These two extremes in contents of paste cannot be correlated with the surface finish of the Alma Plain except in a most general manner, to wit: a sherd that is hard, dense, and bears a high polish is probably tempered with small amounts of fine particles.

The sherds that were ground up and mixed with other particles and clay were derived from two sources: brown wares (ferrous clay) and gray wares (probably non-ferrous clay), with the latter predominating!
Fig. 103. Sherds of Gila Polychrome bowls.
The fact that relatively few black-on-white sherds were found on the surface of the site, in the rooms, or about the site causes us to wonder if the potters seized all the sherds they could collect and ground them up for temper.

While viewing the tiny particles under a 40x binocular microscope, we recognized several specks as being derived from sherds, because we could see a portion of the black paint used to create the design! The cultural significance of sherd temper in our Alma Plain is not entirely clear. In an effort to throw some light on the subject we re-examined Alma Plain from all phases from the Pine-Lawn–Reserve area and some from other sites in the Vernon area. The Alma Plain from the Pine-Lawn–Reserve area from the Pine Lawn Phase (300 B.C. or earlier) to the latest Phase (Foote Canyon, about A.D. 1350) was not sherd-tempered. In contrast, however, we did find sherd temper in Alma Plain in the Vernon area from sites that would date from our Pinyon Phase (about A.D. 900–1100) and still later (after A.D. 1100). In other words, sherd-tempered Alma Plain does not occur early in the Vernon area but does occur occasionally after about A.D. 1100.

Our present guess is that the use of ground-up sherds for tempering material may be due to extraneous influences. I might add here before turning to the other indigenous pottery types that one of the principal characteristics of the local pottery from the site at St. Johns is that it is sherd-tempered.

The textured types and the San Francisco Red were not subjected to the same exhaustive laboratory analyses as were the Alma Plain varieties; but we did examine fresh fractures on hundreds of these sherds and several thin sections of San Francisco Red. On the basis of these examinations we conclude that the pastes of these types are the same as those of the Alma Plain varieties. Sherd temper is very prominent, especially in the San Francisco Red.

**Native Painted Types**

The painted types that were probably manufactured at the Table Rock Site are Gila and Tonto Polychromes. We base this statement on the following evidence:

Gila Polychrome (about 1.96 per cent of the total sherd count): 2 thin sections and 30 fresh fractures were examined microscopically. The paste contains an abundance of sherd temper with a trace of feldspar. The descriptions given by Colton and Hargrave (1937, pp. 88–89) and by Haury (1945, pp. 63–80) do not mention sherd temper. The petrography of the Table Rock Gila Polychrome indicates that the paste is similar to,
Fig. 104. Sherds of Tonto Polychrome jars; locally made.
if not identical with, the pastes of our Alma Plain varieties; and also indicates that it is utterly different from the pastes of Gila Polychromes from Gila Pueblo, Kinishba, University Ruin and Point of Pines (sherds sent us by Dr. Haury for examination and laboratory analyses). In short, our Gila Polychrome is merely Alma Plain paste with the appropriate colors and designs added. The paint was organic ("carbon"). Bowls are the most common shape.

Tonto Polychrome (about 3.28 per cent of the total sherd count): one thin section and 30 fresh fractures were examined. The paste contains an abundance of sherd temper and a trace of feldspar, and is similar to, if not identical with, the paste of Alma Plain Polished, from Table Rock Site. The paste is utterly unlike the pastes of Tonto Polychrome from Gila Pueblo, Kinishba, University Ruin, and Point of Pines (statement based on petrographic examination of 5 thin sections). Again, it may be said that our Tonto Polychrome is probably locally made and is merely Alma Plain paste with the appropriate colors and designs added. Paint was organic. The most common shape is jars. One scoop of the half-gourd type was recovered.

Gila-Tonto Polychrome, St. Johns variety, is the name assigned to 150 sherds that bear designs characteristic of both Gila and Tonto. The sherds came from bowls. The designs on the interior portions of these sherds are typically Gila Polychrome "style"; those on the exterior are Tonto. These sherds are in a poor state of preservation: the slip has spalled and is eroded and crazed. The paste (24 fresh fractures examined under 48x microscope) is the same as the pastes of our Alma Plain varieties; that is, it ranges from a high sherd content with a dense compact paste to a high quartz content, few sherds, and a porous paste. We surmise that these sherds were home-made. No whole specimens were recovered, but there is one in the Museum’s collections (see fig. 8, pl. 125, Martin and Willis, 1940).

Four Mile Polychrome (139 sherds recovered) was apparently made near or at Table Rock Site. This conjecture is based on the petrographic examination of one thin section, 12 sherds that were refired, and examination (48x microscope) of 24 fresh fractures.

**Trade or Intrusive Pottery**

The pottery types that appear to have been made elsewhere and brought to Table Rock Site by trade are:

1. Tonto Polychrome (24 sherds).
2. Sikyatki Polychrome.
4. Pinedale Polychrome (a trace).
5. Zuni types (Pinnawa Glaze-on-White, Pinnawa Red-on-White, Kechipawan Polychrome, formerly called Pinnawa Glaze Polychrome, Kwakina Polychrome, Heshota-uthla Polychrome).

DISCUSSION

The 24 sherds of a Tonto Polychrome jar were recovered from Room 9. Petrographic examinations of one thin section demonstrated that the paste of these sherds was utterly unlike any other from Table Rock, but that it was similar to, if not identical with, pastes in sherds from Gila Pueblo, Kinishba, University Ruin and Point of Pines. The black paint is inorganic (mineral). Prominent in examination without any magnification are flecks of golden mica or altered biotite. We conjecture that this jar was obtained by trade from somewhere in the Gila River drainage.

The two Hopi types (Sikyatki Polychrome and Jeddito Black-on-Yellow) were not extensively examined. They are so obviously like Hopi types from Hopi sites that there is no doubt in our minds that our Hopi sherds are trade pieces. The paste is dense, compact, and creamy in color, and contains very fine quartz sand particles with occasional reddish and black angular particles that can only be seen under a 48x microscope. This pottery is exceptionally tough and very difficult to break.

The Pinedale (only 3 sherds) may be a trade ware.

Several Zuni glaze-decorated ceramic types were recovered and these were eventually placed in five categories. Mostly, we have followed Reed (1955) and the later modifications suggested by Woodbury and Woodbury (in MS.).

These types are, in descending order of abundance: Kwakina Polychrome (503 sherds); Pinnawa Glaze-on-White (193 sherds); Heshota-uthla Polychrome (94 sherds); Kechipawan Polychrome (formerly called Pinnawa Glaze Polychrome; 88 sherds); and Pinnawa Red-on-White (86 sherds). Two sherds were tentatively assigned to the Matsaki Polychrome category.

No descriptions are given here of the Zuni glaze-decorated types because the existing definitions (Colton and Hargrave, 1937, and Reed, 1955) will suffice until the Woodburys bring out their extensive descriptions. They have many more sherds for study and have made a detailed analysis of the hundreds of glaze types that were excavated at the ancient Zuni site of Hawikuh by F. W. Hodge and that are now housed in the Museum of the American Indian, The Heye Foundation. When their
Fig. 105. Sherds of Tonto Polychrome jars; intrusive.
Fig. 106. Sherds of Gila-Tonto Polychrome bowls, interior view.
Fig. 107. Sherds of Gila-Tonto Polychrome bowls, exterior view.
Fig. 108. Sherds of Kwakina Polychrome bowls.
Fig. 109. Sherds of Heshota-uthla Polychrome bowls and jars.
Fig. 110. Sherds of Pinnawa Glaze-on-White bowls and jars.
Fig. 111. Sherds of Pinnawa Red-on-White bowls and jars.
Fig. 112. Sherds of Kechipawan Polychrome bowls and jars.
Fig. 113. Sherds of white-on-red pottery. Top row, Tularosa White-on-Red, St. Johns variety. Middle row, plain red interiors with exterior design similar to exteriors of St. Johns Polychrome pottery. Bottom row, plain red interiors with designs similar to exterior designs of Four Mile Polychrome pottery.

Fig. 114. Sherds of white-on-red jars, type unnamed.
Fig. 115. Sherds of Jeddito Black-on-Yellow bowls and jars.
monograph is published, we shall for the first time have an adequate, scholarly, and lengthy description of the ceramics from Hawikuh and the village of Atsinna that was excavated by the Woodburys.

Several of our Zuni types differ from published descriptions. The exteriors of the lower portions of bowls of Pinnawa Red-on-White, Pinnawa Glaze-on-White and Kechipawan Polychrome are red instead of white as given in published descriptions. Also, the interiors of our bowls of Pinnawa Red-on-White are slipped red all over instead of white and there are no designs on the interiors. We cannot say what these variations mean, for we have only a small number of sherds of these types and they may not be representative.

On the basis of one thin section of Kwakina Polychrome, one thin section of Pinnawa Glaze-on-White, 20 refired sherds, and microscopic examination of 40 fresh fractures, we are of the opinion that most of the Zuni glaze-decorated types were imported (the paste of the majority of the sherds appears to be of non-ferrous clay); and that most, if not all, of the Zuni types are tempered with sherds.

Of course, it is entirely possible that the residents of Table Rock Site imported the non-ferrous clay or traveled to an area where such clay was available and made the pottery at home. This statement could apply to any of the so-called “trade” or “imported” pieces. We have no way to check this last suggested possibility; but frankly, we do not take it very seriously.

One might also say that the ceramic types that we have designated “home-made” might conceivably have been imported or that the clay from which they were fashioned was brought in from elsewhere. This is, in effect, saying that no pottery was manufactured at Table Rock Site. We have no way of proving or disproving this conjecture; but I might add that we do not entertain it seriously.

I think the separation into local and imported types given above is valid and is probably 99 per cent correct.

**MISCELLANEOUS TYPES**

As will be noted, by referring to the tabulation of sherds for the Table Rock Site, we encountered a sprinkling of black on whites. It is difficult to account for their presence (except for one or two exceptions) since we found no trace of any earlier village or occupation (except the sub-floor burial in Room 5, noted above). Is it possible that our black on white sherds represent the gleaning of the pottery-makers? Did they pick up black on white sherds from other and earlier but deserted villages and
Fig. 116. Jar forms, culinary pottery.  

- a–d, f, Alma Plain, St. Johns variety; 
- e, tooled corrugated; 
- g, diagonal obliterated corrugated; 
- h, indented neck corrugated. About \( \frac{3}{4} \) natural size.
bring them home to be crushed and used for tempering their pottery? A point to be remembered in connection with this query is that we have evidence that a goodly amount of black on white pottery was crushed and used as temper in the Alma Plain Polished, and to some extent in the textured wares. At any rate, we have the following types, the presence of which is not easily explained unless the above conjecture is accepted: Tularosa Black-on-White, Snowflake Black-on-White, Kiatuthlanna Black-on-White, Red Mesa Black-on-White, Wingate Black on Red, and Queenino Polychrome. In addition, we have a restorable Puerco(?) Black-on-White jar from the floor of Room 2, plus a few miscellaneous sherds of another jar. Is it possible that these jars were heirlooms or is that too trite an explanation?

The White Mound Black-on-White bowl, the Woodruff Smudged jar, and the Alma Plain jar with handle accompanied the burial found under the floor of Room 5. The presence of this burial with its eighth century pottery presents a puzzle. How did it happen to be on this knoll, well buried below the old surface of the hill? Only two explanations occur to us: one is that a wandering band of people paused at this knoll long enough to bury one of their number; but this seems far-fetched. The other is that at Table Rock Knoll there were brief earlier settlements, all evidences of which were destroyed when Table Rock Pueblo was constructed. Actually, this explanation is weak because it is postulated on the presence of about 100 sherds (Tularosa, Snowflake, Kiatuthlanna, Red Mesa and Wingate Black on Red) plus some Puerco sherds and the burial just referred to. No architectural evidence of earlier habitations was encountered or recognized. We have no adequate explanation then for the presence of this burial—the only one encountered at all!

The white-on-red types are a real problem. We found 349 such sherds and have tentatively assigned them to 6 types, although we shall not name or describe these until we have more sherds, more whole pieces, and more evidence. In general, we feel that these types represent a white-on-red tradition that had been developing in the Reserve area (Tularosa White-on-Red, Rinaldo and Bluhm, 1956, p. 173), in the Gila Valley and in northern Mexico. I am thinking here particularly of Salado Redware (Gladin, 1930, p. 10), which is reminiscent of some of our red-on-white ware.

The white-on-red designs in some cases are similar to, if not identical with, those that occur on the exteriors of the bowls of Four Mile Polychrome; in other instances, the designs are the same as those found on the bowl exteriors of St. Johns Polychrome; still others are familiar but cannot be pinned down to any painted type that we know. In one instance—a small sherd—the exterior design is a broad white line on red background, and the interior of the sherd is pure Gila Polychrome design!
We made 14 thin sections of the 6 types. The petrographic analyses are not published here but are on file for reference. On the basis of the analyses and the designs, we have tentatively separated these sherds as follows:

Type A: 60 sherds, all from one jar; undoubtedly imported from Gila River Valley.

Type B: 45 sherds; probably made at Table Rock Site or near-by; sherd-tempered; all bowls; Four Mile Polychrome designs.

Type C: 145 sherds; exterior designs same as those on exteriors of bowls of St. Johns Polychrome, but interiors plain red; interiors and exteriors lustrous; locally made; bowls and jars.

Type D: 33 sherds; probably locally made; jar.

Type E: 56 sherds; probably locally made; bowls and jars(?).

Tularosa White-on-Red, St. Johns variety: 10 sherds. An obvious continuation as noted above of the Tularosa White-on-Red and Starkweather Smudged decorated traditions; all bowls.

Because of their distribution in the pueblo and their scarcity in the refuse, we guess that these types arrived during the latter part of the life of the pueblo.

SUMMARY

The local types appear to be the plain brown and red wares, the textured wares, some of the Gila and Tonto Polychromes, and some white-on-red types. Most of the Zuni glaze types and a Tonto Polychrome jar, plus the Hopi types and the Pinedale Polychrome, appear to have been brought in by trade. When I speak of “trade,” I mean that the manufactured pots were brought into the town and were exchanged or sold for some desirable items; or that the clay was imported from distant clay beds and that the pottery was manufactured with varied skills at the Table Rock Site. This implies that the Indians of our village had the ceramic skills of the Zuni, Hopi and Gila and Tonto potters. This seems highly improbable. We think that the finished pots arrived at Table Rock Pueblo from the Zuni, Hopi and Salado areas.

In an attempt to perceive trends of any kind, if they existed, and to procure any data concerning pueblo growth and change, we tried to squeeze more information from our collection of some 26,000 sherds by mapping the distribution of many of the pottery types that occurred at Table Rock Site. We made numerous photoprints of the ground plan of the pueblo. Then we took the total of each pottery type, calculated the
percentage of the total that was found in each room, and plotted on the
ground plan the rooms in which that type occurred and its relative abun-
dance in each one.

We made one map for each painted type. Then we took the total of
all the decorated sherds, calculated the percentage of each ware and on a
single map we plotted the predominant type for each room. In effect,
the operations are merely forms of graphing. I must admit that after all
this huffing and puffing nothing of earth-shattering importance came out
of it. In general, the distribution maps confirmed our observations on the
tri-pole and other seriations that we constructed.

Our general observations may be summed up as follows:

(1) The sequence of occupation could not be positively determined,
although the incomplete seriation corroborated to a degree what Rinaldo
had derived from his architectural study. Apparently, most of the pueblo
was built at one time and probably most of it was in use until the town
was abandoned. There were no "new" parts or "old" ones; and no room
had served as a rubbish midden.

(2) The first room built was probably Room 14 (this coincides with
the architectural details).

