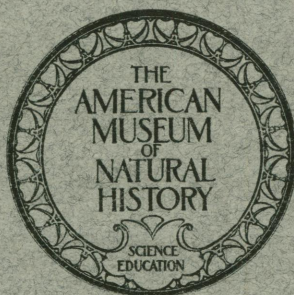


ANTHROPOLOGICAL PAPERS
OF
THE AMERICAN MUSEUM OF NATURAL HISTORY

VOLUME XXVI, PART V

NOTES ON EXCAVATIONS IN
THE AZTEC RUIN

BY EARL H. MORRIS



BY ORDER OF THE TRUSTEES
OF
THE AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK CITY
1928

THE AMERICAN MUSEUM OF NATURAL HISTORY

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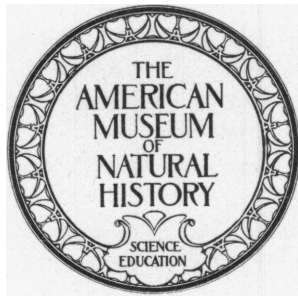
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CONTENTS

	PAGE
INTRODUCTION	267
THE SOUTH WING	268
Room 1	268
Room 2	269
Room 3	269
Room 4	269
Room 5	270
Room 6	270
Room 85	270
Room 86	271
Room 87	271
Room 88	272
Room 89	273
Room 102	274
Room 7	274
Room 8	275
Room 9	275
Room 10	275
Room 11	275
Room 12	276
Room 13	278
Room 103	278
Room 104	280
Room 105	280
Room 106	281
Room 107	282
Room 108	285
Room 109	286
Room 159	287
THE EAST WING	289
Room 25	289
Room 24	289
Room 23	290
Room 22	290
Room 15	290
Room 14	290
Room 26	290
Room 27	291
Room 28	291
Room 17	291
Room 30	292
Rooms 31 AND 19	292
Room 16	292
Room 29	292
Room 35	292
Room 33	293

	PAGE
ROOMS 21, 32, 34, AND 36	293
ROOM 20	293
ROOM 18	293
ROOM 55	294
ROOM 50	295
ROOM 43	296
ROOM 40	297
ROOM 37	297
ROOM 56	298
ROOM 51	299
ROOM 44	299
ROOM 41	300
ROOM 57	300
ROOM 52	301
ROOM 45	302
ROOM 42	302
ROOM 38	303
ROOM 58	303
ROOM 53	304
ROOM 47	304
ROOM 46	305
ROOM 39	306
ROOM 49	306
ROOM 48	307
ROOM 54	309
THE NORTH WING	311
ROOM 59	311
ROOM 60 ^a	312
ROOM 70	312
ROOM 73	313
ROOM 74	314
ROOM 76	315
ROOM 97	316
ROOM 98	316
ROOM 61	317
ROOM 62 ^a	317
ROOM 71	317
ROOM 72	319
ROOM 75	321
ROOM 77	321
ROOM 63	322
ROOM 79	323
ROOM 78	325
ROOM 64	327
ROOM 80	327
ROOM 81	329
ROOM 67	330

	PAGE
Room 68	331
Room 69	331
Room 96	332
Room 120	332
Room 117	333
Room 119	335
Room 118	336
Room 66	336
Room 65	337
LATE ROOMS ABOVE ROOMS 65 AND 66	338
Room 84	342
Room 83	343
Room 82	343
Room 92	344
Room 91	345
Room 90	346
Room 95	347
Room 94	349
Room 93	350
Room 116	351
Room 101	351
Room 100	352
Room 99	354
Room 111	355
Room 110	356
Room 112	357
Room 122 ²	357
Room 115	358
Room 114	359
Room 113	359
Room 123 ³	360
Room 154 ²	360
Room 124	361
Room 125 ²	361
Room 193	362
Room 158 ²	363
Room 196 ²	363
Room 129	365
Room 152 ²	365
Room 139	366
Room 128 ²	367
Room 143	368
Room 127 ²	369
Room 126	369
Room 141	370
Room 195 ²	370
Room 189	371

	PAGE
Room 134 ²	373
Room 181	373
Room 144	374
Room 140 ²	375
Room 142	375
Room 191 ²	375
Room 179 ²	375
Room 194 ²	376
Room 180	378
Room 147	379
Room 136 ²	380
Room 153 ²	382
Room 156	383
Room 157 ²	385
Room 177 ²	385
THE WEST WING	386
Room 182	386
Room 135 ²	387
Room 178	387
Room 192 ²	288
Room 130 ²	389
Room 148 ²	389
Room 138	389
Room 121 ²	391
Room 145	393
Room 131 ²	394
Room 146	395
Room 137 ²	395
Room 132	396
Room 133 ²	398
Room 176	399
Room 174	399
Room 155	399
Room 149	400
Room 150	401
Room 151	402
Room 183	403
Room 188	405
ROOMS 188A, B, AND C	406
Room 175	408
Room 184	409
Room 185	409
Room 186	410
Room 187	410
Room 190	410
ROOMS 197-201, INCLUSIVE	411

	PAGE
DÉBRIS AGAINST THE OUTER WALLS OF THE PUEBLO	413
THE REFUSE MOUNDS	414
RETAINING WALL SOUTH OF THE PUEBLO	415
SUMMARY	417

ILLUSTRATIONS

TEXT FIGURES

	PAGE
1. Section of Groundplan of Aztec Ruin showing Additional Rooms excavated since the Publication of the Plot in 1924	268
2. Underlying Structures, Vicinity of Kivas A and C	276
3. Section at Line of Wall between Rooms 11 and 12	277
4. West End of Room 107, South Wing, with Last Floor cleared	284
5. West End of Room 107, South Wing, with Last Floor removed	284
6. Looking South across Room 97, North Wing, into Room 76	315
7. Longitudinal Cross-Section of Room 71, North Wing	318
8. Sorting and Assembling Pottery Fragments from Room 79	324
9. Cross-Section of Room 78, North Wing, viewed from East Side	326
10. Partially Fallen Floor of Room 80, North Wing	328
11. Photographing the Second Floor of Room 80, North Wing	328
12. <i>Jacal</i> Partition between Rooms 117 and 120, North Wing	334
13. Pictographs on White Plaster, North Wall of Room 117, North Wing	334
14. Late Rooms above Rooms 65 and 66	339
15. South Wall of Room S.1. showing Casts of Cedar Logs set Vertically in the Masonry	340
16. Vertical Section at Longitudinal Center of Room S.1.	341
17. North Wall of Room S.1.	341
18. Cross-Section of Inter-Story Passage, South Wall of Room 92, North Wing	345
19. Plaited Basket and Antlers on Floor of Room 95, beneath Burial No. 20, North Wing	348
20. Loading Earth Wagons above Room 94, North Wing	350
21. Sifting for Beads and Fragments of Vessels from Burial No. 25, Room 111, North Wing	355
22. <i>a</i> , Burial No. 144, Room 196 ² , North Wing; <i>b</i> , Runged Ladder, Room 196 ² , North Wing	364
23. Southwest Corner of Room 194 ² , North Wing	377
24. Mass of Corn Tassels in Dry Refuse, Room 136 ² , North Wing	380
25. Late Rooms above Room 188, West Wing	406
26. A Ruin upon a Ruin	407
27. North and South Cross-Section of Cut through Retaining Wall South of the Pueblo	416

INTRODUCTION

The following pages contain the greater part of the notes recorded while excavations at the Aztec Ruin were in progress. The first were written in July, 1916; the last, in August, 1927. Those here segregated are confined to secular rooms and general conditions, the ceremonial chambers having been reserved for treatment in a paper dealing specifically with kivas.