(3) The heaviest concentration of painted wares was in and around
the middle portion and west end of the pueblo: Rooms 1 to 8; Area 9;
Rooms 10 to 14; Area 15; Room 16; Area 17; Room 18; Area 19; and
Rooms 20 to 23 and 27.

(4) The pueblo was constructed at the time that Heshota-uthla Polychrome
was declining in popularity.

(5) Heshota-uthla was the earliest glaze-painted type and the white-
on-red types were the latest.

(6) Plain corrugated was waning in popularity when the pueblo was
built.

(7) Indented and obliterated corrugated were the two most predomi-
nant textured wares; and the heaviest concentration of these types fell
within the area listed under no. 3.

We had hoped that the study of distribution of pottery types by rooms
might tell us whether a particular clan preferred a certain pottery; or
whether rooms containing firepits contained more of one type than an-
other; or whether a family or clan living at one end of the pueblo was
responsible for trading certain types. None of these hopes bore fruit.
POTTERY ANALYSIS

**Alma Plain Polished, St. Johns Variety (A.D. 1350–1425?).**

**Paste:**
- Color: Dark gray (2.5 YR 3/0); gray (2.5 YR 5/0); red (2.5 YR 5/6); light red (2.5 YR 6/6); zoning frequent (Munsell Color Company, Inc., 1948).
- Texture: Usually compact, sparse to moderately tempered.
- Inclusions: Light buff and light reddish brown angular fragments (sherd) .16 mm. to 1.0 mm.; quartz, angular and sub-angular, .16 mm. to .36 mm.; dark brown particles up to .40 mm.
- Fracture: Usually straight; right angles to the vessel's surface; smooth.

**Surface Features:**
- Color: Exterior: dark gray (2.5 YR 3/0); reddish brown (2.5 YR 4/4); light red (2.5 YR 6/8). Interior: black (2.5 YR 2/0); dark gray (2.5 YR 4/0); reddish brown (2.5 YR 4/4).
- Evenness: Exterior: polishing marks along horizontal plane often present. Interior: slight undulations.
- Slip: Without a thin section, slip detection on this type of ware is impossible since it would be under .04 mm., if present.
- Thickness of vessel walls: 4 mm. to 7 mm.
- Forms: Wide mouth jars with outward flaring rims; rim diameter 22.5 cm. to 26.7 cm., average 24.6 cm.
- Cultural association: A.D. 1350–1425(?); found with Zuni glazes.

**Alma Plain Unpolished, St. Johns Variety (A.D. 1350–1425?).**

**Paste:**
- Color: Gray (2.5 YR 5/0); reddish brown (2.5 YR 5/4); light red (2.5 YR 6/8); zoning frequent.
- Texture: Granular; moderately to heavily tempered.
- Inclusions: Quartz, angular to sub-angular, .25 mm. to 1.3 mm.; black angular particles up to .50 mm.; light buff and reddish brown angular particles up to 1.3 mm.
- Fracture: Usually oblique angle to the vessel's surface; rough.

**Surface Features:**
- Color: Exterior: gray (2.5 YR 5/0); reddish brown (2.5 YR 5/4); light red (2.5 YR 6/8). Interior: black (2.5 YR 2/0); dark gray (2.5 YR 4/0); red (2.5 YR 4/6).
- Evenness: Occasional undulations exterior and interior.
- Slip: Absent.
- Thickness of vessel walls: 5 mm. to 9 mm.
Forms: Wide mouth jars; outward flaring rim; rim diameter 20.5 cm. to 27.8, average 25.5 cm.

Cultural association: Found with Zuni glazes.

San Francisco Red, St. Johns Variety (A.D. 1350–1425?).

Paste:
Color: Gray (2.5 YR 5/0); light reddish brown (2.5 YR 6/4); light red (2.5 YR 6/8).
Texture: Sparsely tempered; dense.
Inclusions: Light buff colored angular and sub-angular fragments (sherd) from .2 mm. to .9 mm. in maximum dimension; sub-angular quartz grains up to .4 mm. across; a few black angular particles up to .6 mm.
Fracture: Usually straight; at right angles to the vessel’s surface; rough.

Surface Features:
Color: Exterior: reddish brown (2.5 YR 5/4); red (2.5 YR 5/8); gray (2.5 YR 5/0) in fire clouded zones. Interior: light reddish brown (2.5 YR 6/4); light red (2.5 YR 6/8).
Luster: Exterior: usually lustrous but not uniform. Interior: dull.
Slip: Thick; weathering extremely common.
Thickness of vessel walls: 4 mm. to 6 mm.
Forms: Jars, rim diameter 10.7 cm. to 14.6 cm., average 12.8 cm.
Cultural association: A.D. 1350–1425?; found with Zuni glazes.
Remarks: Color of paste and slip uniform throughout.

Plain Corrugated; Indented Corrugated; Indented Neck Corrugated; Tooled Corrugated; Obliterated Corrugated (A.D. 1350–1425?).

Paste:
Color: Very dark gray (2.5 YR 3/0); gray (2.5 YR 5/0); red (2.5 YR 5/6); light red (2.5 YR 6/8).
Texture: Usually granular; sparsely to heavily tempered.
Inclusions: Light gray angular particles up to 1.3 mm.; quartz, angular and sub-angular, up to 1.3 mm.; black angular particles up to 1.0 mm.
Fracture: Usually straight and rough; can be oblique or at right angles to vessel’s surface.

Surface Features:
Color: Exterior: black (2.5 YR 2/0); gray (2.5 YR 4/0); red (2.5 YR 5/6); light red (2.5 YR 6/8). Interior: black (2.5 YR 2/0); gray (2.5 YR 4/0); red (2.5 YR 5/6).
Evenness: Interior: occasional slight undulations; polishing marks along horizontal plane frequent.
Texture: Interior: smooth to granular.
Luster: Interior: dull to lustrous.
Slip: Absent.
Thickness of vessel walls: 5 mm. to 8 mm.
Forms: Wide mouth jars; outward flaring rim; rim diameter 20.9 cm. to 28.0 cm.,
average 24.5 cm.
Cultural association: Found with Zuni glazes.
Remarks: Carbon deposits frequent on exterior; light brown organic residue occasionally found adhering to interior surface. Remnant of food(?).

Table 1.—Sherd Analysis, Table Rock Site

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# Table 2.—Totals of Sherds, Table Rock Site

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<td>Type C, White-on-Red, St. Johns Polychrome design</td>
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<td><strong>Total</strong></td>
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III. Artifacts

The artifacts from the pueblo provide examples of a technology that in many aspects had changed little from its much earlier form, but which also included most of the major crafts which one might expect to find in a developed stone age culture. Simple methods of manufacture such as pounding and pecking of stone tools continued to be used, while at the same time some stone tools were polished and other more complex crafts such as pottery-making and weaving with a true loom were developed. It is quite clear that these people had a firm and skilled grasp on the ways of making things handed down to them through at least two thousand years, and also had some knowledge of more developed manufactures.

However, the actual status of their knowledge is indicated only incompletely by the evidence from the pueblo. Small wooden objects such as bows and arrows, spoons and prayer sticks were not preserved and the few textile fragments that we recognized and saved are small and badly decomposed. The same is true for objects made of leather, gourd rinds, feathers and other more perishable materials. Nevertheless, this people left to us a unique record of a culture solidly based in the past, yet equally skillful in its more recent technology.

BASIS AND AIMS OF THE STUDY

The descriptions and analysis below are based on a re-examination at the Museum of all the smaller objects collected and on a representative series of many of the larger objects, as well as sketches, photographs and the field catalogue. The classification used is patterned primarily after Kidder (1932) with some modifications suggested by Woodbury (1954) and further changes exacted by the nature of the specimens in this particular assemblage, some of which are not described by either Kidder or Woodbury. In general, the descriptions follow practically the same outline used for artifacts from the Reserve area (Martín, et al., 1956; Martín, Rinaldo, and Barter, 1957).

The field catalogue was compiled with the assistance of Mr. Howard Anderson, Miss Elizabeth Morris and Mr. Mark Winter. The materials used in the stone artifacts were identified by Mr. Bertram J. Woodland,
Associate Curator of Petrology, and those in the shell artifacts by Dr. Fritz Haas, Curator Emeritus of Lower Invertebrates.

The primary aims in this analysis were three-fold: (1) to examine the artifacts for evidence of their methods of manufacture; (2) to study their provenience and associations for insights as to how they were used and the nature of the economy; and (3) to compare them with artifacts from other collections for the purpose of learning something about how they came to be present in this particular culture—whether as recent local innovations or as items traded in.

**METHODS OF MANUFACTURE**

*Ground and Pecked Stone:* A great number of stone tools and other objects were shaped by pecking and grinding. The marks left by these processes, such as small pits, shallow scratches and deeper striations, appear on some 375 stone artifacts out of 691 recovered (about 54 per cent). Many of these also have the smooth semi-polished surfaces which result from more prolonged grinding. The processes of shaping by grinding and pecking were used on the majority of classes of tools such as manos, metates, mortars, pestles, mauls and pot rests, as well as on the majority of all other stone artifacts.

Perhaps significant of the extent to which these people relied on these processes and how far they were developed is the fact that most of the ground and pecked stone artifacts were modified in this way not merely on one surface, as was more common during the earlier Vernon Phase, but on all surfaces—sides, edges and ends. The manos, for example, were not simple utilized stones, of convenient size for the purpose of grinding, roughened by pecking primarily on their working surfaces; they were, rather, certain slabs rough hewn to a pre-conceived symmetrical shape by pounding, pecking and grinding (as well as some flaking where the materials were suitable). Furthermore, after they had been formed into this symmetrical “blank” they were further reduced to their present shape by additional pecking to sharpen their working surfaces, and by their use in the milling process. A few of the categories of tools such as polishing stones, grinding stones and, occasionally, rubbing stones were modified from their natural shape simply by use, probably by grinding or abrading.

Hammerstones and abrading stones were probably the tools used in shaping the ground and pecked stone artifacts.

*Polished Stone:* Grooved stone axes, some of the arrow-shaft tools, a number of perforated stone discs, the stone pendants, and the beads were
finished totally or in part by polishing. The bits of all of the axes, and the grooves and other surfaces of two of them, were polished. Most of the surfaces of the arrow shaft tools were polished, and all of the surfaces of the pendants and beads. Nineteen artifacts (2.7 per cent of all the stone artifacts) were finished in this manner.

One grooved slab was found which appears to have been used for grinding and polishing.

_Chipped Stone:_ The majority of the chipped stone objects were relatively small implements (less than 5.0 cm. long) and were made from flakes; only occasionally they were made from blades and still more rarely from cores. Both percussion- and pressure-flaking were used. Flakes which were used as knives and scrapers are in the majority, and most of these show secondary chipping along only one edge. On some specimens this chipping tends to be coarse, and it covers most of the length of the edge, and in varying degrees, parts of the adjacent surface. On others, where the chipping is minute in size and unevenly spaced, it may be the result of use rather than intention. The saws are also much like the knives and the thinner scrapers in this aspect; the only characteristic which distinguishes them from ordinary flakes struck off at random is the deep, regularly spaced chipped indentations in their edges. Their broader surfaces are not modified.

On the other hand, at least twenty-five of the artifacts, primarily projectile points and blades, exhibit secondary chipping on all their major surfaces and edges. This chipping is fine and well-directed but not patterned; that is, none of them have been chipped with anything like parallel horizontal or parallel oblique flaking.

A few implements such as choppers and scraper planes were primarily percussion-flaked. These are large thick implements (see p. 270), and the flaking is coarse but well directed.

Chipping as a method of shaping stone was apparently not as important as grinding and pecking. Out of 691 stone artifacts found, 291 (42 per cent) were chipped, and many of these are mere cutting edges or utilized flakes, whereas most of the ground, pecked and polished stone artifacts were modified on all their surfaces.

Hammerstones were probably used for percussion-flaking, bone flakers such as those found in some of the rooms (see p. 276), for pressure-flaking.

_Shell Objects:_ The shell ornaments were first cut or sawed and then ground and polished. No incised or carved forms were recovered. Sawing is indicated on some specimens by short parallel scratches which may have resulted from the evenly spaced teeth of a chipped saw. The proc-
esses of cutting and grinding are inferred; the polishing is, of course, indicated by lustrous cut surfaces.

Conus tinklers and bracelet fragments were the principal shell objects recovered. The bracelets were made by cutting out the centers of the large shells of Glycymeris (a bivalve) and grinding the remaining section, including the rim, smooth, on the two parallel cut surfaces. The natural inner and outer surfaces of the shell were left unchanged, so that these bracelets are occasionally marked by a series of notches which preserve the natural markings of the original shell.

The Conus tinklers were formed by cutting off a section of the spire by means of an encircling groove. The remaining conical portion was then prepared for suspension on a string by means of a notch cut (and in some cases an additional hole drilled) through the shell near the apex of the cone.

Two flat pendants are trapezoid in outline. One has been merely cut to shape, the other cut, ground and polished.

There are only ten shell artifacts from the site. The lack of carved and incised specimens and the simplicity of the forms used seem to characterize the shell from the site.

Bone Tools: Bone awls and other bone tools are well represented at this site; apparently weaving and the other occupations in which these tools were employed were an important part of the technology. However, like so many of the chipped stone tools, these bone tools were modified very little beyond what was necessary to make them really useful implements, although a number were well polished and worked on all their surfaces.

Only a minimum amount of cutting, grinding, and polishing had been done on most of the specimens. Some of them retain from this process small diagonal scratches adjacent to the shaft. Many of the awls, in particular, were made from ulnas, and these were modified only on their points. This was the most common type of awl. Many others were made from metapodials and only one additional step was involved in their manufacture—specifically, splitting the bones in two lengthwise. Partially completed specimens indicate that this was done by deepening the natural central grooves with a flint knife or a saw.

Although the condyles of the bones from which the awls were made were normally left intact for a knob handle, a number of smaller specimens were recovered from which the head of the bone had been either partially or completely removed by cutting and grinding. On some specimens the shaft has been cut off square; on others it was ground off to a rounded shape. In a few of these smaller awls a shallow concave place, used for a grip, was ground and polished in the shaft near the blunt end.
Grooves which taper down in width at each end and which are probably awl-sharpening grooves were found in one of the floor flagstones of Kiva II (this particular slab contained a loom hole a few centimeters from the awl-sharpening groove), in the edge of the southern platform of this same kiva, and in one of the roofing slabs from Room 14.

Clay Objects: The only minor ceramic artifacts are the worked sherds. These probably were shaped by rubbing one sherd against another. The manufacture of pottery is covered in the section on pottery (see pp. 176–211).

HOW THE ARTIFACTS WERE USED

Manos and metates were found in close association in some of the dwelling rooms. All of the metates associated with the manos were of the flat slab type. They were found with from three to ten manos of different types and textures of grinding surfaces so there could be no one-to-one correlation of specific types of manos with certain types of metates, or even of certain textures of grinding surfaces. Furthermore, the correlation between a metate with a flat, fine-textured grinding surface and a mano with the same shape and texture of grinding surface is offset by the occurrence beside them of other manos with beveled or convex grinding surfaces of medium or coarse texture. However, the manner of their use is clearly indicated by the crosswise scratches and deeper grooves on many of the manos and the corresponding lengthwise scratches and striations on the metates. The manos with two or three adjoining grinding surfaces (beveled type), which were probably worn to this shape by being held in a tilted position on the metate (Bartlett, 1933, pp. 15–16), are usually of finer texture, although a few were made of vesicular basalt. The manos with grooves or pits in their edge for grips are normally thicker than average and heavier.

None of the metates were found built into bins, but rather were on the floors near the firepits or leaning against the walls. Although a few of the metates were made of vesicular basalt, most of them were sandstone. Sandstone was a more readily available material and being lighter in weight was easier to move. In general, the dwelling rooms seem too small to accommodate mealing bins. They average three or four feet shorter than dwelling rooms at Arizona W:10:51 (Wendorf, 1950, p. 23), Hawikuh (Hodge, 1922, p. 4), and Kinishiba (Baldwin, 1939a, p. 13) ruins, where dwelling rooms contained mealing bins. Furthermore, metates that could be moved would make for more flexible use of floor space. In this connection it should also be noted that the majority of rooms contained only one metate.
Only one trough metate was found, and only a few manos with grinding surfaces more convex lengthwise than crosswise; these are ordinarily associated with trough type metates. However, these manos were not associated with this metate; in fact, no manos were found in this room.

Most of those manos that have convex grinding surfaces are more convex crosswise than lengthwise and would fit perfectly well with most of the slab metates, which have grinding surfaces that are slightly concave lengthwise.

Although the find-spots of the grinding stones yielded no clues as to their use, some information is revealed by the manner in which they are faceted, polished and scratched. The facets are more distinct on the more thoroughly polished specimens (some specimens have small unpolished areas), and it appears from this that the polish resulted from use rather than from tumbling in water, or other natural causes. The scratches on these facets usually radiate toward a central area which is less highly polished and which bears fewer scratches. This seems to indicate that the stone was tilted at an angle while in use, and that only a small portion of the surface was employed at one time. These objects are much larger than pottery polishing stones and their facets and scratches are different from those on floor polishing stones (the latter have single flat facets and parallel scratches across one axis). The facets of these grinding stones are curved. They appear to have been used for grinding a small amount of some relatively soft, fine material because their scratches are narrow and shallow, and the stone is soft.

Rubbing stones were rare from this site. Both the shape of their rubbing surfaces and the shallow striations across their shorter dimensions indicate that they were used as manos. Possibly they were used as miniature or toy manos on the small metate-like grinding stones.

The polishing stones are similar in every respect to those from the historic Pueblo Indian villages. They were not numerous but neither was the indigenous polished pottery as plentiful as the unpolished. Natural polished pebbles of similar small size are very abundant on the hill where the ruin is situated, and it is possible that we failed to recognize the polishing stones, particularly if they were discarded before they became faceted.

The two pestles were identified by their oblong shapes and their battered used ends. Their faceted and striated sides indicate that they were also used as manos. Only one mortar was found and not in association with either pestle. Materials to be pulverized may have been crushed on the concave surface of one of the paint palettes or lapstones.
It is quite clear that the lapstones were used as paint grinding stones. Four of the five specimens bear traces of red pigment on their broad surfaces. The surfaces of two of these are concave, the others flat.

The painted manos are intermediate between the palette-lapstones on the one hand and painted tiles on the other. Four of them are like the painted slabs or tiles in that they have designs on them, one in black, red, and yellow, another in red and yellow, and the other two with red stripes only. The others are more like the palettes in that they have simply a circular area of red pigment on one surface. Similar specimens of the "palette" type were uncovered at Apache Creek Pueblo (Martin, Rinaldo, and Barter, 1957, pp. 58, 60, 61) and at LP2:24D, a site in the Cebolleta Mesa area (Ruppe and Dittert, 1952, p. 209, fig. 6). Here the authors were informed by the Indians that "similar paint grinders are still in use at Acoma."

Large ring slabs or perforated slabs were found in the roof fill among the roofing slabs of several of the rooms. It appeared from this that they were used as hatchway frames. Their use for this purpose or as lateral door frames is discussed by Mindeleff (1891, pp. 192–194, pl. C). One small ring slab was the top for the ventilator shaft of Room 21, another a horizontal divider between two levels of a niche in the north wall of Kiva II (see pp. 162, 174). Other worked slabs without the holes were probably doors or parts of hatchways or simply roof paving. They occurred most frequently in roof fills. Most of these slabs were rectangular. Three that were roughly circular may have been covers for the ring slabs with round holes.

Only one slab was smooth, thin and black. It was found near the fire-pit in Room 16 and appeared, from the carbon deposit on it, to have been used as a baking slab.

The notched slabs have a general resemblance to the notched slabs about this size that were uncovered as paving slabs in Point of Pines kivas (Smiley, 1952, pp. 25, 28, figs. 4, 8). There, interlocking stones were fitted into adjacent notches (op. cit., pls. I and III). However, those from the Table Rock Site have notches not only in the long edges but in the ends as well, and the end notches are deeper than those illustrated by Smiley. Our specimens are almost the same size and the position of the notches is virtually the same on both specimens. It has been suggested that they could have been used as part of a hatchway. If so, ladder poles could have rested in these notches.

The hammerstones were probably used for pounding and pecking. In historic times these were used for shaping stone tools and sharpening them (Hough, 1919, p. 270). These hand hammerstones have battered,
rough, angular surfaces such as result from this kind of use. They may have been used also for percussion-flaking of scrapers, choppers and other heavier chipped tools.

The hafted axes were probably used for cutting and working wood. Unfortunately no beam or pole ends were preserved and so we have no direct evidence of their use in cutting parts of the roof framework. Most of the axes were found on the floors of rooms but never in an association that might indicate their use. Hough (1919, pp. 270–271) implies their use in historic times for hewing stone as well as wood, and Haury and Hargrave (1931, p. 53) found evidence of a similar use in prehistoric times. The blades of most of these specimens and those of many other prehistoric axes are chipped or spalled off on one or more sides. In some instances this may have been the result of attempts to sharpen them by chipping rather than by grinding and polishing; in other instances it may have been the result of rough usage in hewing stone rather than wood.

There was no evidence of the use of these axes as ceremonial objects or as “war axes,” although some evidence has been cited by Parsons (1936, footnote to Stephen, p. 102) for their having had this use in historic times. Most of them were uncovered on the floors of dwelling rooms near firepits, but with both secular and ceremonial objects.

In historic times the hafted hammers or mauls were used in much the same way as hafted axes (Hough, 1919, pp. 270–271). It seems likely that in prehistoric times they were used for much the same purposes—breaking up firewood or shaping wall stones in the process of building. A few of them have battered and pitted ends as if they had been subjected to rough usage such as working stone, and a similar use for most of the mauls seems indicated. On the other hand, one of these grooved objects has one larger end which is flat and which has been ground smooth through use, and this implement appears to have been used as a combination pestle and mano. It may have been hafted or the groove may have been used as a means of grasping the implement more firmly. The smaller end is of different shape than the ends of the other grooved objects and could have been used as a sort of knob handle. In either case, hafted mauls used as pestles are reported by Driver and Massey (1957, p. 239) from the Plains and the Northwest Coast, and among the Navaho and Apache.

The sledge hammer is a large axe-like implement made from a metate fragment. It is grooved around the middle and supposedly had a handle. A roughly similar implement is reported by Pepper (1920, p. 187) at Pueblo Bonito and is said by him to have been used for quarrying rock. He gives no basis for this statement and only the most tenuous substantia-
tion is given by the associations and characteristics of this implement; for example, it would seem that unusually large stone slabs such as were used in the walls of Room 27 and Kiva I would require a special tool to break them out and this large heavy tool of tough igneous rock would seem to suit the purpose.

Although no cooking pots were found in position over the firepits, there seems little reason to doubt that the rectangular objects found in place in the fireboxes were used as pot supports. Most of these objects were located near the center of one side of the firepit, and it is assumed that the jar was braced between one corner of the firepit and the pot support. Alma Plain jars were found on the floors of Rooms 16 and 27, which had pot supports in their firepits; but the broken vessels in the other rooms with firepits and pot supports were of other shapes (bowls and plates). Only one of these objects was found in each firepit, so it seems unlikely that they were used as “fire-dogs” to support baking slabs, as were similar objects reported by Morley (1910, p. 10, pl. III) from the south house at Puye. No pot support was found in the firepit in Room 16 where the baking slab was uncovered, and how it was supported over the pit is unknown.

The chipped stone objects have been classified on the basis of their likeness to similar objects used by historic Indians and to those found in more significant associations in prehistoric sites. It seems fairly certain that the projectile points were used as arrowheads, but the specific uses of the blades, knives, and scrapers are less certain. It seems probable that these less refined implements were used as cutting edges in the shaping of wood and bone objects (Hodge, 1920, p. 73; Martin, et al., 1952, p. 335; Woodbury, 1954, p. 141). The use of saws or cutting edges with well-defined teeth seems indicated for use in shaping bone.

Although chipped stone was recovered from most of the rooms, the larger quantities of chips and chipped implements were concentrated in a relatively few “dwelling rooms” on the west knoll, and it would appear that certain individuals did more of this sort of work than others.

Probably almost all the conical holes drilled through the stone discs, pendants and worked sherds were made with the chipped stone drills. The points of these drills are relatively fine and fit easily into any of these drilled holes.

A few of the awls made from deer ulnas have faintly discernible grooves which cross their shafts close to the distal border of the semilunar notch. The specimens that have these grooves are also shorter and highly polished, as if they had been subjected to prolonged use. According to Kidder (1932, p. 227) and Hodge (1920, pp. 102–104) these are the marks of weaving tools.
A number of tools were found which are termed “flakers” here after the standard classification. These tools have blunted and beveled tips. It seems significant that these implements were recovered only from those rooms in which chipped stone implements and flake by-products were most frequent.

Two out of three of the conus tinklers and three out of four of the small perforated stone discs came from the kivas or the ceremonial cache below the floor of Room 13, and this seems to give some slight substantiation to the use of these objects for “ceremonial” purposes in this village. Perhaps the conus tinklers were attached to the end of a stick and served as rattles, as among the modern Pueblo Indians (Kidder, 1932, p. 191; Fewkes, 1896, p. 365).

DISTRIBUTIONS

The vast majority of manos from the Table Rock Site are rectangular in outline with flat grinding surfaces. Specimens which are relatively thin (2–4 cm. thick) are more abundant than the thicker (6–7 cm. thick) manos sometimes classified as loaf-shaped (Di Peso, 1953, p. 160; Stubbs and Stallings, 1953, p. 114). Beveled manos were common; 87 out of a total of 241 (36 per cent) were beveled types, and 15 additional specimens were transitional to beveled. The manos from this site also tend to be longer than those from the earlier periods (Pueblo I, II, early Pueblo III). These data corroborate Woodbury’s observations on manos from the Jeddito area (1954, pp. 70–71) and my own general observations on collections from other areas of the Southwest (Rinaldo, 1941, p. 59). The use of manos on which both surfaces are beveled into pairs of adjoining surfaces (“lozenge-shaped cross section”) appears to be a late innovation in the upper Little Colorado, as it is elsewhere in the Pueblo area. Kidder (1932, p. 71) and Bartlett (1933, pp. 15–16) have noted that beveled manos are preferred among the historic Pueblos.

With only two exceptions, the metates from the Table Rock Site are flat “slab” metates. These data also substantiate the trend noted by Bartlett (1933, p. 26, Table) and Woodbury (1954, pp. 58–59) wherein trough type metates are replaced by flat “slab” metates during Pueblo III and Pueblo IV. The single trough metate from the Table Rock Site apparently indicates that the earlier form continued to be used to some extent here as it did at Show Low, Pinedale (Haury and Hargrave, 1931, pp. 21, 53), and Awatovi (Woodbury, 1954, pp. 53, 59).

The metate with convex to flat grinding surface seems to be a local innovation and apparently is the result of a unique grinding technique. Metates exactly like this one have not been reported from this area or
neighboring areas. Although a metate with convex grinding surface was reported by Smith (1952a, p. 116, fig. 45, E) from a site in Big Hawk Valley north of Flagstaff, it differs in several characteristics from the Table Rock Site specimen.

None of the lapstones has the raised or decorated border of the Hohokam palettes such as those found at Snaketown (Haury, in Gladwin, et al., 1937, pp. 121–126), although the residue of pigment left on the surfaces of several of them seems to indicate that they were used as palettes. If so, they are of the unspecialized type which frequently occurs in the same sites as those with raised or decorated borders. Woodbury (1954, pp. 114–116) and Rinaldo (1941, p. 105) list sites on which palettes of both types occur. Moreover, they appear to have a generic relationship to the proto-palettes of the southern Mogollon and Hohokam (Sayles, 1945, pl. XLV; Haury, 1950, p. 329; Martin, et al., 1952, pp. 112, 138). Furthermore, these also were used in historic times (Stephen, 1936, p. 882).

Most of the large perforated worked slabs have a late distribution in the upper Little Colorado and adjacent areas. A possible exception is a reworked metate which forms the opening to a ventilator at Allentown (Roberts, 1939, p. 69, pl. 9). They have been recovered from such sites as Hawikuh, Kintyiel and Four Mile Ruin (see pp. 174–175).

The axes from the Table Rock Site are predominantly of the three quarters grooved type. This type of axe, like the large perforated worked slab, is typical of late ruins in an area south of the Hopi mesas and west of a line running south from Gallup to the Mimbres River (Kluckhohn and Reiter, 1939, p. 70). It appears at Pinedale (Haury and Hargrave, 1931, p. 53), Show Low (op. cit., p. 22, pl. 6), Kinishba (Baldwin, 1939b, p. 318, pl. 16), Arizona W:10:51 (Wendorf, 1950, p. 58, pl. XI), and Awatovi (Woodbury, 1954, pp. 27–31). This type also appears in this area at a few earlier sites such as Kiatuthlanna (Roberts, 1931, p. 156, pl. 33) but seems to have increased in popularity considerably in later times. It probably originated somewhere to the south, possibly in Mexico (Reed, 1951, p. 45).

Mauls at the Table Rock Site were almost equally divided between the three quarters grooved and the full grooved types. There is no indication that either of these types was imported, or that they were a recent innovation. In this area grooved mauls were used at least as early as Basket Maker III. They appear in the Forestdale Phase at the Bear Ruin (Haury, 1940, p. 103), at Vernon, Site 30 (Martin and Rinaldo, 1960), and at Kiatuthlanna (Roberts, 1931, p. 155, pl. 33); farther south they occur even earlier, going back in the full grooved form to Cochise times (Sayles and Antevs, 1941, p. 27, pl. IX) and the Pine Lawn Phase (Mar-
tin and Rinaldo, 1940, p. 56, fig. 25). They continued in use through Pueblo III and IV into historic times (Woodbury, 1954, p. 48), but the evidence is still too scanty to determine their popularity through time.

Both the coarse-grained arrow-shaft smoother with lengthwise groove and the fine-grained arrow-shaft straightener with transverse groove were popular at the Table Rock Site. These both appear to have a general Rio Grande–Mogollon Rim–Little Colorado distribution during Pueblo III and Pueblo IV (Woodbury, 1954, p. 104). The forms from the Table Rock Site are relatively simple. None of them has carved decoration or the elaboration of ridges as did those found at Canyon Creek (Haury, 1934, p. 120, pl. 72) or Kinishba (Baldwin, 1939b, p. 318, pl. 16). The most specialized form found at the site near St. Johns is the one which is triangular in cross section. These have been reported from Hinkle Park Cliff Dwelling (Martin, et al., 1954, p. 110, fig. 59), Ariz. W:10:51 (Wendorf, 1950, p. 63, fig. 26, b) and Foote Canyon Pueblo (Rinaldo, 1959, p. 250, fig. 107, b).

The sledge hammer is one of those rare objects which may be a local invention. The only other similar implements known from the Pueblo area were recovered from the Chaco Canyon ruins (Pepper, 1920, p. 187). At present the data are too scanty to determine anything definitely about the origin of this trait.