In compiling these notes, it was the desire of the writer to set down each and every condition observed that might aid in explaining the building of the pueblo, the cycle of its inhabitation, and the agencies of its destruction, and make possible the reconstruction of at least the cultural history of those who found shelter within its walls. In places the notes are meager; in others, perhaps too voluminous. Some meet the writer's approval; others fall far short; and always there is the haunting thought that the details which might have been of most significance escaped attention altogether. One questions the wisdom of printing a mass of data so replete with repetition. Would it not have been better to have condensed and to have given, say in a series of tables, the various categories of information to which the data are reducible? Be that as it may, such material as has been gleaned is herewith made available. In this there is the possible merit that each may review it as he desires and draw therefrom generalizations which best conform to his individual point of view.

THE SOUTH WING

Being in form essentially a hollow rectangle, the Aztec Ruin falls into four major divisions: the North, South, East, and West Wings. (See map, this volume, pt. 3, and Fig. 1). The South Wing comprises the poorly constructed portion which bounds the sunward side of the court and extends somewhat northward from the southeast corner to a junction with the East Wing. Having been only one story in height, the mound covering the building was low, the stubs of the walls varying in altitude from 1 foot to 7 feet 9 inches.

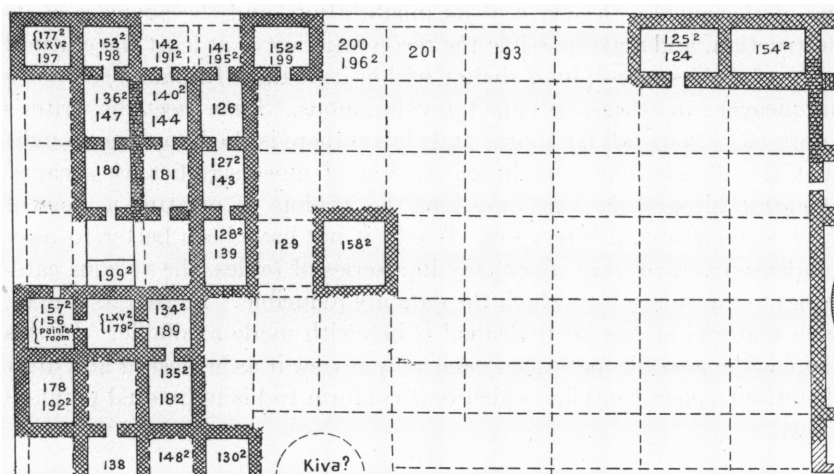


Fig. 1. Section of Groundplan of Aztec Ruin showing Additional Rooms excavated since the Publication of the Plot in 1924. See this volume, p. 145

ROOM 1

Room 1 constituted the southeast corner of the ruin. Although in reality the terminal member of an arc-shaped row, the curve is so slight that it is scarcely noticeable. The rectangular appearance of the chamber is marred by the fact that the east wall is much thicker at the south end than at the north, thus making the northeast corner an acute and the southwest corner an obtuse angle.

Covering the filth-stained floor was from 1 foot 3 inches to 2 feet of refuse in which the decay of perishable components was complete. This refuse was principally of Chaco age and contained numerous artifacts: a black-on-white flat-bottomed mug, a small coiled pot, a fragmentary

water bottle, two awls and two scrapers of mammal bone, a black stone skinning knife, a polished disk of black stone, a polished blade of red stone, six stone axes, coiled and black-on-white potsherds, and a yellow quartzite knife blade (29.0-5140 to 5156, Field No. 4654) and, in addition, three manos, one metate, two stone axes, and three bone awls which were fragmentary, and hence discarded. Animal bones were plentiful. There were about two bushels of potsherds, black-on-white and corrugated were occurring in nearly equal proportions, with only a slight admixture of black-on-red sherds.

Burials Nos. 1 to 4 were in the refuse.¹ Beneath the floor mixed earth continues to an unknown depth. Probably there is a refuse pit beneath at least a portion of its area.

ROOM 2

Room 2 lies immediately westward of Room 1. Covering the floor were 2 feet of Chaco refuse which yielded a corrugated bowl, two black-on-white water bottles, a black-on-white pitcher, a broken dipper, a heart-shaped bowl, two mammal bone scrapers, ten mammal bone awls, a mammal bone spatula, a mammal bone drill, three bird bone cylinders, a bird bone ring, cut mammal bones, a worked beaver tusk, a fragmentary red stone pipe, a grooved and polished slab, a fragmentary spear point, a pink arrow point (Nos. 29.0-5157-5188 inclusive), and five manos, two metates, one ax, and two bone awls, all fragmentary and discarded, together with about 1½ bushels of potsherds and numerous animal bones.

This room contained Burial No. 5.² Beneath the floor mixed earth continues for an undetermined distance.

ROOM 3

The floor of Room 3, although stained dark from use, was relatively free from refuse. The artifacts recovered were a paint stone (29.0-5189) and one ax, one dressed slab, and two bone awls, all fragmentary. The potsherds amounted to less than a gallon. At practically the center of the floor was a shallow circular ash-filled fireplace. Mixed earth continues beneath the floor.

ROOM 4

The area designated as Room 4 was crossed by a longitudinal as well as by a transverse partition and was thus divided into four small compartments or bins of practically the same size, by thin masonry walls. In the

¹This volume, 145-146.

²This volume, 146.

northeast bin stood a large corrugated olla, thoroughly shattered. In the other bins were a polished sandstone slab and a stone ax (29.0-5190-5191); also the following fragmentary objects: two metates, three pecking stones, one polished slab, and about a gallon of sherds. The floors of the bins showed much stain from use, but were free of refuse.

Room 5

There was a small rectangular bin in the northeast corner of Room 5. The floor was hard-packed and black from use. In the southwest corner was a pit 1 foot in diameter and 2 feet deep. The objects recovered were a human effigy in pottery, a mammal bone awl, worked beaver tusk, a pecking stone (29.0-5192-5195 inclusive), and one ax, one metate, and two pecking stones. The most notable specimen was the trunk of a human effigy (29.0-5192) in black-on-white ware, which marks the contents of the room as of Chaco age, since effigy vessels do not occur in the Mesa Verde complex.

Room 6

Room 6 was less than 1 foot deep at the south side, that is, to the last used floor. A pit sunk at the center of the room showed refuse and two other floors in a distance of 1 foot 6 inches. Owing to the refuse accumulations, the ultimate floor was considerably higher than that in Room 5. Specimens recovered were mammal bone awls, a mortar, stone axes (29.0-5196-5201), a black-on-white water jar (29.0-8070), and two metates, one mano, and one dressed slab, all fragmentary. There was very little refuse on the floor; hence, sherds and animal bones were few.

The walls of the rooms thus far described are of cobblestones and adobe in varying proportions. Originally all surfaces were smoothly plastered. Where the plaster remained it was invariably smoked black.

Room 85

The south wall of Room 85 stood to a height of 2 feet 2 inches; the north wall was 3 feet above the last-used floor. There was an earlier floor $1\frac{1}{2}$ feet beneath the latter. Both were black from use. In the lower floor was a pit 1 foot in diameter and the same in depth, 2 feet 7 inches from the south wall and 1 foot 1 inch from the west. It contained parts of an archaic Chaco bowl and fragments of corrugated ware. The fill between the floors was of refuse, mostly ashes and sweepings, and contained only occasional sherds of the older type and few animal bones.

There was a shallow circular ash-filled fire pit in the upper floor, just south of the center of the chamber. In the northeast corner, extending down to the lower floor was a small rectangular pit which contained potsherds, awls, arrow points, a polished gilsonite slab, and shell beads (29.0-8071-8080).

The fill above the upper floor was of fallen wall material. The north and south walls are of cobblestones and adobe. The east wall is of adobe, 9 inches thick, containing a very few bits of sand and cobblestones. The west wall is of the same construction, 1 foot 7 inches thick.

ROOM 86

Room 86 was 2 feet 11 inches deep at the south side and 4 feet deep at the north. There were two floors, one 1 foot 11 inches above the other. Both were much blackened by use. The space between the floors was filled with refuse. From it were taken black-on-white bowls and a vase, a black unpolished pitcher, grooved axes, a pestle, a sandstone slab, chipped blades, and a section of a shell bracelet (29.0-8206-8216).