The pot supports from the Table Rock Site apparently had the same use as the clay pot supports from the Rio Grande area found at Pecos (Kidder, 1932, pp. 144–145), Forked Lightening (loc. cit.), Pindi Pueblo (Stubbs and Stallings, 1953, p. 96), and Leaf Water Pueblo (Luebben, 1953, p. 29). However, in material and to a lesser degree in shape they are more like objects from Foote Canyon Pueblo (Rinaldo, 1959, pp. 250–252), although there is one specimen illustrated from Pindi Pueblo (Stubbs and Stallings, 1953, pl. 16, bottom left) which is of similar form. Apparently the stone pot supports from Arizona represent a modification in material and form of the Rio Grande trait, or perhaps both types have their ultimate source elsewhere.

Rough cylinder stones, generally made of vesicular lava (as contrasted with the smaller polished cylinders sometimes called “medicine cylinders” or “paint cylinders”), are more common in the area west of St. Johns, although they have been reported from as far east as the SU Site in New Mexico (Martin and Rinaldo, 1940, p. 62, fig. 28). Westward from the Table Rock Site they have been found at the Stone Axe Ruin in the Petrified Forest (Hough, 1903, p. 322), at Wupatki (Colton, 1946, pp. 220, 288), at Nalakihu (King, 1949, pp. 91–93, fig. 70), at several sites in the Big Hawk Valley (Smith, 1952a, pp. 127–129), and at numerous earlier
sites around Flagstaff (Bartlett, 1934, p. 26). At Winona they were considered characteristic of the Sinagua by McGregor (1941, p. 178). They occur as late as Pueblo V horizons at Awatovi in the Jeddito area, although they are more common in Pueblo III and IV horizons at that site as they are elsewhere (Woodbury, 1954, pp. 181–182). Their distribution extends south and west at least to the Verde Valley where they have been reported from Tuzigoot (Caywood and Spicer, 1935, p. 86).

The thin plate-like hoes of hard stone have for the most part a distribution farther to the south and to the east. They appear early in the Mogollon culture at the SU Site (Martin, 1943, p. 222) and also at Crooked Ridge Village (Wheat, 1954, p. 130) and continued in use in the Reserve area up through the Tularosa and Foote Creek Phases (Martin, Rinaldo and Barter, 1957, p. 70, fig. 41; Rinaldo, 1959, p. 254). They are also reported from farther south at Mogollon Village (Haury, 1936a, p. 36) and from the Swarts Ruin (Cosgrove, H. S. and C. B., 1932, p. 45, pl. 44, b). During late Pueblo III and early Pueblo IV, contemporary with the Table Rock Site, they are reported from Canyon Creek Ruin (Haury, 1934, p. 120) and Show Low Ruin (Haury and Hargrave, 1931, pl. 6, fig. I, f). These are all of the oblong form without notches, except for one notched specimen found at Higgins Flat Pueblo (Martin, Rinaldo and Barter, 1957, pp. 70–72). Farther north, at Awatovi (Woodbury, 1954, p. 166) and at Pueblo Bonito (Pepper, 1920, p. 67, fig. 22; Judd, 1954, pp. 243–246), only notched forms occur but in association with the smooth polished celt-like *tchamakias* which are also considered to be a form of hoe.

The projectile points conform to a pattern that might be termed characteristic of Pueblo IV and perhaps of late Pueblo III, but which is actually only slightly different from the small triangular lateral notched point that was most popular during Pueblo II and Pueblo III. The primary difference between these point patterns is that the later point has a concave base. These concave-based points are widespread in distribution, having been recovered from Pecos (Kidder, 1932, p. 20, figs. 1, 4, 5) on the east to Tuzigoot in the Verde Valley on the west (Caywood and Spicer, 1935, p. 73), and from Awatovi on the north (Woodbury, 1954, p. 124) to Point of Pines on the south, at least (Wendorf, 1950, p. 69, fig. 32).

Jennings and Reed (1956, pp. 99–100, fig. 3) have suggested that the projectile points from the Southwest and the area east of the Rocky Mountains apparently show some significant similarities on definite horizons. If this is so, perhaps the similarity of the basal notched points of Arizona and New Mexico to the Toyah Points of Trans-Pecos Texas
(Suhm, Krieger and Jelks, 1954, p. 508, pl. 133) may prove an important connecting link for the later horizons.

The saws are similar to those from earlier sites in the area such as Vernon, Site 30 (Martin and Rinaldo, 1960). They also appear in sites of the Upper Gila from the San Francisco Phase up through the Foote Creek Phase. Hough reports them from several sites near Luna, Apache Creek, and along the Tularosa River (Hough, 1914, p. 23). They occurred at Tularosa Cave (Martin, et al., 1952, p. 182), at the Reserve Phase sites in the Pine Lawn Valley (Martin and Rinaldo, 1950, p. 484), at O Block Cave (Martin, Rinaldo and Bluhm, 1954, fig. 44), and at Foote Canyon Pueblo (Rinaldo, 1959, p. 258). They apparently increased in popularity through time, but their point of maximum abundance remains to be determined.

For some unknown reason shell ornaments were not common at the Table Rock Site. The fact that each object occurred separately suggests that they were left as individual offerings, or that they were lost. Shell objects occur in four principal forms and materials: bracelet fragments, tinkler pendants, whole shell beads and simple pendants. All were made from species of Glycymeris, Conus, Olivella and Laevicardium. All of these have their source on the Gulf of California or the Pacific Coast and were probably traded into the Little Colorado River area (Tower, 1945).

Thin shell bracelets occur throughout the southern area of the Southwest from the beginning of pottery-making, or possibly a little earlier (Martin and Rinaldo, 1940, p. 68; Martin, et al., 1952, pp. 117, 184), and continued in use at least into Pueblo IV. However, as Tower states (1945, p. 29), "... they appear to be scarce or lacking in the northern or eastern regions"; for example, they appear to be scarce in the San Juan area on the Mesa Verde and in the Ackmen-Lowry area, and they are lacking at Pecos and Pindi in the Rio Grande area. Nevertheless they are abundant in the south, particularly in ruins occupied during the later prehistoric periods such as the Swarts Ruin (Cosgrove, 1932, pp. 65-66).

In contrast to the over-all time distribution of the thin bracelets, conus tinklers apparently have predominantly a late distribution, from Pecos (Kidder, 1932, pp. 190-192) and Paa-ko Pueblos (Lambert, 1954, p. 160) on the east, to Winona (McGregor, 1941, pp. 281-284) on the west; and from Aztec (Morris, 1919, p. 94) on the north to Reeve Ruin (Di Peso, 1958, pp. 139, 141) on the south.

Bone tools were relatively abundant from the Table Rock Site as compared with Vernon, Site 30. Bone awls with the head of the bone intact were the most frequently encountered. Moreover, most of the awls were made of mammal leg bones; only a very few were made of bird bones.
The significance of these data is impossible to assess at the present. There appears to be an increase in the total number of bone tools from early to late, but whether this is proportional to an increase in population or is due to some other factor is for the time undetermined. All of the types recovered have been described by Hodge (1920) and by Kidder (1932, pp. 203–222); no unique types were discovered.

The large perforated bone disc is a unique trait at the Table Rock Site, although not in the Southwest. Kidder reports several from Pecos (Kidder, 1932, p. 240) and classifies them as possible spindle whorls; and Fewkes (1904, p. 95) reports one made from a turtle carapace found with a burial at Chevlon, which he also terms a spindle whorl. They are similar to whorls found at Canyon Creek (Haury, 1934, p. 110) made of wood, and may have been used in this way.

**SUMMARY AND CONJECTURES**

The relative abundance of milling stones, manos and metates, and especially the elaboration of manos (and perhaps metates) by painting them, when taken with the amount of corn found, seem to indicate the relative importance of corn and the milling process in the economy.

The value placed on ritual acts is perhaps less clearly represented, but it is borne out by caches of what we interpret as ceremonial objects—painted stones, polished small stone discs and dice, slivers of petrified wood, lumps of malachite pigment, shell objects, palette-lapstones, and painted manos and metates, to say nothing of the kivas themselves.

Architecture also seems to have been important in their way of life. This is evident not only in the structures themselves, which seem to have been constructed with a fair amount of skill and thought, but also in the axes, hammerstones, mauls, sledges and other implements believed to be associated with the activity of building.

The abundance of bone awls and the specialization of types seem to indicate that weaving of cloth and baskets and sewing skill had a well-defined niche in the culture.

It is difficult to assess the importance of hunting in the economy. A relative abundance of unworked bone and of bone tools was recovered. Projectile points, knives, flesher, flakers, arrow-shaft tools and other implements of types ordinarily placed in this hunting complex were well represented in the collections; so apparently a considerable proportion of the wherewithal of subsistence—meat, bones for tools, skins and hides for containers and clothing—must have been furnished in this manner.

More of the stone tools were shaped by grinding and pecking than by other methods. Relatively few were finished by polishing, and although
many flake implements were made and used, only a small minority of the total were chipped on all their major surfaces. Shell objects were few in number and not elaborate, and although bone tools were relatively abundant once again, many of them were unspecialized. All this seems to imply that the former inhabitants of Table Rock Site were relatively conservative in their approach and adaptation to their natural surroundings, as compared with their distant neighbors to the south, the Hohokam, for example; but there is a large enough proportion of more finished artifacts and sufficient advance in technology shown in other aspects of their material culture such as architecture and pottery-making to make it apparent that this attitude did not come about so much from a lack of leisure as from a reaction to a relatively harsh environment.

On the basis of the stone and bone artifacts alone one might guess that this Table Rock Site should be placed culturally in Pueblo IV and in the Western Pueblo Complex. Many of the more specialized tools and artifacts of the technology are those found most frequently in sites which have been classified as belonging in late Pueblo III or Pueblo IV. Also, a fair number of these have a distribution primarily in the western section of the Pueblo area, and mostly (although not entirely) in sites of the Western Pueblo Complex or its antecedents. These elements are manos with lozengeshaped cross section, flat metates (abundant), three quarters grooved mauls, elaborate or specialized arrow-shaft straighteners, pot supports, small triangular projectile points with concave bases, and an abundance of bone tools, among which the ulna type is numerically important.

A considerable number of the bone and stone tools are of forms which had remained in use since the earlier periods in the upper Little Colorado; many more of them are of types which occur at many sites throughout the Western Pueblo area and seem to repeat the modifications and trends in tools in this general area. A few artifact forms, such as the convex type metate and the sledge hammer, may have been local innovations, and some others, such as the shell ornaments and certain three quarters grooved axes, may have been traded into the area.

On the whole, the stone and bone tools resemble closely those of the historic Hopi and Zuni. There are some differences due to local innovation and the continuation in use of earlier tool types. Basically, however, the culture was Western Pueblo in other aspects, and it is not surprising that the more elaborate artifacts should be specialized in this direction.

CLASSIFICATION OF ARTIFACTS

In the following descriptive section, the term "average" designates an arithmetic mean; for example, the average width of Class II, C, manos
was obtained by taking the sum of the widths of the fifteen manos in that class (165.1) and dividing it by 15, which gives 11.0+ (see p. 237).

The measurements of individual specimens in classes of artifacts with eight or less items are given for each specimen, and in the same sequence for each of the dimensions. Thus, the first specimen itemized under “length” or “width” is also the first specimen itemized under “thickness” except where fragments were found in that class (as noted by the term “fragment” in parentheses).

The materials of which the metates and worked slabs were made were identified in the field by me.

GROUND AND PECKED STONE ARTIFACTS

MANOS
(Figures 117–121)

Single Grinding Surface

CLASS I, A

Description: Rectangular in outline, nine specimens with one end worn round, three specimens wedge-shaped in cross section, the others with surfaces parallel, grinding surface convex (fig. 117, c). Total 20.

Occurrence: Rooms 23, 26, 27, J, fill; Kiva II, fill; Rooms 1, 2, 9, 10, 11, 13, 18, 20, 21, floor; Kiva II, floor: Room 10, below floor.

Dimensions: Length, 20.5–30.0 cm., average, 24.0 cm.; width, 7.0–12.1 cm., average, 10.9 cm.; thickness, 2.1–6.3 cm., average, 4.1 cm.

CLASS I, B

Description: Rectangular in outline, three specimens with one end worn round, surfaces parallel, grinding surface convex lengthwise, slightly convex crosswise. Total 4.

Occurrence: Area 15, Room 26, fill; Rooms 22, 28, floor.

Dimensions: Length, 28.1, 26.6 cm. (fragments); width, 9.4, 10.3, 10.8, 10.9 cm.; thickness, 4.2, 3.6, 2.8, 3.7 cm.

CLASS I, C

Description: Rectangular in outline, nine specimens with ends worn round, four specimens wedge-shaped in cross section, the others with surfaces parallel, grinding surface slightly convex (figs. 118, c; 119, c). Total 17.

Occurrence: Rooms 5, 10, 14, 26, fill; Rooms 1, 6, 10, 12, 13, 16, 37, floor; Room 13, below floor.
Fig. 117. Manos, miscellaneous types. Length of $f$, 26.0 cm.
Fig. 118. Manos, miscellaneous types. Length of f, 29.5 cm.
ARTIFACTS

Dimensions: Length, 14.3–32.5 cm., average, 22.8 cm.; width, 9.2–12.3 cm., average, 11.1 cm.; thickness, 1.3–6.2 cm., average, 3.4 cm.

CLASS I, D

Description: Rectangular in outline, one specimen wedge-shaped in cross section, the others with surfaces parallel, grinding surface straight lengthwise, slightly convex crosswise. Total 3.

Occurrence: Rooms 14, J, fill.

Dimensions: Length, 25.0 cm., (fragments); width, 11.2, 11.2, 11.0 cm.; thickness, 3.3, 3.0, 2.7 cm.

CLASS I, E

Description: Rectangular in outline, seven specimens with one end worn round, two specimens wedge-shaped in cross section, the others with surfaces parallel, grinding surface flat (figs. 118, a, b; 119, d). Total 32.

Occurrence: Area 15, Rooms 5, 13, 14, 26, 27, 30, J, fill; Kiva II, fill; Rooms 1, 2, 6, 10, 12, 14, 16, 21, 27, floor.

Dimensions: Length, 14.4–31.1 cm., average, 23.5 cm.; width, 8.5–13.7 cm., average, 11.7 cm.; thickness, 1.1–7.1 cm., average, 3.8 cm.

CLASS I, F

Description: Rectangular in outline, five specimens with ends worn round, surfaces parallel, grinding surface transitional to beveled type (figs. 118, d–f; 119, f). Total 15.

Occurrence: Rooms 10, 13, 14, 23, 28, 30, fill; Rooms 10, 11, 13, 14, 27, K, floor.

Dimensions: Length, 18.9–29.5 cm., average, 23.9 cm.; width, 9.7–12.6 cm., average, 11.1 cm.; thickness, 1.7–4.2 cm., average, 3.1 cm.

CLASS I, G

Description: Rectangular in outline, five specimens with one round end, roughly triangular in cross section; grinding surface beveled in a double plane with a longitudinal ridge between (fig. 120, a–c). Total 27.

Occurrence: Area 9; Trench A, level 1; Trench B, level 2; Rooms 1, 11, 14, 22, 27, 42, J, fill; Kiva II, fill; Rooms 6, 22–24, 26–29, floor; Room 10, below floor.

Dimensions: Length, 17.7–28.6 cm., average, 23.3 cm.; width, 6.6–12.3 cm., average, 9.9 cm.; thickness, 1.3–4.5 cm., average, 2.5 cm.

CLASS I, H

Description: Rectangular in outline, trapezoid in cross section, grinding surface beveled in three planes. Total 1.
Fig. 119. Painted manos. Length of f, 25.9 cm.
Occurrence: Trench B, Square B-1, level 2.

Dimensions: Length, fragment, 4.4 cm.; width, 8.9 cm.; thickness, 2.3 cm.