In the lower floor were two fire pits, both circular. One, 1 foot 5 inches in diameter, was against the north wall, its west side 6 inches from the west wall; the other was against the west wall, 1 foot 11 inches from the north wall. Both were unlined bowl-shaped holes, not more than 4 inches in depth. In the second was a rectangular sandstone slab (29.0-8213b) and part of another.

In the upper floor, 4 feet 3 inches from the east wall and 3 feet 5 inches from the south, was a fire pit 1 foot 6 inches square and 6 inches deep, lined with thin sandstones. On this floor was only a small amount of refuse.

The north and south walls are principally of cobblestones and mud. In the north, near the west end, are visible sticks running lengthwise of the wall 6 inches above the lower floor. The west wall is entirely of adobe and stands 2 feet high with a thickness of 9 inches. As if buried after the mound had formed, in a space where this wall had been dug away at its southern end, was a corrugated pot 11 inches in diameter.

ROOM 87

Room 87 is 3 feet deep at the south side and 4 feet 4 inches at the north. Three floor levels were distinguishable, the second 1 foot 11 inches above the first, and the third, 8 inches above the second.

The first floor was hard packed and had been much used. In the northeast corner, paralleling the west wall, was a fire pit $1\frac{1}{2}$ by 2 feet by

3 inches deep; a second, 1 foot 1 inch by 1 foot 9 inches, by 2 inches deep, paralleled the north wall in the northeast corner; and a third, oval in outline, with diameters of 1 foot and 1 foot 9 inches, and a depth of 5 inches, was situated 2 feet 5 inches from the north wall and 1 foot 9 inches from the east wall to center. All were mere excavations, unlined with stones.

In the northeast corner of the second floor was a round fireplace about $1\frac{1}{2}$ feet in diameter and 8 inches deep. It was lined with long cobblestones set on end and was full of ashes. A similar fireplace was found at the center of the third floor.

Refuse filled the space between the first and second as well as between the second and third floors. From it were taken black-on-white bowls and a pitcher, a yellowish bowl, grooved axes, a pecking stone, a mammal bone awl, and potsherds (29.0-8217-8224). The objects from the two levels were not kept separate. There was only a thin streak of ashes on the third floor and above it lay fallen wall material.

Where the thick coating of plaster had fallen from the south wall, the latter appeared to have been constructed entirely of cobblestones and adobe. The north wall, for an undetermined distance beneath and up to 9 inches above the lowest floor, is also of cobbles and adobe. Then there is a band 1 foot 1 inch in height of adobe reinforced with alternating longitudinal and transverse courses of cedar poles. Those in the lengthwise courses were up to $3\frac{1}{4}$ inches in diameter; those in the transverse were smaller, the largest observed being 2 inches thick. Above this band the wall is again of cobbles and adobe.

The west wall appears to have been about $1\frac{1}{2}$ feet thick. A foundation course of cobblestones was surmounted by adobe in which there were a few longitudinal poles, the ends of which seem to have extended into the north and south walls.

At one time there was a doorway in the west wall, 1 foot 8 inches wide; its south side was $7\frac{1}{2}$ inches from the southern extremity and its sill 1 foot $4\frac{1}{2}$ inches above the first floor. It was blocked up with sandstones laid in adobe.

Room 88

Room 88 probably should have been listed as two rooms. It is crossed 4 feet 7 inches from the east end by a 7 inch partition consisting of adobe daubed over a closely set row of upright cedar poles. A 1 foot 1 inch wall of sandstone, bedded upon the fill at a height of 2 feet 5 inches above the floor, crossed the room 2 feet 7 inches east of this parti-

tion. This eastern portion of the chamber is 3 feet deep at the south, and 4 feet 4 inches at the north side. Except for a 1 foot deposit of ashes against the south wall, the fill was of wall material.

Of the western portion of Room 88 the south side is 2 feet 7 inches deep and the north 4 feet. There was refuse on the floor varying from a mere film to 6 inches in thickness. In it were found a portion of an obsidian knife blade and some potsherds (29.0-8224-8225).

The heavily plastered south wall appears to be of cobblestones and adobe. The north wall extends a considerable distance below the floor, at least more than 2½ feet. Up to 6 inches above the floor it is of cobblestones laid in adobe. Thence upward it consists of adobe reinforced with alternating longitudinal and transverse layers of poles. This wall was pierced by a doorway 2 feet 5 inches wide beginning 8 feet from the west wall. The sill was 1 foot 7 inches above the floor. The west wall is of mud and stick construction like that previously described.

Room 89

The south wall of Room 89 is 2 feet 9 inches high; the north, 4 feet 1 inch. The floor was covered with a film of decayed filth. A refuse deposit occupied the eastern third of its area, rising from nothing at its western edge to 1 foot deep against the east wall. From it were taken two incomplete black-on-white bowls, grooved axes, arrow points, worked turquoise, a mammal bone awl, and potsherds (29.0-8227-8234) with the exception of a small unpolished black pot (29.0-8229) which was in the extreme northwest corner. The rest of the fill was of wall material.

A cobblestone foundation supports the south wall, extending slightly above the floor—three inches where observable. Thence upward the wall is entirely of adobe. The north wall is of identically the same construction as that of Room 88. In this northern wall was once a doorway 2 feet 8½ inches wide, its western edge being 1 foot 3 inches from the west wall. The sill was 1 foot 4 inches above the floor. The door was sealed with masonry consisting both of faced and unbroken cobblestones, the former in predominance.

The west wall is double. The western or outer portion, presumably the original, is 10 inches thick, of adobe containing a row of upright poles forming the longitudinal center. The other element, 1 foot 4 inches thick, built flush against the adobe portion, is of sandstones, among which are a few cobbles.

ROOM 102

The south wall of Room 102 stands to a height of 2 feet 9 inches and the north to 3 feet 6 inches. Two floor levels were distinguishable, one 1 foot 9 inches above the other. The lower floor, though hard packed and stained from use, was not covered with refuse. Earth, thoroughly consolidated and hardened, filled the space between it and the upper one. An area somewhat more than 2 feet square, just east of the center, was burned as if there had been a long continued fire upon it, but no definable fire pit was discernible.

The upper floor, though easily recognizable, was clean and free of ashes or other signs of use. Its entire area was covered with a layer of rough sandstones and cobblestones. Conspicuous among them were fifteen concretions and cobbles of fantastic shapes. One vaguely resembled a human form, another the head of a pig-like animal, while a third was a perfect replica of the stem of a squash. Evidently these queerly shaped stones had been gathered from far and wide in the surrounding hills. Judging from conditions found elsewhere in the Southwest, such a number of them in one place suggests that at one time they were part of the equipment of a shrine, but it would seem that they had been discarded when thrown into Room 102.

The south wall is of adobe in which there are a very few sandstones. For a distance of 3 feet 8 inches, the eastern end of the north wall is of stick and mud construction. Thence westward it is much dilapidated and appears to be entirely of adobe, containing now and then a sandstone. The west wall of sandstone, roughly and carelessly laid, showed traces of white plaster 1 foot above the floor.

ROOM 7

Room 7 occupies the space north of the east end of Room 1. Its northern wall could not be located and may well have been removed when the pit for Kiva A was dug. The east and south walls are of cobblestones, while the west was of adobe, about 2 feet in thickness. The much-used floor was on the same level as that of Room 1. Upon it there was 1 foot of refuse which yielded a black-on-white bowl, a bird bone cylinder, and two stone axes (29.0-5202-5205), also, a number of fragmentary objects: three axes, one dressed slab, one bone scraper, and many potsherds. Pits dug beneath the floor revealed two earlier floor levels; the intervals between them were filled with refuse.

Room 8

The north wall of the area marked Room 8 was missing and the floor difficult to trace; hence, it is uncertain whether this space was once a chamber or merely a portion of the court.

Room 9

Plainly defined adobe walls marked the east and west sides of the area designated Room 9. Because of the considerable distance between them, it is probable that a flimsy partition once divided the space into two chambers. The north wall was missing, presumably having been removed during the construction of Kiva B. The floor level, only 1 foot beneath the surface at the northern side, was easily recognizable. A corrugated pot¹ (29.0-5206) was buried beneath the floor against the south wall. Other objects recovered were a bird bone awl, a cylindrical clay plug (29.0-5207-5208), and some potsherds.

Room 10

A very thin partition of adobe, daubed over a row of upright sticks, running from north to south, divided Room 10 into two parts of equal size. The north wall, which must have been of adobe, had completely disintegrated. The floor was difficultly discernible. Beneath the northern side white ashes continued to an undetermined depth. In Room 10 were found two bird bone awls (29.0-5209-5210) and about one gallon of potsherds and animal bones.

Room 11

The south wall and part of the western boundary of Room 11 were missing, probably having caved into Kiva A. The north and west walls are of cobblestones, averaging 1 foot in thickness and 2½ feet in height. Beneath the much-used floor there is refuse to an unknown depth.

Room 12

The average depth of Room 12 was 2 feet 8 inches. Refuse covered the floor to a depth of 6 inches. In it were a bird bone awl (29.0-5211), one mano, one pecking stone, and numerous potsherds and animal bones. Resting on the floor in the northeast corner was a large corrugated pot, badly shattered. At floor level against the center of the south wall was visible a stub of masonry pertaining to some earlier structure. All walls were of cobblestones, 8 inches to 1 foot 3 inches thick, except the eastern or boundary wall of the pueblo, which will be described later (p. 289).

¹This volume, 67.

ROOM 13

Room 13 had an average depth of 3 feet. The fill was principally of ashes and charcoal among which were some potsherds and animal bones, and one broken metate. The plastered cobblestone walls and the floor showed no signs of fire and little stain from use. A portion of the wall of an underlying structure extends above the floor at the center of the east wall.

The northern boundary of Room 13 was arbitrarily chosen as the line of demarcation between the South and East Wings.

The outer face of the east wall of the pueblo was laid bare from the southern end to the south side of Room 16, East Wing. A foundation or basal zone of cobblestones stands to a height of 2 feet 4 inches above the limit of excavation and extends an unknown distance beneath. This was 6 inches thicker than the wall thence upward. From the corner to the north line of Kiva A the upper wall is carelessly laid of sandstones and cobblestones, the former in predominance. The maximum height is 3 feet 8 inches. From Kiva A northward for 13 feet was a block composed of adobe containing transverse rows of sticks up to 1 inch in diameter at about 6 inch intervals. Thence northward the wall was again of sandstones. Apparently the adobe portion represents the repair of a breach in the original masonry. Though somewhat irregular, above the foundation, the wall averaged 1 foot 7 inches in thickness.

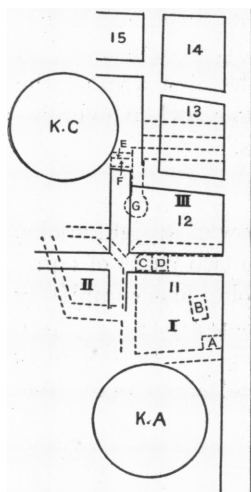


Fig. 2. Underlying Structures, Vicinity of Kivas A and C.

Long after the above notes were made some digging was done from Kiva A northward to the south wall of Room 16, East Wing. The material turned was refuse and débris from flimsy adobe and cobblestone walls, so mixed and disturbed that it was not determined definitely how many buildings had occupied the space at different levels. The enclosures and features which could be accurately traced are shown in Fig. 2 in which the rooms of the latest series are outlined in black and the underlying ones in broken lines.

Room I of the lower series was 9 feet long and 8 feet wide. The floor was 2 feet below that of Room 11. The south wall was of adobe, the west of sandstone, and the north of cobblestones. In the southeast corner

was a rectangular pit 2 feet 9 inches by 1 foot 8 inches by 5 inches deep (a). A rectangular fire pit was situated just east of the center, the northern end pointing somewhat westward of the east wall (b). Its dimensions were $1\frac{1}{2}$ by 1 foot by 6 inches deep. It was lined with thin sandstones. In the northwest corner, parallelling the north wall, were two slab-lined and slab-bottomed recesses in the floor, c being $1\frac{1}{2}$ by 1 foot by 6 inches deep, and d, 1 foot 4 inches by 1 foot by 3 inches deep. Upon the floor of the room were a small circular sandstone pot cover, three manos, two axes, and fragments of several dressed slabs.

Room II was 5 feet wide at the south end, $6\frac{1}{2}$ at the north, and 6 feet long. All the walls were of adobe. The floor was 1 foot below that

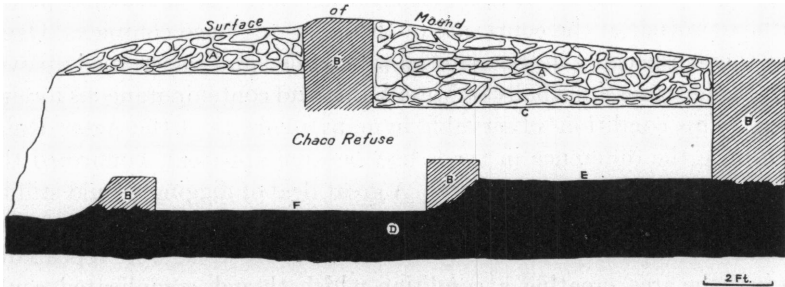


Fig. 3. Section at Line of Wall between Rooms 11 and 12. A, Cobble and sandstone wall; B, Adobe walls; B', Adobe wall forming east wall of pueblo; C, Floor level of Room 11; D, Refuse or earth?; E, Floor level of Room I; F, Floor level of Room II.

of Room I and was covered with 1 to 2 inches of refuse containing a few sherds.

Room III was 9 feet long and 8 feet wide, the floor being $1\frac{1}{2}$ feet below that of Room 12. The north and south walls were of cobblestones. The former had been destroyed toward the west end. Adjacent to where the southwest corner must have been was a recess shaped like the vertical half of a jug with open side toward the room. At the southern terminus of the west wall was a cobblestone walled shaft (g), 2 feet in diameter and more than 4 feet deep, filled with ashes and charcoal. The stones were cracked and reddened by heat. Between the northern portion of the west wall of the room and Kiva C were two rectangular cobble-lined fire pits (e and f), 1 foot square and 1 foot deep.

Northward of Room III and 1 foot from its boundary was a sandstone wall. Thence, to the south side of Room 16, East Wing, refuse was continuous.

In this digging natural soil was reached only beneath Room III. Refuse-stained earth continued 1 foot 10 inches below the floor to a junction with clean white sand at a total depth of 6 feet from the surface of the mound. Under the southwest corner of Room III was an irregular excavation, about 2 feet in diameter, filled with white ashes. Among them were found most of the fragments of a bowl shaped like a truncated cone, which had been moulded in a coiled basket (Field No. 5347) and part of an archaic water jar (Field No. 5348).

An east and west section at the line of the wall between Rooms 11 and 12 is given in Fig. 3.

All of the sherds from the lower levels just described, as well as those from the basal strata, wherever these have been reached in the southeast corner of the court, are of the older or Chaco complex. Overlying them, especially in the material which filled and was heaped up over Kiva B, the wares are wholly of Mesa Verde and contemporaneous foreign types. This condition, observable in many quarters of the Aztec Ruin, when once the difference in types had become apparent, confirmed the sequence of occupation of the site. A great deal of digging should still be done in the southeast corner of the court. The features buried there are of marked complexity. Evidently fire pits and late kivas were repeatedly dug into the area, creating a condition which, though complicated, could be reduced to order by careful excavation.

Room 103

The south wall of Room 103 stands 2 feet 11 inches high; the north, 4 feet 10 inches.