Two Grinding Surfaces

CLASS II, A

Description: Rectangular in outline, one specimen with one end worn round; two specimens wedge-shaped in cross section, the others with surfaces parallel; grinding surfaces convex (fig. 120, f). Total 6.

Occurrence: Rooms 1, 14, 20, 21, 22, floor.

Dimensions: Length, 22.5, 14.4, 30.5, 22.3, 26.4 cm., fragment; width, 10.8, 9.3, 12.2, 11.1, 12.7, 10.6 cm.; thickness, 4.4, 3.0, 8.2, 3.2, 3.5, 4.1 cm.

CLASS II, B

Description: One specimen rectangular in outline, the other rectangular with one end worn round; one with wedge-shaped cross section, the other with surfaces parallel; grinding surfaces slightly convex (fig. 119, e). Total 2.

Occurrence: Rooms 11, 16, floor.

Dimensions: Length, 19.3, 19.4 cm.; width, 10.8, 11.1 cm.; thickness, 3.6, 3.0 cm.

CLASS II, C

Description: Rectangular in outline, two specimens with one end worn round; two specimens wedge-shaped in cross section, the other thirteen with surfaces parallel; grinding surfaces flat (figs. 117, a; 119, b; 120, d). Total 15.

Occurrence: Rooms 13, 27, 42, J, fill; Rooms 10, 14, 16, 20, 22, 23, 26, 29, floor.

Dimensions: Length, 19.5–33.0 cm., average, 26.3 cm.; width, 9.2–12.5 cm., average, 11.0 cm.; thickness, 1.3–5.4 cm., average, 2.9 cm.

CLASS II, D

Description: Rectangular in outline, three specimens with one end worn round; two specimens wedge-shaped in cross section, the other four with surfaces parallel; one grinding surface convex, the other slightly convex. Total 6.

Occurrence: Rooms 5, 11, 23, fill; Room 6, floor; Area 9.

Dimensions: Length, 25.4, 22.5, 23.3 cm., fragments; width, 10.3, 11.1, 11.3, 9.9, 11.4, 12.8 cm.; thickness, 3.5, 3.8, 3.6, 3.2, 6.0, 4.5 cm.
CLASS II, E

Description: Rectangular in outline, one specimen with one end worn round; surfaces parallel, one grinding surface convex, the other flat. Total 3.

Occurrence: Trench D; Rooms 14, 26, floor.

Dimensions: Length 11.7 cm., (fragments); width, 8.6, 11.1 cm., (fragment); thickness, 3.7, 2.5, 3.6 cm.

CLASS II, F

Description: Rectangular in outline, one specimen with one end worn round; one specimen wedge-shaped in cross section, the others with surfaces parallel; one grinding surface slightly convex, the other flat (figs. 120, e; 117, b). Total 7.

Occurrence: Trench B, levels 3, 4; Room J, fill; Rooms 3, 6, 14, 21, floor.

Dimensions: Length, 29.4, 27.7, 28.2, 24.4 cm., (fragments); width, 8.1, 9.3, 11.4, 12.1, 11.3, 11.2, 10.1 cm.; thickness, 2.1, 5.9, 5.0, 3.0, 4.8, 3.7, 3.8 cm.

CLASS II, G

Description: Oblong in outline; surfaces parallel, one grinding surface convex lengthwise, slightly convex crosswise, the other convex crosswise, slightly convex lengthwise (fig. 117, d, f). Total 3.

Occurrence: Kiva II, fill; Rooms 22, 27, floor.

Dimensions: Length, 26.0, 24.2, 12.2 cm.; width, 12.0, 11.8, 10.2 cm.; thickness, 3.9, 3.8, 5.9 cm.

CLASS II, H

Description: Rectangular with round ends in outline; one specimen wedge-shaped in cross section, the others with surfaces parallel; one grinding surface convex, the other transitional to beveled shape (fig. 117, e). Total 3.

Occurrence: Room 24, fill; Rooms 2, 11, floor.

Dimensions: Length, 22.6, 21.7, 20.6 cm.; width, 9.7, 10.6, 11.7 cm.; thickness, 3.5, 3.3, 3.4 cm.

CLASS II, I

Description: Rectangular with one end worn round; wedge-shaped in cross section, one grinding surface slightly convex, the other transitional to beveled shape. Total 1.

Occurrence: Room 14, fill.

Dimensions: Length, fragment, 11.1 cm.; width, 8.0 cm.; thickness, 3.1 cm.
Fig. 120. Manos, miscellaneous types. Length of $f$, 22.3 cm.
CLASS II, J

Description: Rectangular in outline, surfaces parallel, one grinding surface flat, the other transitional to beveled shape (fig. 119, a). Total 9.

Occurrence: Area 15; Trench B, Square B-3, level 1; Room 5, fill; Rooms 11, 16, 30, 37, floor.

Dimensions: Length, 23.2–28.0 cm., average, 25.8 cm.; width, 7.7–12.2 cm., average, 10.8 cm.; thickness, 1.0–2.8 cm., average, 2.1 cm.

CLASS II, K

Description: Rectangular in outline, surfaces parallel, both grinding surfaces transitional to beveled shape (fig. 121, a). Total 2.

Occurrence: Room 24, fill; Room 34, trench outside wall.

Dimensions: Length, 25.1, 25.4 cm.; width, 12.0, 10.0 cm.; thickness, 2.4, 3.6 cm.

CLASS II, L

Description: Rectangular in outline, one specimen with one end worn round, one specimen wedge-shaped in cross section, the others with surfaces parallel; one grinding surface beveled in a double plane with a longitudinal ridge between, the other transitional to beveled shape. Total 4.

Occurrence: Kiva II, fill; Rooms 16, 21, 26, floor.

Dimensions: Length, 25.9, 14.5 cm., (fragments); width, 12.0, 9.9, 10.5, 11.2 cm.; thickness, 3.2, 2.8, 2.0, 3.7 cm.

CLASS II, M

Description: Rectangular in outline, surfaces parallel, one grinding surface convex, the other beveled in two planes (fig. 121, b). Total 2.

Occurrence: Rooms 27, 29, floor.

Dimensions: Length, 25.5 cm., (fragment); width, 9.4, 7.8 cm.; thickness, 3.4, 3.2 cm.

CLASS II, N

Description: Rectangular in outline, one specimen with one end worn round; surfaces parallel, one grinding surface slightly convex, the other beveled in two planes. Total 4.

Occurrence: Trench A, Square A-11, level 1; Room 26, fill; Rooms 9, 22, floor.

Dimensions: Length, (all fragments, 7.3–18.2 cm.); width, 8.4, 7.9, 9.5, 10.4 cm.; thickness, 2.3, 2.6, 2.4, 2.6 cm.
Fig. 121. Manos with beveled grinding surfaces. Length of f, 23.7 cm.
CLASS II, O

_Description:_ Rectangular in outline, five specimens with one end worn round, roughly triangular in cross section; one grinding surface flat, the other beveled in two planes with a longitudinal ridge between (fig. 121, e). Total 33.

_Occurrence:_ Area 9; Trench A, Square A-11, level 1; Trench B, Square B-1, level 4; Trench D; Rooms 5, 11, 14, 23, 26, 27, 29, 30, 39, J; Kiva II, fill; Rooms 6, 7, 9, 16, 20–22, 29, 31; Kiva II, floor; Room 14, below floor.

_Dimensions:_ Length, 16.2–29.9 cm., average, 24.7 cm.; width, 6.4–11.7 cm., average, 8.1 cm.; thickness, 1.1–3.8 cm., average, 2.1 cm.

CLASS II, P

_Description:_ Rectangular in outline, one grinding surface flat, the other beveled in three planes (fig. 121, d, e). Total 14.

_Occurrence:_ Trench B, Square B-5, level 1; Rooms 11, 14, 30, 42, fill; Rooms 6, 10, 13, 14, 30, 34, 38, floor.

_Dimensions:_ Length, 22.7–26.9 cm., average, 25.0 cm.; width, 7.8–10.9 cm., average, 9.1 cm.; thickness, 1.0–2.6 cm., average, 1.8 cm.

CLASS II, Q

_Description:_ Rectangular in outline, one specimen with one end worn round; lozenge-shaped in cross section; both grinding surfaces beveled in two planes (fig. 121, f). Total 4.

_Occurrence:_ Area 15; Trench B, Square B-5, level 3; Room 27, fill; Room 10, floor.

_Dimensions:_ Length, 23.7, 29.9 cm., (fragments); width, 9.4, 10.8, 11.4, 10.9 cm.; thickness, 2.1, 4.3, 3.4, 3.0 cm.

MANO BLANKS

_Description:_ Roughly rectangular in outline; surfaces parallel, rough; edges chipped and rough hewn. Total 4.

_Occurrence:_ Rooms 27, 39, fill; Rooms 16, 21, floor.

_Dimensions:_ Length, 24.5, 28.0, 20.2 cm., (fragment); width, 11.7, 11.0, 10.1, 12.6 cm.; thickness, 3.0, 4.6, 7.6, 8.1 cm.

MATERIALS

All classes: Sandstone, 226 specimens; vesicular basalt, 15 specimens. Very few beveled manos of vesicular basalt.
ARTIFACTS

Rubbing Stones

CLASS I

Description: Oval in outline, surfaces parallel, single rubbing surface convex lengthwise, slightly convex crosswise (fig. 122, e). Total 1.

Occurrence: Trench B, Square B-4, level 4.

Dimensions: Length, 8.7 cm.; width, 7.1 cm.; thickness, 3.2 cm.

Material: Limestone.

CLASS II

Description: Rectangular in outline, surfaces parallel, two flat rubbing surfaces (fig. 122, d). Total 1.

Occurrence: Room 16, floor.

Dimensions: Length, 7.7 cm.; width, 4.9 cm.; thickness, 2.2 cm.

Material: Sandstone.

Polishing Stones

Description: Oval to round in outline, single flat faceted polished surface (fig. 122, a–c). Total 5.

Occurrence: Trench A, Square A-2, level 1; Rooms 20, J, fill; Room 22; Kiva I, floor.

Dimensions: Length, 3.2, 4.9, 5.5, 4.4, 5.2 cm.; width, 3.0, 3.9, 5.7, 2.3, 3.2 cm.; thickness, 2.0, 2.5, 3.5, 2.0, 1.9 cm.

Material: Quartzite, chalcedony, basalt, granite.

Grinding Stones

Description: Oval in outline, surfaces parallel; grinding surfaces convex with several facets polished and with scratches radiating toward center of grinding surface (fig. 123). Total 8.

Occurrence: Area 15; Rooms 13, 16, 20, 23, 30; Kiva I, floor.

Dimensions: Length, 13.5, 10.4, 11.6, 10.7, 11.4, 14.6, 13.2, 12.6 cm.; width, 10.4, 10.0, 10.4, 9.7, 10.5, 9.8, 9.2, 11.7 cm.; thickness, 4.3, 5.4, 3.4, 3.7, 3.6, 3.8, 4.9, 4.9 cm.

Material: Limestone.

Pestles

Description: Multiface type; oval in outline, with two or more flat surfaces ground down through use; ends round to flat, pecked and battered (fig. 124, g, h). Total 2.

Occurrence: Trench B, Square B-2, level 3; Room 16, fill.
Fig. 122. Rubbing stones, d, e, and polishing stones, a–c. Length of e, 8.7 cm.
Fig. 123. Grinding stones. Length of lower right specimen, 12.6 cm.
Fig. 124. Pestles, g, h, and hammerstones, a–f, i. Length of i, 11.0 cm.
Dimensions: Length, 11.4, 11.7 cm.; width, 5.6, 7.8 cm.; thickness, 5.8, 6.3 cm.

Material: Limestone, calcareous sandstone.

**Metates**

**Flat Type**

*Description:* Oblong in outline, many with round ends, some with square corners, edges and bottoms worked, grinding surfaces flat or concave lengthwise and striated lengthwise (figs. 125, 126). Total 32.

*Occurrence:* Areas 9, 17; Rooms 5, 23, 24, 26–28; Kiva II, fill; Rooms 1, 2, 6, 12, 13, 16, 18, 21, 26, 30, floor.

*Dimensions:* Length, 36.1–55.0 cm., average, 41.8 cm.; width, 23.0–34.1 cm., average, 28.8 cm.; thickness, 3.5–10.5 cm., average, 6.1 cm.

*Material:* Sandstone, 26 specimens; vesicular basalt, 6 specimens.

**Trough Type**

*Description:* Made from large oblong block of stone; trough open both ends; ends slightly convex, trough concave lengthwise, sides worked, bottom rough (fig. 127). Total 1.

*Occurrence:* Room 25, floor.

*Dimensions:* Length, 45.0 cm.; width, 32.0 cm.; thickness, 13.2 cm.; width of trough, 21.0 cm.; depth of trough, 7.1 cm.

*Material:* Vesicular basalt.

**Convex Type**

*Description:* Rectangular in outline, bottom and sides of slab rough hewn; grinding surface convex at one end, flat at the other (fig. 128). Total 1.

*Occurrence:* Room 23, floor.

*Dimensions:* Length, 43.7 cm.; width, 28.4 cm.; thickness, 4.1 cm.

*Material:* Sandstone.

**Small Metate-Like Grinding Slabs**

*Description:* Rectangular in outline, one or more broad surfaces worn smooth but subsequently striated. Total 3.

*Occurrence:* Area 15; Room 14, fill; Room 9, floor.

*Dimensions:* Length, 17.8, 34.6 cm., (fragrant); width, 11.9, 13.0, 14.0 cm.; thickness, 3.8, 2.2, 5.0 cm.
Fig. 125. Metate with flat grinding surface. Length, 31.5 cm.

Fig. 126. Metate with flat grinding surface. Length, 47.6 cm.

Fig. 127. Metate; trough open at both ends. Length, 45.0 cm.

Fig. 128. Metate; one end convex, the other flat. Length, 43.7 cm.
Lapstones

*Description:* Rectangular in outline, surfaces parallel, smooth, flat or with shallow cavity; traces of pigment on one surface; edges and surfaces worked (fig. 129). Total 5.

*Occurrence:* Room J, fill; Rooms 6, 12, 16, floor.

*Dimensions:* Length, 26.2, 19.5, 12.2, 14.4 cm., (fragment); width, 18.2, 14.1, 11.5, 9.7, 11.1 cm.; thickness, 2.5, 2.3, 2.6, 3.9, 3.0 cm.

*Material:* Sandstone.

Worked Slabs

LARGE RING SLABS

*Description:* Rectangular with rounded corners in outline; edges chipped or rough hewn; one surface smooth, flat, the other surface uneven; two specimens pierced with large oval hole, two specimens pierced with rectangular hole (figs. 130, 131). Total 4.

*Occurrence:* Rooms 5, 6, 25, 42, roof fill.

*Dimensions:* Length, 85.0, 65.0, 67.0, 80.1 cm.; width, 75.0, 80.2 cm., (fragments); thickness, 3.5, 4.0, 4.7, 2.5 cm.; diameter of oval hole, 44.0, 43.1 cm.; length of rectangular hole, 35.0, 37.1 cm.; width of hole, 30.1 cm., (fragment).

*Material:* Sandstone.

SMALL RING SLABS

*Description:* Thin slabs, one rectangular, one trapezoidal in outline, pierced with large round holes; broad surfaces worked smooth, edges chipped (figs. 69, 82). Total 2.
Occurrence: Area 17, top of vent to Room 21; Kiva II, niche in north wall.

Dimensions: Length, 40.0, 23.5 cm.; width, 36.0, 23.5 cm.; thickness, 1.8, 1.0 cm.; diameter of hole, 18.0, 8.5 cm.

Material: Sandstone.