Three floor levels were observed: the second 9 inches above the first; the third, 2 feet above the second. The first floor was hard packed and covered with nearly an inch of brown decayed filth. There was a fire pit with rounded corners, 1 foot $6\frac{1}{2}$ inches by 2 feet $\frac{1}{2}$ inch by 1 foot 4 inches, its long axis practically in a line with the northeast and southwest corners of the room, its center 3 feet $2\frac{1}{2}$ inches from the north wall and 4 feet from the east wall. It was merely dug into the earth and not lined with stones. The floor, from the fire pit to the north wall, was about 2 inches lower than elsewhere. Just within the west boundary of this depression, against the north wall, its center 5 feet 4 inches from the east wall, was a bowl-shaped hole 1 foot 8 inches across and 8 inches deep.

Relatively clean earth filled the space between floors 1 and 2. From it were taken a few potsherds (29.0-8561).

Although distinguishable, the second floor was not plainly defined. It contained no fire pit.

Refuse filled the space between the second and third floor levels. From it were taken two black-on-white bowls, a tiny black undecorated bowl, the arm of a human effigy in black-on-white ware, a black-on-white water jar, potsherds, an obsidian arrow point, the point of a chipped knife blade, a piece of worked hematite, part of a skinning knife, mammal and bird bone awls, and a rubbing stone (29.0-8550-8575), two river boulder metates, complete, and three broken; three complete manos and five broken; two worked sandstone slabs, incomplete.

The third floor, clearly defined and much used, came out practically at the surface of the mound at the south side. At the center, 1 foot 7 inches across and 7 inches deep, was a fire pit lined with sandstone blocks, evidently re-used building blocks which were burned red all the way through. Except for a mere film of ashes and brown mould, the fill above the third floor consisted of material from the disintegrated walls.

The south wall is of sandstones and cobblestones mixed indiscriminately throughout the west half of its length. The eastern half is in bad condition, but appears to have been of adobe that contained but few stones.

The north wall seems not to extend below the level of the second floor, being placed upon the same sort of earth that composed the fill between the first and second floors. From the level of the second to the level of the third floor it is of mud and stick construction and is heavily coated with plaster. At one time it must have been dismantled down to the upper floor. From that level to the surface of the mound it is of good sized pieces of sandstone among which two cobblestones are visible, laid in much adobe without chinking. For a distance east of the center, this sandstone wall juts out as much as three inches over the one beneath.

On its western side, two feet from the northwest corner, there was a doorway in the north wall. First it was narrowed by an eight inch block of sandstone masonry built against the western jamb, and later was completely walled up. A door 1 foot 8 inches wide pierces the north wall, its east edge 7 feet 6 inches from the east wall. The sill is on a level with the second floor. The door does not continue to its original height, ending at the base of the sandstone wall.

Nine inches east of this door and two inches below the level of the second floor, a thin rectangular slab of worked sandstone protrudes from beneath the north wall, its longer axis pointing toward the southeast corner.

The east wall is in bad condition. It is of adobe up to the third floor level and, at the center and possibly throughout the rest of its length,

has contained a row of slender sticks (half an inch or less in diameter) placed vertically, just beneath the plaster. Above the third floor level it is of sandstone, as is the north wall.

The west wall was traceable only between the second and third floor levels. The northern third was of adobe, the southern two-thirds of cobblestones. This wall had fallen and was removed during the progress of excavation.

ROOM 104

Room 104 was not excavated beneath the level of the first floor encountered. The south wall above this point is 1 foot high; the north, 3 feet 3 inches. The floor was hard packed and stained by use. Refuse constituted the entire fill. From it were taken corrugated and other potsherds (29.0-9024, 9316); also two river boulder metates, and one of sandstone complete; one river boulder metate, fragmentary; one river boulder mano, complete, and three fragmentary; and parts of three worked sandstone slabs.

The east end of the room was cut off by a partition parallel to the east wall. The space between the latter and the partition was divided into two compartments by a second partition running at right angles to the first. The northern bin or compartment was 2 feet by 2 feet 4 inches; the southern 2 feet by 2 feet 6 inches. The walls of the bins were of small cobblestones, smoothly plastered, and varying little from 6 inches in thickness.

A fire pit in the floor against the west wall of the southern bin was roughly circular in outline, 1 foot 8 inches in diameter and 9 inches deep. It was 6 feet 10 inches from the west wall and 3 feet 8 inches from the south wall to center. The pit was lined with sandstones.

The south and west walls are of cobblestones.

The north wall, though badly fallen to within 1 foot 6 inches of the west wall reveals stick and mud construction.

ROOM 105

Excavations in Room 105 were stopped at the level of the first floor encountered. Above it, the south wall extends 1 foot 8 inches; the north, about 3 feet 5 inches. The floor was plainly defined and very dirty. Refuse composed the entire fill. From it were taken an incomplete bowl, jug, and dipper of black-on-white ware, potsherds, and a polished stone slab (29.0-9053-9057); a conical plug of clay, three turkey egg shells, two trapezoidal stone pendants, a large grooved hammer, a

polished stone, an oval bone die, and a mass of red pigment (29.0-9327-9336); also two fragmentary river boulder metates, parts of three manos, and six pecking stones.

There was a fire pit 1 foot by 1 foot 3 inches and 8½ inches deep, with longer axis east and west, 1 foot 3 inches from the north wall and 5 feet 1 inch from the west wall to center. It was walled with sandstones up to 3½ inches thick, which stood as much as 3 inches above the floor.

The south wall is of cobblestones among which are now and then a few small sandstones. The west wall is of sandstones chinked at one point with small cobblestones.

The north wall is of adobe reinforced with horizontal longitudinal and transverse layers of poles.¹ Beginning 7 inches from the west wall a panel of sandstone masonry 2 feet 5 inches wide, representing a sealed doorway, interrupts the stick and mud construction.

Room 106

The south wall of Room 106 stands 3 feet 1 inch high, the north about 5 feet 10 inches. Two floor levels were observed, the second 1 foot 7 inches above the first at the west end and 1 foot 11 inches at the east end.

The first floor was hard packed and blackened by use. In it, against the north wall, was a bowl-shaped fire pit 1 foot 9 inches in diameter, 4 inches deep, and 2 feet 3 inches from the line of the west wall to center. Across the west end of the room, in a line south from the east edge of the fire pit, the floor is 4½ inches higher than from that point eastward.

Refuse filled the space between the two floors. The second floor showed signs of much use. No fire pit was observed. Upon this floor lay refuse to an average depth of 1 foot 6 inches and above this material from the fallen upper walls. Objects from the two refuse levels were not kept separate. Animal bones (29.0-9021), a black-on-white bowl, two corrugated pots, a miniature pottery vessel, and potsherds (29.0-9300-9304) were recovered. Burial No. 21 was on the upper floor level in the northwest corner.²

The south wall, being heavily coated with plaster, does not reveal its interior construction, but presumably it is of cobblestones.

¹It is evident that from the southeast corner of Room 109 eastward, the north wall of this row of rooms, originally altogether of stick and mud construction, was dismantled and the section removed and replaced with masonry. Probably the reason for this was disintegration which took place during abandonment. The rehabilitation may justifiably be attributed to the Mesa Verde re-occupants.

²This volume, 162.

The north wall is of adobe reinforced lengthwise and across with layers of poles.

Both the east and west walls are of poorly laid cobblestones and sandstones. They extend only from the second, or upper floor level, to the surface of the mound, their bases resting upon a continuation in either direction of the fill of refuse that was between the first and second floors.

Room 107

The south wall of Room 107 stands to an average height of 4 feet 3 inches. The north, before its collapse during excavation, stood to an average of 7 feet. The tops of both walls sloped downward from west to east.

Two floor levels were observed, 1 foot 8 inches apart. The lower one was somewhat irregular, but well packed and blackened by use, and contained the remains of four fire pits. One was an irregular area 1 foot 10 inches wide, beginning 3 feet 9 inches from the west wall, and extending along the north wall for $2\frac{1}{2}$ feet. It reached only $1\frac{1}{2}$ inches below the floor level. The second was oval, 1 foot 10 inches by 1 foot and 4 inches deep, running northwest and southeast, 2 feet 5 inches from the south wall, and 3 feet 6 inches from the east wall to center. The third was oval, 1 foot 2 inches by 1 foot 9 inches by 2 inches deep, lying against the north wall 4 feet 1 inch from east wall to center. It had been constructed over the north side of the area previously occupied by the fourth pit. The fourth had been rectangular with rounded corners, 1 foot 5 inches by 1 foot 2 inches, by $4\frac{1}{2}$ inches deep, with its longer axis running transversely to the room. It was 1 foot 9 inches from the north wall, and 4 feet 4 inches from the east wall to center. None of these pits was walled with stone.

In the southwest corner are the remains of some previous construction, evidenced by loose earth and cobblestones, the latter apparently laid in a wall.

The space between the floors was filled with refuse. Nine coiled ware pots (29.0-9273-9281) had been sunk beneath the second floor into excavations made in the refuse. They formed a line along the south wall, which turned back at both ends, along the east and west walls, respectively. From the mouths of the pots, which came to within 2 inches of the floor level, mud had been placed as a continuation of the rim of each to the height of the floor. One (29.0-9273) was covered with a disk-shaped lid of sandstone (29.0-9282). Three of the jars rested in fragments from the sides of other large corrugated pots, with decayed pot rests of cornhusks or leaves lying between. The jar with the lid was

empty, except for about 1 inch of sediment washed in by rain. The others were full of rats' nests, ashes, etc.

Completely hidden by the upper floor was a rectangular fire pit with its longer axis diagonal to the room. Had it been projected this axis would have passed through the southeast corner of the room. The dimensions of the pit were 1 foot 3 inches by 1 foot 9 inches by 11 inches deep. It was 3 feet 2 inches from the east wall, and $2\frac{1}{2}$ feet from the north wall to center. It was lined with sandstone slabs, one on each side and completely filled with fine white ashes. In a line beneath this fire pit and the northeast corner, midway down the refuse, were about two quarts of charred corn.

In addition to the corrugated pots previously mentioned, a concave potsherd containing red pigment, an incomplete bowl and mug of black-on-white ware, three mammal bone awls and both corrugated and black-on-white potsherds (29.0-9284-9291), came from the refuse between the floors, and in addition, four river boulder metates, complete; three manos, complete; and two broken.

The upper floor was very regular, hard packed, and covered with the black-brown mould resulting from long use (Fig. 4). A fire pit, roughly rectangular in form, was located $1\frac{1}{2}$ feet from the north wall, and 3 feet 6 inches from the east wall to center. Its average dimensions were 1 foot 5 inches by $1\frac{1}{2}$ feet by 8 inches deep. The longer axis was parallel to the east wall. The pit was lined with thick sandstone slabs which reached up about 2 inches above the floor. The south side of this pit encroached upon the north side of the one concealed between the floors.

An infant had been buried at a point between the upper fire pit and the north wall (Burial No. 26).¹ This interment seemed to have been made previous to the construction of the pit, since the excavation for the latter had resulted in the removal of portions of the vessels which had accompanied the body.

On the upper floor the refuse was 12 inches deep against the east wall, thence it sloped downward to less than 2 inches at the center of the room and continued at that level over the rest of the area. Burial No. 22² was in this refuse against the mid portion of the east wall. Parts of three black-on-white bowls (29.0-9292-9294) were on the upper floor; also two river boulder metates, complete; eight manos, complete; and three broken. Above the refuse, earth from disintegrated walls completed the fill. Near the surface some potsherds (29.0-9294) were found.

¹This volume, 167.

²This volume, 162.

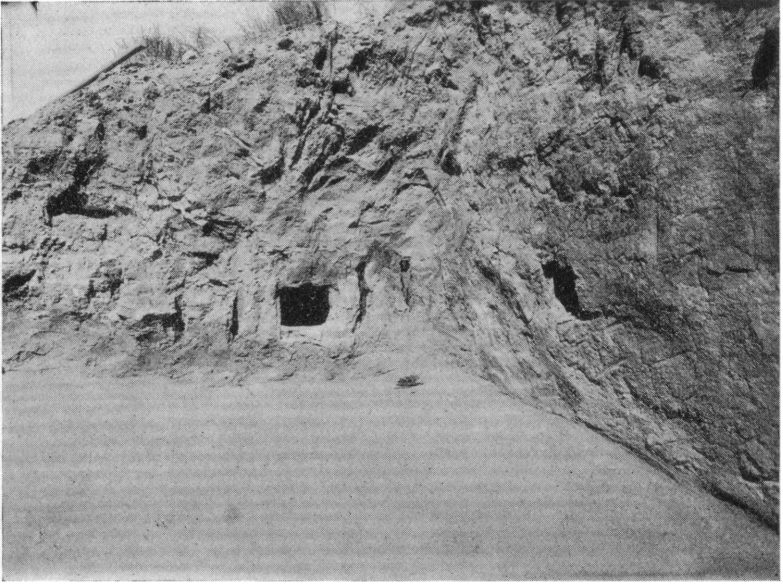


Fig. 4. West End of Room 107, South Wing, with Last Floor cleared, showing Rectangular Pocket in West Wall.



Fig. 5. West End of Room 107, South Wing, with Last Floor removed. The corrugated jars had been buried beneath the latter to serve as storage places.

The south wall is heavily coated with plaster. Presumably it is made of cobblestones.

The east wall (west wall of Room 106) extended only slightly beneath the upper floor. Below it, in line with its western face, for a distance of 2 feet from the north wall were impressions of decayed slender sticks set vertically, indicating the former presence at that point of a thin reinforced adobe partition.

The west wall was of adobe reinforced with a row of poles, from 2½ to 4 inches in diameter, set vertically at about eight inch intervals. Its base was on a level with the upper floor. There was a niche in the west wall (Fig. 5) about 12 by 5 inches and 6 inches deep, some 1 foot 8 inches from the north wall and 9 inches above the upper floor. (The wall collapsed before measurements were made.) The rectangular mouth of the niche was recessed so that a slab or something of similar shape might have been set up to close it, without protruding beyond the face of the wall.

After the collapse of the west wall, one of sandstone resting upon the level of the lower floor was built in its place.

The north wall was of adobe reinforced with horizontal longitudinal and transverse layers of poles. It rested upon a foundation, chiefly of cobblestones. Beginning 2 feet 3 inches from the northeast corner, a panel of sandstone masonry was set in the adobe wall, 2 feet 8 inches in width, marking the place where a doorway had been obliterated.

Three inches above the upper floor and 9 inches from the east wall, recessed at the orifice as was the one in the west wall, was a rectangular opening with a horizontal dimension of 9½ inches and a height of 8 inches. This appears to have gone entirely through the north wall.

From the west side of the sandstone panel to beyond its junction with the west wall, the north wall collapsed soon after Room 107 was excavated. It was then replaced with one of sandstone to about half its previous height.

Room 108

The south wall of Room 108 stands 4 feet 6 inches high; the north, 7 feet 9 inches. Two floor levels were discernible, the second 1½ feet above the first. No fire pits were observed in either floor. The first floor was hard packed and much used, while the upper one, though plainly defined, seemed to have been used considerably less than the lower one.

Refuse filled the space between the two floors and rose to an average depth of 1 foot 11 inches above the second. From the two refuse

strata a mug and bowl bottom of black-on-white ware, four disk-shaped black-on-white sherds, three coiled and redware disk-shaped sherds, one rectangular worked sherd, and five mammal bone awls (29.0-9058-9073) as well as two river boulder metates, complete, and one mano, complete and two broken, were removed. Objects from the two levels were not kept separate.

The north and west walls are of adobe reinforced with longitudinal and transverse layers of poles. The south wall, where the plaster has flaked off at the west end, reveals the same construction. It is probable that somewhere south of Room 107 or 108, the cobblestone wall, which, thence westward forms the southern boundary of the pueblo veers outward to enclose another tier of chambers which continues to the south-west corner of the ruin.