### SMALL RECTANGULAR SLABS

Description: Oblong in outline; broad surfaces uneven, edges rough hewn or chipped. Total 3.

Occurrence: Rooms 20, 21, floor.

Dimensions: Length, 14.3, 21.4, 21.6 cm.; width, 12.2, 12.9, 14.7 cm.; thickness, 1.6, 1.5, 1.7 cm.

Material: Not recorded.

### NOTCHED WORKED SLABS

Description: Rectangular in outline, much longer than wide, broad surfaces worked smooth, flat; notch in one end near one side and near opposite end in opposite side (fig. 132). Total 2.

Occurrence: Room 25, fill; Room 13, floor.

Dimensions: Length, 80.1, 80.0 cm.; width, 26.1, 29.1 cm.; thickness, 1.9, 2.3 cm.; notch in end, 9.0 cm. from closest side.

Material: Sandstone.

### GROOVED SLAB

Description: Rectangular in outline, surfaces worked smooth; in upper surface a straight shallow groove which runs roughly parallel to opposite edge; groove striated across short dimension, tapering slightly from end to end (fig. 133). Total 1.

Occurrence: Room 14, fill.

Dimensions: Length, 42.8 cm.; width, 24.9 cm.; thickness, 3.6 cm.; width of groove, 3.1 cm.

Material: Sandstone.

### LARGE ROUND SLABS

Description: Roughly circular in outline, edges rough, irregular; one broad surface uneven, the other flat, smooth. Total 3.

Occurrence: Room 12, fill; Room 30, floor.

Dimensions: Length, 29.5, 45.0, 63.0 cm.; width, 26.1, 44.0, 54.8 cm.; thickness, 3.7, 2.0, 1.7 cm.

Material: Sandstone.
Fig. 130. Ring slab with round hole. Length, 85.0 cm.

Fig. 131. Ring slab with rectangular hole. Length, 80.1 cm.
LARGE RECTANGULAR SLABS

*Description:* Rectangular in outline, edges chipped or rough hewn, surfaces flat, fairly even (fig. 134). Total 27.

*Occurrence:* Area 9; Rooms 2, 13, 14, 21, 23, 27, 39; Kiva II, fill; Rooms 1, 3, 6, 16; Kiva I, floor.

*Dimensions:* Length, 35.0–84.0 cm., average, 59.0 cm.; width, 21.5–76.0 cm., average, 40.6 cm.; thickness, 0.7–5.0 cm., average, 2.4 cm.

MORTAR

*Description:* Roughly keystone shape in outline, bottom and edges rough hewn; upper surface smooth, with shallow oval cavity in middle. Total 1.

*Occurrence:* Room 30, floor.

*Dimensions:* Length, 37.8 cm.; width, 26.1 cm.; thickness, 7.4 cm.; length of cavity, 18.7 cm.; width of cavity, 13.5 cm.; depth of cavity, 2.3 cm.

HAMMERSTONES

*Description:* Pitted, battered and chipped pebbles, angular and oval shapes to rough spheres (fig. 124, a–f, i). Total 8.

*Occurrence:* Trench B, Square B-4, level 4; Kiva II, fill; Rooms 6, 11, 13, 39; Kiva I, floor.

*Dimensions:* Length, 6.3, 8.3, 9.8, 11.0, 6.1, 7.0, 8.5, 7.7 cm.; width, 6.2, 6.7, 7.8, 8.6, 5.1, 5.9, 7.7, 7.7 cm.; thickness, 5.3, 5.6, 6.7, 9.1, 5.0, 5.5, 6.2, 6.7 cm.

*Material:* Chalcedony, flint, felsite, granite.

AXES

THREE QUARTERS GROOVED TYPE

*Description:* Grooved near poll end, one specimen with round poll, the others nearly flat, one side straight, the other bluntly convex; bit ground and polished to edge; blades chipped or spalled off on one surface; one specimen chipped to shape (fig. 135, a–c, e, f). Total 5.

*Occurrence:* Rooms 11, 13, 14, 29, J, floor.

*Dimensions:* Length, 17.2, 9.1, 12.2, 12.9, 10.4 cm.; width, 8.3, 6.1, 7.7, 6.7, 5.7 cm.; thickness, 6.1, 4.3, 5.2, 4.7, 4.3 cm.; groove width, 2.5, 2.7, 0.8, 3.3, 1.8 cm.; groove depth, 0.5, 1.1, 0.7, 0.7, 0.2 cm.

*Material:* Basalt (four specimens), felsite (one specimen).

FULL GROOVED TYPE

*Description:* Groove close to poll end, poll round, both sides of bit straight; bit pecked, ground and polished to edge (fig. 135, d). Total 1.
Fig. 132. Notched slab. Length, 80.1 cm.

Fig. 133. Grooved slab. Length, 42.8 cm.

Fig. 134. Rectangular slab. Length, 70.1 cm.
Fig. 135. Grooved axes. Length of f, 10.4 cm.
Fig. 137. Sledge hammer. Length, 20.1 cm.

Fig. 136. Grooved mauls. Length of lower right specimen, 14.3 cm.
Occurrence: Room 6, floor.
Dimensions: Length, 12.1 cm.; width, 6.2 cm.; thickness, 5.5 cm.; groove width, 4.4 cm.; groove depth, 0.5 cm.
Material: Basalt.

MAULS

THREE QUARTERS GROOVED TYPE

Description: Three specimens rounded rectangle in cross section; one specimen cylindrical in cross section, ends nearly flat, groove located near middle (fig. 136, upper row). Total 4.

Occurrence: Room 21, fill; Rooms 11, 16, 21, floor.
Dimensions: Length, 12.5, 12.6, 10.2, 13.4 cm.; width, 10.5, 7.8, 8.5, 10.4 cm.; thickness, 7.7, 7.9, 6.8, 8.9 cm.; width of groove, 2.7, 3.2, 2.0, 1.6 cm.; depth of groove, 1.3, 1.0, 1.1, 0.4 cm.
Material: Vesicular basalt.

FULL GROOVED TYPE

Description: Ovoid to rectangular in outline and cross section, grooved around middle; two specimens with pitted ends, one specimen with one end battered and one end smooth and bluntly convex (fig. 136, lower row). Total 3.

Occurrence: Room K, fill; Room 11, floor; surface near Room 24.
Dimensions: Length, 14.3, 9.8, 9.5 cm.; width, 11.1, 10.0, 10.8 cm.; thickness, 7.1, 7.4, 8.8 cm.; width of groove, 2.4, 2.3, 2.4 cm.; depth of groove, 0.3, 0.8, 0.6 cm.
Material: Felsite, vesicular basalt, amygdaloidal basalt.

SLEDGE HAMMER

Description: Large axe-like object, full grooved near middle, groove deep on sides, shallow on faces, edges of bit tapering toward center; wedge-shaped in lengthwise cross section, thickest at poll end, which is rough and battered; edges spalled off, made from metate fragment, section of metate grinding surface on one face (fig. 137). Total 1.

Occurrence: Room 12, below floor.
Dimensions: Length, 20.1 cm.; width, 17.5 cm.; thickness, 12.1 cm.
Material: Basalt.

POT RESTS

Description: Oblong in outline, surfaces parallel, broad surfaces convex; one specimen a re-used mano (fig. 74). Total 5.
Occurrence: Rooms 6, 16, 24, 27, 38, firepits.

Dimensions (one specimen): Length, 24.5 cm.; width, 11.2 cm.; thickness, 7.9 cm. Dimensions of four specimens were not recorded; they were approximately the same size.

Material: Sandstone.

Cylinder Stones

Description: Small cylindrical stones with somewhat round ends, worked on all surfaces (fig. 138, right). Total 2.

Fig. 138. Cylinder stones and ball. Length of lower right specimen, 11.8 cm.

Occurrence: Rooms 13, 39, floor.

Dimensions: Length, 9.3, 11.8 cm.; diameter, 3.8, 4.3 cm.

Material: Scoriaceous basalt.

Ball

Description: Roughly spherical object with some sections of surface smooth, perforated through one side, partial perforation parallel to the first at the same distance from the opposite side (fig. 138, left). Total 1.

Occurrence: Kiva II, fill.

Dimensions: Length, 7.0 cm.; width, 6.3 cm.; thickness, 5.3 cm.

Material: Scoriaceous basalt.

Gaming Piece

Description: Small polished rectangle of stone, one surface incised diagonally from corner to corner, the opposite surface incised lengthwise with three parallel lines (fig. 139, g). Total 1.

Occurrence: Room 13, cache below floor.
Fig. 139. Shell and stone ornaments and stone die (g). Length of $h$, 5.4 cm.
Fig. 140. Grooved abraders. Length of h, 10.8 cm.
Dimensions: Length, 3.3 cm.; width, 2.5 cm.; thickness, 0.6 cm.
Material: Calcite.

**Grooved Abraders**

**SINGLE GROOVED TYPE**

Description: Small oblong blocks of coarse-grained stone with single shallow groove running lengthwise through center of flat surface (fig. 140, a–c–g). Total 6.

Occurrence: Trench B, Square B-2, level 4; Room 27, fill; Rooms 9, 11, 16, floor.

Dimensions: Length, 7.4, 9.8, 9.4, 7.3, 9.1, 8.2 cm.; width, 6.0, 5.1, 5.5, 4.0, 6.0, 3.9 cm.; thickness, 2.8, 3.4, 3.3, 2.0, 2.8, 2.5 cm.; width of groove 2.6, 0.5, 0.7, 0.8, 0.9, 0.7 cm.

Material: Sandstone.

**MULTIPLE GROOVED TYPE**

Description: Oblong pebble of coarse-grained stone with broad deep grooves in surfaces, grooves tapering at ends (fig. 140, h). Total 1.

Occurrence: Room 21, floor.

Dimensions: Length, 10.8 cm.; width, 7.2 cm.; thickness, 4.1 cm.

Material: Sandstone.

**Arrow Shaft Tools**

**TRANSVERSE TYPE**

Description: Small blocks of fine-grained stone with polished groove across one broad surface at right angle to long axis; four specimens with bottom surface flat, polished; one specimen with convex bottom surface (figs. 140, b; 141, a–c, e, g). Total 6.

Occurrence: Trench B, Square B-4, level 4; Room 14, fill; Room 39, floor; surface near Room 24.

Dimensions: Length, 4.1, 7.3, 6.4, 7.4, 9.7, 8.9 cm.; width, 2.5, 5.3, 3.1, 4.8, 7.5, 6.6 cm.; thickness, 2.1, 3.2, 2.5, 3.3, 2.5, 4.4 cm.; width of groove, 1.0, 0.9, 0.8, 1.0, 0.9, 0.8 cm.; depth of groove, 0.3, 0.5, 0.5, 0.8, 0.15, 0.3 cm.

Material: Calcareous sandstone, limestone, basalt.

**TRIANGULAR TYPE**

Description: Cross section in shape of truncated triangle; elliptical in outline; single polished transverse groove across flat apex of object near center (fig. 141, d, f). Total 2.

Occurrence: Trench B, Square B-4, level 4; Room 11, fill.
Fig. 141. Arrow shaft tools. Length of g, 7.4 cm.
Fig. 142. Hoes. Length of right specimen, 21.5 cm.

Dimensions: Length, 6.1, 9.6 cm.; width, 3.0, 3.4 cm.; thickness, 2.5, 3.5 cm.; width of groove, 1.0, 1.3 cm.; depth of groove, 0.4, 0.5 cm.
Material: Basalt, limestone.

CHIPPED STONE ARTIFACTS

Hoes

Description: Thin plates of stone, long oval in outline, one or more edges chipped, one long edge polished (fig. 142). Total 3.
Occurrence: Room 16, fill; Room 22, floor; Room 23, below floor.
Dimensions: Length, 21.5, 36.0 cm., (fragment); width, 8.0, 9.2, 11.6 cm.; thickness, 0.8, 2.1, 1.3 cm.
Material: Fine-grained basalt.
ARTIFACTS

Fig. 143. Projectile points. Length of i, 1.8 cm.

PROJECTILE POINTS

TYPE S

Description: Small triangular point, side-notched toward base; six specimens with concave base, two with straight base; secondary chipping on all major surfaces, lenticular cross section; notches 0.15–0.3 cm. deep (fig. 143, a–c, f, g, i). Total 8.

Occurrence: Trench B, Square B-3, level 1; Room 11, fill; Rooms 1, 2, 5; Kiva I, floor; Area 15.
Dimensions: Length, 3.0, 2.9, 2.8, 1.8, 1.8, 3.0, 1.9 cm., (fragment); width, 1.2, 1.3, 1.5, 1.3, 0.9, 1.1, 1.2, 1.3 cm.; thickness, 0.2, 0.2, 0.3, 0.4, 0.3, 0.2, 0.3, 0.3 cm.

Material: Flint, chalcedony, obsidian.

UNFINISHED PROJECTILE POINTS AND TIP FRAGMENTS

Description: Three points with triangular blades and unfinished bases; two tip fragments (fig. 143, h). Total 5.

Occurrence: Room 26, fill; Rooms 6, 16, 21, 37, floor.

Dimensions: Length, 3.3, 2.3, 2.9 cm., (fragments); width, 1.9, 1.2, 1.3, 1.3, 2.0 cm.; thickness, 0.4, 0.4, 0.3, 0.3, 0.5 cm.

Material: Flint.

TYPE L

Description: Roughly triangular blades without notches; edges of blade nearly straight (fig. 144, d, e). Total 2.

Occurrence: Room 10; Kiva I, floor.

Dimensions: Length, 4.6, 4.3 cm.; width, 2.5, 2.3 cm.; thickness, 0.7, 0.7 cm.

Material: Chalcedony.

TYPE M

Description: Roughly oval blades, edges and base convex (figs. 143, d; 144, c, f). Total 3.

Occurrence: Trench A, Square A-9, level 1; Room 14, floor; Room 12, below floor.

Dimensions: Length, 6.5, 4.8, 3.7 cm.; width, 4.3, 2.8, 3.7 cm.; thickness, 0.9, 0.5, 0.5 cm.

Material: Flint.

TYPE P

Description: Pointed at both ends, one edge more convex than the other (fig. 144, b). Total 1.

Occurrence: Room 6, fill.

Dimensions: Length, 8.6 cm.; width, 3.7 cm.; thickness, 0.8 cm.

Material: Flint.

LARGE-STEMMED KNIFE

Description: Blade oval, edges convex, shoulders round; stem straight, medium broad. base concave, base made thin by removal of two or three small flakes from both surfaces, stem one third of total length (fig. 144, a). Total 1.
Fig. 144. Blades. Length of $f$, 4.8 cm.
Occurrence: Room 39, fill.
Dimensions: Length, 9.0 cm.; width, 3.8 cm.; thickness, 1.1 cm.; length of stem, 2.9 cm.; length of blade, 6.1 cm.

REWORKED PROJECTILE POINT

Description: Edges of blade straight, end of blade concave, lateral notched close to base, expanding stem narrower than shoulder, base convex (fig. 145, f). Total 1.
Occurrence: Trench B, Square B-1, level 4.
Dimensions: Length, 3.4 cm.; width, 2.6 cm.; thickness, 0.6 cm.
Material: Flint.

Drills

PLAIN-SHAFTED TYPE

Description: Long slender implements, two specimens lenticular in cross section, one specimen triangular in cross section; secondary chipping on all major surfaces and edges; taper from broad base to pointed tip (fig. 145, h–j). Total 3.
Occurrence: Rooms 6, 13; Kiva I, floor.
Dimensions: Length, 4.3, 4.6 cm., (fragment); width, 1.5, 1.0, 1.2 cm.; thickness, all 0.5 cm.
Material: Flint.