Beneath the eastern half of the floor mixed earth and sandstones continue to an unknown depth. One may suspect the presence there of a re-filled kiva.

Room 109

The south wall of Room 109 is 6 feet 5 inches high, and the north, 6 feet. There were two floor levels, one 1 foot 8 inches below the other. Refuse of Chaco age filled the space between the floors. From it came a black-on-white jug, a potsherd disk with edges worked, miscellaneous potsherds, a worked slab of black slate, three arrow points, and a mammal bone awl (Field Nos. 4142-4147 inclusive).

Continuing from the upper floor to the surface of the mound, the fill was of refuse containing Mesa Verde wares. All of this material was sifted and the following objects recovered: skeletons of three infants (99-7919-7920), three black-on-white bowls, three miniature bowls, a mammal bone scraper, twenty-one mammal bone awls, eleven bird bone tubes, fifty-four bone beads, three bird bone awls, two sections of split bird bone, eight grooved axes, three grooved hammers, five small cobblestones, material for pecking stones, sixty-five pecking stones, one pounding stone, eight rubbing stones, one polishing stone, twenty-three manos, one incomplete metate, one sandstone disk, two sandstone slabs, eighteen arrow points, two stone pendants, five beads of turquoise and shell, three pieces of worked turquoise, seven pieces of worked stone, one crescentic mottled stone ornament, three pottery cylinders, and miscellaneous potsherds (29.0-9074-9255). Among these specimens is a greater number of stone tools than have come from any other room in the pueblo. Burials 18 and 24 were in this chamber.¹

¹This volume, 161, 163.

All four walls are of stick and mud construction and constitute the best example of this type of wall thus far found.

In the east wall, beginning 2 feet from its northern end, is a masonry-sealed door, 2½ feet wide. The sill was 4 inches below the upper floor, indicating that the door was not used during the secondary occupation. On the lower floor beneath it lay a thick boulder metate, placed face upward as a step. There was a blocked doorway of the same size in the north wall, beginning 5½ feet from the northwest corner, its sill 1 foot 4 inches above the lower floor.

In the south wall, 7 feet from the west end, was a thimble-shaped hole, 3 inches deep and the same in diameter, which was plugged with clay. It was 1½ feet above the upper floor.

Room 159

With the exception of the southern one, all walls of Room 159 had been dismantled down to within 1 foot 8 inches of the floor. There was a hard-tramped court level over the entire area so that during the latter phases of the occupation of the ruin, no trace of this chamber would have been visible. The east and west walls were of stick and mud construction and the north of sandstone masonry. A seven to eight inch partition with a northward jog at the center crossed the room from east to west; from the jog another partition connected with the north wall. Thus the chamber was divided into a long southern section, 4 feet by 12 feet 4 inches, and two bins, the eastern one, 5 feet 2 inches by 6 feet 3 inches, the western, 4 feet by 5 feet 8 inches. Burials 79 and 80 were in the western bin.¹ Refuse filled the other portions of the room from floor to court level. In it were a portion of a black-on-white olla, potsherds, a mammal bone awl, a double antler prong with ends cut, a grooved ax, and a white stone, probably whitewash material (Field Nos. 4220-4225), and one boulder metate and two fragmentary boulder manos. All sherds belonged to the Chaco complex.

The floor is about 1 foot higher than the lower one in Room 109. Beneath it, mixed, but very hard, earth continues to an undetermined depth. The south wall, or outer face of the northern boundary of Room 109, showed markedly the work of the elements. For a foot or more above the court, the sweep of wind and the splash of rain had eaten out the adobe sometimes to a depth of 6 inches and left at the foot of the wall a deposit of fine gravel, too coarse for the wind to carry away. In the débris extending from the court level to the surface of the mound only Mesa Verde sherds were found.

¹This volume, 189-190.

Built up against the east side of the room were two sandstone bins as shown by the map. (This volume part 3, and Fig. 1). The southern one was 4 by 4½ feet; the northern 4 by 7 feet. The north end of the east wall of Room 159 was built against a handsomely constructed masonry corner which contains the bands of black-green stone visible in several walls near the southwest corner of the west wing. The stub of this dismantled wall continues northward entirely across the court in line with the first cross wall west of Room 125², North Wing.

THE EAST WING

The East Wing of the Aztec Ruin, extending from the north wall of Room 13 to the east and west rib of the north wing bounding the northern sides of Rooms 48, 49, and 54, previous to excavation, had the appearance of a hummocky mound growing gradually higher from south to north. When uncovered, the walls buried beneath this good-sized hill proved to vary in height from a mere foundation at the southwest corner of Room 55 to 20 feet at the northwest corner of Room 48. The walls are almost entirely of sandstone; hence, in the following pages the boundaries of chambers will not be individually mentioned unless they possess unusual features. Inasmuch as the East Wing as a whole exhibits considerable regularity, the sequence in which the rooms will be mentioned will be, where conditions permit, from the court side outward in successive tiers from south to north.

ROOM 25

Rooms 25, 24, 23, 22, 15, and 14, composing the southernmost transverse tier of the East Wing, are small accretions tacked on to the unit lying northward of them, presumably as there was an increased demand for quarters.

At least the basal zone of Room 25 had been tinted red. On the floor were a stone ax, seven manos, and a clay stopper (29.0-5232-5240), a fragmentary dressed slab, a few sherds and animal bones, and a large corrugated pot crushed down against the east wall, 2½ feet from its southern end. At the center of the room was a poorly defined fire hole about 1½ feet in diameter. In the northwest corner a pit, 1 foot in diameter, extended 2½ feet below the floor. With its mouth flush with the latter, a large corrugated jar had been buried in the southeast corner to serve as a storage receptacle.

ROOM 24

The walls of Room 24 had been plastered red, at least three distinct coats being distinguishable. A corrugated pot had been mashed flat beside the center of the south wall and at the center of the room was a shallow irregular fire pit. A thin band of refuse in which were found a mammal bone awl, a stone ax (29.0-5230-5231), and about one gallon of sherds, covered the hard, much-used floor.

Room 23

Since no southern boundary was discoverable, it is uncertain whether or not the space indicated as Room 23 was originally a chamber. It may well have been a sort of entry in front of the door leading into Room 28.

Room 22

The entire south wall and parts of the east and west walls of Room 22 had caved off into Kiva C. On the portion of the floor not undermined and destroyed by the disintegration of the banks of the latter chamber were a red dipper handle, a skinning knife (29.0-5228-5229), and a few sherds.

Room 15

The southwest corner of Room 15 had slipped into Kiva C. On the bases of the remaining walls were traces of red tinted plaster. In the southeast corner stood a corrugated pot, 1 foot 2 inches in diameter, having raised coils around the girdle. Elsewhere on the floor were a yellow skinning knife, two stone axes, a sandal last,¹ a large dressed slab, a polished slab, and a small dressed slab (29.0-5213-5219), with the exception of a sandstone slab (29.0-5217) which was standing in a niche in the west wall. This niche was 1 foot 10 inches broad, more than 2 feet high, and 1 foot 1 inch deep, its sill on a level with the floor, its north side adjacent to the north wall.

Room 14

Room 14 seemed to have been used very little. On the relatively clean floor were a double sandstone mortar (29.0-5212) and a handful of sherds and animal bones.

The walls of the tier of rooms just enumerated had fallen to the extent that there remained no indications of the doorways which once gave access to them.

Room 26

The floor of Room 26, though darkened by use, was free of artifacts. Against the center of the south wall was a small bowl-shaped fire pit. Mixed earth continues beneath the floor and at the northwest center a carelessly built masonry shaft extends downward. Presumably this is the ventilator of a kiva which would be found under Room 29, the next chamber to the northward.

¹See this volume, 23.

Slightly east of the center of the north wall is a doorway 1 foot 10 inches wide and 3 feet 9 inches high, its sill 6 inches above the floor. Centrally placed in the east wall is a door, of practically the same proportions, which was walled up with adobe containing a few stones.