WIDE-FLANGED TYPE

Description: Long slender implement, lenticular in cross section with abruptly widening flange base (fig. 145, g). Total 1.
Occurrence: Room 13, floor.
Dimensions: Length, 3.9 cm.; width, 1.0 cm.; thickness, 0.3 cm.
Material: Flint.

Saws

Description: Thin flakes with one, two or three edges deeply chipped into a series of regularly spaced notches which form a serrate cutting edge; no regularity in shape of outline (fig. 145, a–e). Total 12.
Occurrence: Surface near Room 39; Area 17; Trench A, Square A-3, level 1; Trench B, Square B-1, level 1; Rooms 5, 11, fill; Rooms 13, 20, 26-B, 27, 39, floor; Kiva I, below floor.
Dimensions: Length, 2.4–5.3 cm., average, 3.9 cm.; width, 1.9–4.1 cm., average, 3.2 cm.; thickness, 0.2–1.1 cm., average, 0.6 cm.
Material: Flint, chert, chalcedony.
Fig. 145. Saws, end scrapers, drills. Length of j, 4.6 cm.
Knives

Description: Random flake type, oblong thin flakes with some chipping along one or more edges, in many instances possibly from use; no regularity of outline (fig. 146). Total 141.

Occurrence: Areas 15, 17, 19; Trench A, levels 1, 2; Trench B, levels 1–4; Trench C; Rooms 3–6, 10, 11, 21, 25; Kiva I, fill; Rooms 1–3, 5, 6, 9–11, 14, 16, 21, 22, 24, 26, 26-B, 28–30, 32; Kiva I, floor.

Dimensions: Length, 2.3–7.6 cm., average, 4.1 cm.; width, 1.1–4.9 cm., average, 2.5 cm.; thickness, 0.2–1.1 cm., average, 0.6 cm.

Material: Chert, flint, agate, jasper, chalcedony, sandy limestone.

Scrapers

Small, Rough, Thick Type

Description: Small, rough, thick flakes, roughly oval or oblong in outline, with some steep secondary chipping along one or more edges (fig. 147, e–i). Total 101.

Occurrence: Areas 15, 19; Trench A, levels 1, 2; Trench B, levels 1–4; Trench C; Rooms 10, 11, 14, 16, 22, 23, 39; Kiva I, Kiva II, fill; Rooms 5, 6, 10, 12–14, 16, 20, 23, 25, 26, 29: Kiva I, floor; Rooms 10, 12, 13; Kiva I, below floor.

Dimensions: Length, 3.0–6.8 cm., average, 4.6 cm.; width, 1.6–6.7 cm., average, 3.3 cm.; thickness, 0.6–2.5 cm., average, 1.1 cm.

Material: Flint, chert, chalcedony, felsite.

Large, Rough, Thick Type

Description: Large, rough, thick flakes, roughly oval or oblong in outline with some steep secondary chipping along one or more edges (fig. 147, a, b). Total 4.

Occurrence: Trench A, Square A-3, level 1; Trench B, Square B-1, level 4; Room 10, fill; Room 1, floor.

Dimensions: Length, 7.2, 7.6, 7.7, 7.3 cm.; width, 4.4, 3.9, 4.6, 3.4 cm.; thickness, 8.0, 1.2, 1.7, 1.1 cm.

Material: Flint, fine-grained basalt.

End Scrapers

Description: Medium thick flakes, oblong in outline, steeply chipped at one end (fig. 145, d, e). Total 2.

Occurrence: Trench A, Square A-2, level 2, Square A-5, level 1.

Dimensions: Length, 2.6, 3.8 cm.; width, 2.1, 1.9 cm.; thickness, 0.9, 0.9 cm.
Fig. 146. Flake knives. Length of bottom right specimen, 7.6 cm.
Choppers

**UNIFACE TYPE**

*Description:* Large, rough, angular implements with one margin steeply chipped by percussion-flaking to cutting edge (fig. 148, a, b). Total 3.

*Occurrence:* Trench A, Square A-8, level 1; Rooms 11, 30, floor.

*Dimensions:* Length, 7.4, 6.9, 9.7 cm.; width, 7.3, 7.1, 6.7 cm.; thickness, 3.5, 6.6, 3.0 cm.

*Material:* Chert, glassy lava.

**BIFACE TYPE**

*Description:* Large, rough, thick, angular implements with part of margin chipped from both surfaces to form cutting edge (fig. 148, c–e). Total 3.

*Occurrence:* Room 10, fill; Rooms 11, 26B, floor.

*Dimensions:* Length, 13.8, 6.9, 9.3 cm.; width, 10.8, 6.8, 8.3 cm.; thickness, 4.5, 5.3, 3.7 cm.

*Material:* Glassy lava.

**Scraper Plane**

*Description:* Small, thick nodule with one side steeply chipped to cutting edge. Total 1.

*Occurrence:* Room 5, floor.

*Dimensions:* Length, 4.9 cm.; width, 4.0 cm.; thickness, 3.9 cm.

*Material:* Chalcedony.

**STONE AND SHELL ORNAMENTS**

**Pendant**

*Description:* Tabular type, roughly rectangular in outline with one convexly curved end; hole drilled through this end. Total 1.

*Occurrence:* Kiva II, niche in north wall.

*Dimensions:* Length, 1.5 cm.; width, 1.1 cm.; thickness, 0.2 cm.

*Material:* Turquoise.

**Small, Perforated Discs**

*Description:* Thin smooth discs with polished surfaces and edges; single hole drilled through center from one surface (fig. 139, b, d). Total 4.

*Occurrence:* Room 5; Kiva I; Kiva II, floor; Room 13, below floor.

*Dimensions:* Diameter, 5.6, 3.9, 3.3, 3.5 cm.; thickness, 0.4, 0.3, 0.3, 0.5 cm.

*Material:* Limestone, chalk, fine-grained silt-stone.
Fig. 147. Side scrapers. Length of i, 6.1 cm.
TABLE ROCK PUEBLO, ARIZONA

SHELL BRACELETS

Description: Thin, curved section of bivalve shell; two specimens roughly rectangular in cross section, one roughly triangular in cross section (fig. 139, a). Total 3.

Occurrence: Room 20, fill; Rooms 13, 31, floor.

Dimensions: Diameter, (all fragments); width, 0.5, 0.6, 0.3 cm.; thickness, 0.4, 0.6, 0.6 cm.

Material: Glycymeris (Glycymeris) maculata Broderip.

SHELL BEADS

CONUS TINKLER TYPE

Description: Hollow cone shape, with semilunar-shaped notch cut near one end for string to pass through (fig. 139, c, e). Total 3.

Occurrence: Trench B, Square B-1, level 1; Kiva I, vent, floor.

Dimensions: Length, 2.4, 3.0, 2.1 cm.; width, 1.7, 1.8, 1.4 cm.; thickness, 0.9, 1.6, 1.0 cm.

Material: Conus gladiator Broderip.

OLIVELLA TYPE

Description: Olivella shell with spire ground off so that shell could be strung. Total 1.

Occurrence: Surface on north side of knoll.

Dimensions: Length, 1.0 cm.; diameter, 0.6 cm.

Material: Olivella sp.

DISC TYPE

Description: Thin but wide, curved section of shell, smoothed by grinding. Total 1.

Occurrence: Trench B, Square B-1, level 2.

Dimensions: Length, 2.0 cm. (fragment); width, 0.8 cm.; thickness, 0.3 cm.

Material: Shell (not identified).

PENDANTS

Description: Thick, broad, curved section of bivalve shell, one end straight, the other convex; one specimen with original scallop markings of natural shell, the other specimen ground and polished smooth (fig. 139, f, h). Total 2.

Occurrence: Trench B, Square B-4, level 1; Room 35, floor.
Fig. 148. Choppers. Length of \( r \), 6.9 cm.
**Dimensions:** Length, 5.4, 5.2 cm.; width, 2.0, 1.6 cm.; thickness, 0.3, 0.5 cm.

**Material:** *Glycymeris (Glycymeris) maculata* Broderip, *Laevicardium elatum* Sowerby.

**BONE ARTIFACTS**

**Bone Awls**

**TYPE WITH HEAD INTACT**

*Description:* Head of bone intact, other end ground and polished to a sharp point (fig. 149, a–d). Total 17.

*Occurrence:* Trench B, levels 1 and 3; surface near Area 19; Rooms 10, 23, 26, 29, fill; Rooms 3, 11, 21, floor.

*Dimensions:* Length, 5.2–15.9 cm., average, 10.9 cm.; width, 0.8–3.6 cm., average, 2.6 cm.; thickness, 0.6–2.2 cm., average, 1.5 cm.

**TYPE WITH HEAD SPLIT**

*Description:* Head of bone unworked except by original splitting; made from long bones split in half (fig. 149, g, h, m). Total 7.

*Occurrence:* Trench B, Square B-2, level 2; Room 25, fill; Rooms 11, 16, 21, 22, floor; Room 5, below floor with Burial 1.

*Dimensions:* Length, 16.4, 7.1, 9.5, 6.8, 15.2, 17.7, 17.0 cm.; width, 1.5, 1.5, 1.8, 2.0, 1.5, 2.0, 1.5 cm.; thickness, 0.7, 1.0, 1.0, 1.4, 0.8, 0.5, 0.9 cm.

**TYPE WITH HEAD PARTLY WORKED DOWN**

*Description:* Head of bone partly worked down, other end ground and polished to a point; made from long bones split in halves or quarters (fig. 149, i). Total 4.

*Occurrence:* Trench B, Square B-3, level 3; Room 42, fill; Rooms 28, 39, floor.

*Dimensions:* Length, 8.8, 14.0, 16.1, 12.8 cm.; width, 0.9, 1.0, 1.3, 1.2 cm.; thickness, 0.5, 0.8, 0.3, 1.1 cm.

**TYPE WITH HEAD OF BONE REMOVED AND WORKED**

*Description:* Head of bone removed, cut off squarely or ground down to a round end, other end ground and polished to a point; made from long bones split in halves or quarters (fig. 149, e, f, k). Total 10.

*Occurrence:* Trench B, Square B-4, level 1, Square B-1, level 2; Rooms 27, 39, fill; Rooms 9, 13, floor; Area 15.
Fig. 149. Bone awls. Length of l, 17.7 cm.
TABLE ROCK PUEBLO, ARIZONA

Dimensions: Length, 5.8–15.0 cm., average, 9.7 cm.; width, 0.7–1.3 cm., average, 0.9 cm.; thickness, 0.4–1.3 cm., average, 0.6 cm.

SPLINTER TYPE

Description: Splinters of long bone with one end ground and polished to a point (fig. 149, f). Total 3.

Occurrence: Rooms 10, 42, fill; Room 31, floor.

Dimensions: Length, 14.9, 12.5, 10.1 cm.; width, 1.4, 1.2, 0.7 cm.; thickness, 0.8, 0.8, 0.7 cm.

FRAGMENTS

Description: Points, tips and awls with heads broken off; made from long bones split in halves or quarters. Total 11.

Occurrence: Area 15, Test Trench II, Trench B, Square B-3, levels 3 and 4; Rooms 11, 13, fill; Rooms 16, 31, 35, floor; Room 16, below floor.

Dimensions: Length, 3.8–9.5 cm., (fragments); width, 0.4–1.2 cm., average, 0.7 cm.; thickness, 0.4–0.7 cm., average, 0.5 cm.

PINS

Description: Long slender pieces of bone, roughly circular in cross section, sharpened at one end, cut off square at the other (fig. 149, l). Total 2.

Occurrence: Trench B, Square B-3, level 3; Room 3, floor.

Dimensions: Length, 14.2 cm., (fragment); diameter, 0.5, 0.7 cm.

BONE FLAKERS

BLUNT AWL TYPE

Description: Sections of long bone, ends cut and worked to shape; one end round and blunt, the other a blunt point (fig. 150, g). Total 6.

Occurrence: Trench B, Square B-2, level 4; Rooms 6, 13, 14, floor; Room 13, below floor.

Dimensions: Length, 13.3, 20.3, 9.4 cm., (fragments); diameter, 1.1, 1.2, 1.2, 1.2, 0.7 cm.

OBLONG TYPE

Description: Short oblong tool with one end beveled and blunted, the other cut off square (fig. 150, a, b). Total 3.

Occurrence: Area 15; Rooms 5, 16, floor.

Dimensions: Length, 8.6, 8.9 cm., (fragment); width, 1.4, 1.7, 1.4 cm.; thickness, 1.1, 1.6, 1.4 cm.
Fig. 150. Bone flakers, knife, fleshers, and disc. Length of g, 13.3 cm.
**Bone Fleshers**

Description: Section of large long bone split in half with one channeled surface, one end broken, the other cut and beveled to form edge (fig. 150, d, e). Total 2.

Occurrence: Room 16, fill; Room 14, floor.

Dimensions: Length, 20.2, 11.4 cm.; width, 2.7, 2.4 cm.; thickness, 1.8, 1.7 cm.

**Bone Knife**

Description: Portion of scapula, ridge ground off flat, one end cut and ground to round outline; edge thin, sharp, scratched (fig. 150, e). Total 1.

Occurrence: Room 16, floor.

Dimensions: Length, 6.5 cm.; width, 2.8 cm.; thickness, 1.4 cm.

**Large Disc of Bone**

Description: Large thin bone disc with hole drilled through center, ridges of original bone ground off flat (fig. 150, f). Total 1.

Occurrence: Room 18, floor.

Dimensions: Diameter, 8.0 cm.; thickness, 0.3 cm.

**Bone Tubes**

Description: Sections of hollow bone, ends cut off square and smoothed by grinding (fig. 151, a, c-g, i, j). Total 13.

Occurrence: Trench B, Square B-3, level 3; Square B-4, level 4; Area 15; Rooms 6, 25, 29, fill; Rooms 9, 14, 27; Kiva II, floor.

Dimensions: Length, 1.6–10.6 cm., average, 5.0 cm.; diameter, 0.5–2.0 cm., average, 1.3 cm.

**Bone Whistles**

**VENTED TYPE**

Description: Hollow tube, section of long bone, pierced by a single hole near one end, the other end cut off square (fig. 151, h). Total 1.

Occurrence: Kiva I, floor.

Dimensions: Length, 8.5 cm.; width, 1.5 cm.; thickness, 0.9 cm.

**STRING TYPE**

Description: Short hollow tube with three small notches cut on opposite sides at one end (fig. 151, b). Total 1.

Occurrence: Area 17, trench.

Dimensions: Length, 4.1 cm.; diameter, 1.6 cm.
Fig. 151. Bone tubes and whistles. Length of $j$, 9.8 cm.
ANTLER HAMMER

Description: Burr end of antler and short section above it; burr worn convex. Total 1.

Occurrence: Room 16, floor.

Dimensions: Length, 9.6 cm.; width, 4.0 cm.; thickness, 3.5 cm.

Material: Deer (*Odocoileus hemionus*) antler.

WORKED SHERDS

CLASS I

Description: Circular shape, edges ground smooth, three specimens with hole drilled through center (fig. 152, d, i–l). Total 8.

Occurrence: Areas 15, 19; Trench B, Square B-4, level 2; Room 31, floor; Kiva I, ventilator tunnel; Room 12, below floor.

Dimensions: Diameter. 3.4, 3.4, 5.3, 4.6, 6.7, 4.8, 4.1, 3.4 cm.; thickness, 0.6, 0.6, 0.6, 0.5, 0.6, 0.7, 0.6, 0.5 cm.

Material: Alma Plain, Alma Smudged, Wingate Black on Red, indeterminate black-on-white.

CLASS II

Description: Miscellaneous odd shapes, some nearly triangular, others nearly rectangular, some oval (fig. 152, a–c, e–h). Total 33.

Occurrence: Kiva II, fill; niche in north wall, floor.

Dimensions: Length, 1.2–3.2 cm., average, 2.0 cm.; width, 1.0–2.6 cm., average, 1.4 cm.; thickness, 0.5–0.7 cm., average, 0.6 cm.

Materials: Jeddito Black-on-Yellow.

UNWORKED STONE

SELENITE

Description: Sheets of selenite, angular in outline, two larger specimens rectangular, possibly used for "windows." Total 8.

Occurrence: Trench B, Square B-2, level 2; Rooms 5, 10, fill; Rooms 4, 5, 16, floor.

Dimensions: Length, 5.5, 4.0, 4.5, 4.1, 9.7, 2.5, 8.5, 9.5 cm.; width, 3.9, 3.3, 3.0, 1.2, 6.5, 1.7, 6.0, 9.5 cm.; thickness, 0.2, 0.2, 0.2, 0.9, 0.8, 0.1, 1.0, 1.6 cm.

MALACHITE

Description: Small lumps of green stone, four specimens ground off flat on one or more sides; three specimens without facets; possibly pigments. Total 8.
Fig. 152. Worked sherds. Length of \( l \), 4.8 cm.
Occurrence: Trench A, Square A-3, level 1, Square A-2, level 2; Room 20, fill; Rooms 1, 10, 11, 12, floor; Kiva I, below floor.

Dimensions: Length, 3.2, 2.4, 1.2, 1.2, 2.2, 0.4, 0.4, 1.7 cm.

PETRIFIED WOOD

Description: Short, narrow sticks of petrified wood with rough surfaces and flat ends. Total 7.

Occurrence: Trench B, Square B-2, level 1; Room 12, floor.

Dimensions: Length, 8.2, 7.0, 7.3, 6.2, 5.5, 5.1, 5.5 cm.

ARTIFACTS OF PERISHABLE MATERIALS

One basket fragment and two cloth fragments were recovered. All three artifacts are charred, fragile and fragmentary, and consequently the following identifications are tentative.

BASKET FRAGMENT

Description: Coiled, bundle foundation. Sewing splint passes around one bundle, through part of adjoining bundle, and then through split in sewing splint next to it. Stitch slant is /. Two coils and four stitches per centimeter. Stitches non-interlocking, split. Stitches cover foundation. Consists of center fragment of basket base. Basket probably round in shape. Center coil bent in circle and bound by sewing splints which span two bundles here.

Occurrence: Area 9, corner between Rooms 8 and 11.

Dimensions: Fragment, 9.0 X 6.0 cm.

Material: Bundles of shredded fiber, sewing elements flexible wood(?) splints.

CLOTH FRAGMENT NO. 1

Description: Plain weave cloth. Wefts woven in plain over-one-under-one weave across warps. Four warps and four wefts per centimeter.

Occurrence: Trench B, Square B-1, level 4.

Dimensions: Length, 3.0 cm.; width, 2.5 cm.

Material: Single ply, S twist yarn.

CLOTH FRAGMENT NO. 2

Description: Coarse cloth or matting. Warp threads fragmentary. Weft appears to pass under 6, over 6 threads; 6 threads per centimeter.

Occurrence: Trench B, Square B-2, level 4.

Dimensions: Length, 6.5 cm.; width, 2.5 cm.

Material: Single ply, S twist yarn.
IV. Summary

Fifty rooms and two kivas of a pueblo located near St. Johns, Arizona, were excavated in the season of 1958. At one time the pueblo may have comprised from 60 to 100 rooms.

Instead of being massed in a square unit or built around a formal quadrangle, as at Kinishba and Foote Canyon Pueblos, the room units were strung out in two banks. The southern one had been 3 rooms wide, but one row had eroded away. Between the two rows was an irregularly shaped narrow area or “plaza.” The general layout, however, most closely resembles the plaza type of layout as defined by Stubbs in his very useful guide (Birds-Eye View of the Pueblos, University of Oklahoma Press, 1950).

The southernmost row of rooms was provided with firepits, which were more or less aligned. Arrangements of interior features such as niches and ventilators were oriented toward the plaza (noted as areas 15, 17, and 19 on the ground plan).

From a detailed study of the architectural features, we conjecture that the pueblo had been laid out according to a pre-conceived plan and that the southern tier of rooms was built as a unit. The masonry, on the whole, was mediocre. It resembled some of the stonework found at Foote Canyon Pueblo and parts of the masonry found at Hawikuh and Point of Pines. Details concerning sequence of construction are given in Chapter I. The pueblo was mostly one story high. The rooms provided with firepits were more or less uniform in size.

We guess that most of the rooms were dwelling or storage areas; but the recovery of painted manos, lapstone-palettes, a metate that may have been painted, and a painted mural decoration caused us to wonder if some of the rooms might not have been used for religious purposes, perhaps for family ceremonies. Units lacking firepits may have served as storage or sleeping quarters.

Ventilators were found in Rooms 3, 21–23, and 27. There were several types. Those in Rooms 21 and 27 were provided with vertical shafts that were placed in the plaza. One vertical shaft was topped with a small perforated ring slab (Room 27). A rectangular, window-like opening was located in the common wall between Rooms 22 and 23. Both of
these rooms had firepits and it is therefore difficult to guess which room was served by this opening, although we think that the firepit in Room 23 might have been better served by this opening, as the window is closer to that firepit. A chimney-like flue placed in the corner of Room 3 probably helped ventilate this room.

There was only one lateral doorway in the entire pueblo.

Only two kivas were discovered and these were excavated. A vigorous search was made for more kivas but none was found. It is possible that a kiva had been incorporated in some of the rooms now eroded away from the southern edge of the pueblo.

Kiva I was at the foot of the hill on the southeast side of the hill. It was rectangular and had been somewhat damaged by erosion and wash from above. Definite evidence of a forked-type ventilator opening below floor level was uncovered on the south side.

Kiva II, on top of the hill, was rectangular; it had been incorporated in the north bank of rooms, betwixt Rooms 1 and 39. The floor, while deeper than that of most rooms, was about as deep as those in Rooms 11 and 39. It was paved with flagstones, under which we found a fine layer of sand. On the south side of the kiva was a platform, also paved with slabs. The ventilator mouth was a lateral opening in the platform and the shaft ran under the platform. The firepit was rectangular and was lined with sandstone slabs. It was located in the south half of the kiva in line with the niche, the ash pit, the deflector, and the ventilator tunnel opening. An interesting niche in the north wall, containing two levels, yielded worked sherds (mostly Jeddito Black-on-Yellow), and a turquoise pendant (see discussion on pp. 173–175). The general appearance and construction of this kiva reminded us of some of the kivas at Hawikuh and Pinedale. In general, it may be thought of as subterranean.

A few surface rooms and a pit-house kiva (K) were excavated on the east knoll, several hundreds of yards east of the Table Rock Site. In the pit-house kiva (Room K), the ventilator was built in the north wall and a niche was found in the south wall.

Lack of trash in the rooms of Table Rock Site indicated that few, if any, had been abandoned during occupation. In the roof-fill of many rooms were found metates, manos, pottery, ring slabs (framing of stone for hatchway openings), and other artifacts. We venture to suggest that these household utensils may have been commonly used on the roof-tops (that is, work projects were carried on in good weather on the house roofs), and that they were left there when the Indians abandoned the pueblo. After a time, the roof rafters decayed and collapsed, and these objects fell into the rooms—later to be extricated by us from what we call "roof-fill."
SUMMARY

It is hard for me to comprehend the cultural pattern that permitted these Indians to abandon many household objects that I should consider valuable items. I can understand that manos and metates would be too heavy to carry along on a move to a new site; but I should think that pottery, axes, and other tools would represent an investment in time and would be accordingly lugged along. But this is not the first time that this kind of situation has been encountered by us or other archaeologists. The Indians must have figured that it would be easier to recreate these left-behind items than to transport them to a new site.

About 26,000 sherds and some 45 whole or restorable vessels were recovered. These were sorted into 36 types, plus some sherds that we could not classify. These latter were called “indeterminate” in our tabulations.

The native types or the types which after considerable debate, petrographic analysis, and microscopic scrutiny were called “native” were the plain brown, the “red,” and the textured wares, most of the Gila and Tonto Polychromes and several of the white-on-red types.

In terms of approximate percentages these native types made up about 80 per cent of all the pottery found. Roughly 64 per cent of all sherds were Alma Plain and textured wares.

The “imported” types—the Zuni glazes, the Jeddito Black-on-Yellow and the Sikyatki Polychromes—plus the sherds (24) of one Tonto Polychrome jar, constitute only about 7 per cent of the total sherds found.

The remainder, very roughly figured at about 13 per cent, was made up of “indeterminate” types and black-on-whites and black-on-reds.

The black-on-whites and black-on-reds may have been picked up at deserted villages by the Table Rock Indians and brought back to their village as curiosities or, more likely, to be used as temper for their own pottery. Much of the native ware was tempered with gray wares or black-on-white sherds.

The White Mound Black-on-White bowl and the Woodruff Smudged bowl are excepted from the above statement for the simple reason that these were found (along with an Alma Plain jar), with a burial that antedates Table Rock Pueblo (below floor of Room 5).

The Puerco Black-on-White jar from Room 2 is also an exception. It was found almost intact in a corner of the room on the floor and may have been an heirloom.

It is interesting to note that of the whole or restorable vessels that were recovered, about 5 per cent were found in the fill on top of roof-debris. We interpret this, as noted above, as meaning that these pots had been left standing on the roofs when the pueblo was abandoned.
The laboratory analyses of the sherds consumed time and energy but were eminently worth while. They enabled us to sort the trade-imported types from the native ones. They taught us a lot about slips, self-slips, temper, and clay composition. Now that we have the facilities for making such analyses, I would not be without this useful tool.

One of the great surprises of the petrographic analyses was our discovery that a respectable amount of Salado Polychromes was manufactured at Table Rock Pueblo—perhaps as much as 5 to 7 per cent of the total number of sherds found. The paste of these locally made Salado wares was similar to, if not identical with, the pastes of our Alma Plain varieties. In other words, the home-made Gila and Tonto Polychromes are merely glorified Alma Plain pottery with the correct slips, colors, and designs added!

Equally surprising, then, in view of the above statements was the find of 24 sherds (probably all from one pot) of a Tonto Polychrome jar that was undoubtedly imported (as shown by petrographic analyses and comparisons) from Globe or the Gila River Valley.

Two more jolts hit us when we discovered that much of our Alma Plain Polished, St. Johns variety, is slipped, and that all of our Alma Plain polished as well as unpolished is sherd-tempered.

A hurried survey of Alma Plain sherds from our other digs both in the Vernon area and in the Pine-Lawn-Reserve digs, together with petrographic analyses and microscopic examinations of many of them indicated that:

(1) Probably none of the Alma Plain—from earliest times (Pine Lawn Phase) to latest times (Foote Creek Phase)—was ever sherd-tempered in the Reserve–Pine-Lawn areas.

(2) Much of the Alma Plain that was manufactured before A.D. 1100 (roughly speaking) in the Vernon area was not sherd-tempered.

(3) Some Alma Plain made after A.D. 1100 in the Vernon and upper Little Colorado areas was sherd-tempered and some was not.

An explanation for the introduction of sherd temper in Alma Plain is not readily forthcoming; but we wonder if the adoption of this practice was due to extraneous influences (Anasazi?).

The detailed study of the pottery brought forth some observations that are briefly recapitulated here:

(1) Most of the pueblo was constructed at one time, and most if not all of it was in use until it was abandoned. (2) The first room built was probably Room 14. (3) The heaviest concentration of painted wares was found in the rooms bordering areas 9, 15, 17, and 19. (4) Heshota-uthla was the
SUMMARY

earliest glaze painted type and the white-on-reds were the latest types. (5) Plain corrugated was waning in popularity when the pueblo was built. (6) On the basis of the painted pottery recovered, we estimate that the date of the pueblo might lie between a.d. 1300 and 1450. (7) The life span of the pueblo was relatively short, perhaps twenty to forty years.

The artifacts of bone, stone and shell were thoroughly analyzed by Dr. Rinaldo. His aims were threefold: (1) to examine the specimens to determine the methods of manufacture; (2) to use the available evidence for conjecturing the uses of the artifacts and the kind of economy they suggested; and (3) to determine which were local and which were probably imported.

His findings are as follows:

More stone tools were shaped by grinding and pecking than by other methods. Polishing is rare and most of the flaked implements were not chipped on all major surfaces. Shell objects were few and not elaborate; and bone tools, while abundant, were unspecialized. These bits of evidence suggest that the inhabitants of the Table Rock Site were relatively conservative in their approach and adjustments to their environment. The well-finished artifacts and advances in technology in pottery-making and architecture further suggest that their conservatism in technology was due perhaps more to a harsh environment than to a lack of leisure or skills.

The kinds of artifacts and their probable usage indicate that corn and the grinding of corn were important.

External symbols of rituals are suggested by caches of what may be ceremonial objects—painted stones, polished small discs, dice, turquoise, slivers of petrified wood, lumps of malachite pigment, shell objects, palette-lapstones, painted manos and metates—and by architectural features such as kivas.

That architecture may have been an important facet of the culture is suggested by implements such as axes, hammerstones, mauls, and sledges that are probably associated with building activities.

Bone awls suggest that manufacture of baskets, cloth, and sewed clothing was probably one of the important domestic activities.

Meat, bones for tools, skins and hides for containers and clothing were probably obtained by hunting—an assumption based on tools usually assigned to a hunting complex.

Many of the stone and bone tools are a continuation of types that occurred early in the upper Little Colorado area; some of them are reported from many parts of the western pueblo area and seem to represent general developmental trends in that area; and a few are local innovations or actual imports from the Hohokam or other areas.
TABLE ROCK PUEBLO, ARIZONA

AGE OF TABLE ROCK SITE

A section of a pinyon log from Kiva 2 was sent to Dr. Terah L. Smiley of the Laboratory of Tree-Ring Research, University of Arizona, for analysis. He obtained a date of A.D. 1331 for the outermost ring. A few rings may have eroded away—how many he could not say. We also sent a piece of this same log to Dr. Hessel de Vries at Groningen, The Netherlands, for dating by the Carbon 14 method. His dating was A.D. 1345 ± 50 years. We were agreeably surprised to find such a close correspondence in the dates obtained by two radically different methods.

The construction date of parts of the pueblo is thus presumed to be about A.D. 1350.

CONJECTURES

Our researches in the upper reaches of the Little Colorado drainage are recent and have not progressed far enough to enable us to do much speculating.

Table Rock Site yielded a bit of information concerning a village of the fourteenth or fifteenth century. Several traits suggest that our previous conjectures concerning a relationship between the Mogollon and Zuni or Hopi (Western Pueblo Complex) groups have some foundation in reality.

On the one hand, the great abundance of brown wares and Mogollon-type textured wares (about 64 per cent of the pottery) seems significant to us and suggests that whatever one calls the Table Rock Culture, its antecedents were Mogollon.

The continuum, overlapping, and development of pottery designs from Reserve and Tularosa Black-on-White and Wingate Black on Red types through Pinedale Black-on-White and St. Johns Polychrome to the Zuni glaze types are clear and highly significant. They furnish a link with our work in the Reserve–Pine-Lawn areas, especially at Foote Canyon Pueblo (Rinaldo, 1959), with Table Rock and Zuni and/or Hopi cultures.

On the other hand, and also pointing toward Zuni or Hopi cultures, we have Zuni glaze types and the Hopi buff pottery, the paved kiva, and, in architecture, a cluster of rooms embracing a kiva in a “plaza type” layout.

More work in the area will have to be completed before more definite conjectures can be arrived at. We have confidence that eventually we can show a clear tie-up with earlier Mogollon traits and later Zuni developments.
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