ROOM 27

From 6 inches to 1½ feet of refuse covered the floor of Room 27. From it were taken a mammal bone awl and two polished sandstone slabs (29.0-6730-6732) and many potsherds, the latter of Mesa Verde type. The floor was a mere film of adobe overlying refuse.

There was a two-compartment metate bin parallel to the west wall, 2 feet 1 inch distant from it, its southern side 1½ feet from the southern boundary of the room. In each compartment was a flat boulder metate, sloping downward, with lip toward the west, thus showing that the millers knelt on the eastern side.

In the center of the east wall is a doorway 1 foot 10 inches wide, once more than 3 feet high, and with its sill 1 foot above the floor. The door in the west end has been mentioned in connection with Room 26.

ROOM 28

Room 28 appears to have been a hallway entered by a door in the south wall, having the unusual breadth of 3 feet 3 inches; that communicates by lateral doors with Rooms 17 and 27. Crushed upon the floor in the southwest corner was a black-on-white bowl (29.0-8056). A jug-shaped pit occupied the northwest corner. An adobe rim with rounding top extended 6 inches above the floor and upon it rested a flat stone cover. The pit was 3¾ feet deep and 3 feet in width at the bottom, upon which there was a 6 inch layer of a light porous substance reminding one of decayed excrement.

ROOM 17

On the much-used floor of Room 17 were a mammal bone awl (29.0-5221), a sandstone mortar (29.0-6869), a metate, and a few sherds. At the center of the floor was a small fire pit lined with sandstones. A few ashes were scattered over the floor and decayed cedar roof beams rested upon it at the eastern end, sloping thence upward toward the west wall. In the west end is a door, 1 foot 7 inches wide and 3 feet 5 inches high, its sill at floor level. A second door, 1 foot 9½ inches wide and 3 feet 8 inches high, occurs in the north wall, 2 feet 3 inches from the west end. At the center of the east wall is a third door, 2 feet 1 inch wide, originally more than 3 feet high, with the sill at floor level.

Room 30

The floor of Room 30 was covered with a $\frac{3}{4}$ inch layer of ashes and decayed organic material containing a few potsherds. Thence upward the fill, was, as usual, of fallen wall material.

ROOMS 31 AND 19

Originally, Rooms 31 and 19 were a single chamber of nearly the same size as Room 30. A division was made by introduction of a partition at the central point. This had been pierced by a narrow doorway the exact width of which could not be determined because of the ruined condition of the masonry. At the center of the east end of Room 19 was a pit in the floor 1 foot 3 inches in diameter and $2\frac{1}{2}$ feet deep.

Room 16

A very thin band of refuse covered the floor of Room 16, among which were a few sherds and animal bones. A corrugated pot (29.0-5220) had been buried beneath the floor at the center of the room. Mud had been plastered around the top of the jar and a flat stone covered its mouth. One cedar roof beam protruded from the mass of fallen masonry which filled the room.

Room 29

A meager amount of refuse was strewn over the floor of Room 29, among which were a polished sandstone slab, a grooved ax, and a bone paddle (29.0-6733-6735). Portions of the burned ceiling were in the fill of fallen wall material. Burial No. 8 was in the northwest corner.¹

In the center of the north wall is a doorway 1 foot 10 inches wide, and originally more than 3 feet high, the sill being at floor level. It was completely filled, to a height of 10 inches, with sandstone masonry and thence upward the northern side was sealed with a one-course cobblestone wall, thus leaving a 10 inch recess facing Room 29. South of the center of the east wall is an unusually high and narrow door with dimensions of 1 foot 4 inches and 4 feet, leading into Room 33. This was sealed with cobblestone masonry.

Room 35

On the floor of Room 35 was a very thin stratum of ashes and refuse, and a black-on-white bowl (29.0-6743) lay in the southeast corner. The door in the south wall has been described in connection with Room 29.

¹This volume, 146.

Room 33

The floor of Room 33, though hard packed, was clean as if the chamber had not been used as a dwelling place. Burial No. 9 extended across the north end.¹

The south wall had been thickened by the addition of a 1 foot 7 inch block of cobblestone masonry, through which rises, nearer to the west than to the east, a rectangular shaft 1 foot east and west by 1 foot 10 inches, in the opposite direction. There was an opening into it at floor level, indicating that this long narrow chamber, presumably a storage place, had been provided with a ventilator of the type commonly found in kivas.

Rooms 21, 32, 34, AND 36

The spaces thus marked on the groundplan are the triangular enclosures resulting from the construction of Kiva D within a rectangular area. Invariably, in so far as the writer's experience is concerned, when kivas were thus laid off within a rectangle, the corners were filled in, presumably to impart an appearance of subterraneity to the ceremonial chambers. In this instance the filling material was clean sand containing occasional bits of charcoal and potsherds. One specimen worthy of recording, a bone awl (29.0-6870), came from Room 32.

Room 20

A refuse deposit 2 to 6 inches deep covered the floor of Room 20. From it came a black-on-red bowl, two mammal bone awls, a bone ring (29.0-5224-5227 inclusive), and numerous animal bones and Mesa Verde potsherds; also one mano and two pecking stones. As in the case of Room 33, the south wall had been thickened by the addition of a block of cobblestone masonry. At the time of excavation this was taken to be solid, but a portion of it has now collapsed, revealing the presence of a ventilator shaft like the one previously described in Room 33.

Room 18

The floor of Room 18 was a ½ inch stratum of adobe laid down upon a refuse deposit. At the center of the floor was a circular fire pit, 1 foot 5 inches in diameter and 6 inches deep, lined with thin sandstones. Burial No. 13 was against the west wall.² Aside from a few animal bones and potsherds, the artifacts recovered were a black-on-red bowl and a bone

¹This volume, 147.

²This volume, 151.

scraper (29.0-5222-5223). The bowl had been broken in the second story. During the disintegration of the ceiling of the first, or floor of the second story, of which decayed timbers were present in the fill, the bowl fragments had sifted through, and were found scattered over an area of 100 square feet, from the floor at the center of the room to a height of 2 feet at the northwest corner.

In the north wall, 9 inches from the west end, is a doorway 1 foot 10 inches wide and 3 feet 6 inches high; its sill is at floor level. It had been at least partially blocked with sandstone masonry.

The structure composing Rooms 16-36 inclusive, to which may be added the row of accretionary chambers (Rooms 25, 24, 23, 22, 15, 14), is a definite architectural unit built at a later time than the portion of the east wing lying thence northward. The walls, except those of Kiva D which are very good, are poorly and characteristically built. The material, though for the most part a variety of sandstone, is of a quality seldom used by the first builders at the Aztec Ruin, unless as filling matter in the wall cores where it was hidden from view. These stones are black-brown concretions such as weather out of the strata in the neighboring hills. They are so irregular in shape and so intensely hard, due to impregnation with iron, that it would be next to impossible to build neatly faced walls of them. In the case in question the jagged masonry resulting from their use was coated with a great amount of adobe, sometimes to a thickness of 2 inches. Such treatment contributed a good appearance to walls that were weak and soon collapsed after they ceased to be kept in repair because of the imperfect bedding of the stones and the large proportion of adobe necessary to fill the interstices.

The floor levels of this unit are on an average 2 feet higher than those of the rooms to the northward. The deposit beneath them is for the most part of ashy refuse, rich in sherds and animal bones. In a few of the meager test pits which have been sunk into it, stubs of sandstone walls pertaining to an earlier structure which once occupied at least a portion of the area have been found. All sherds from beneath the floors are of the Chaco complex, while the vessels and fragments from the rooms represent Mesa Verde wares. Thus, it may be stated that this cluster of chambers was built and inhabited during the latter, or Mesa Verde, period of occupation of the Aztec Ruin.

Room 55

The floor of Room 55 is at the last-used court level, that is, 3 feet higher than that of Room 59 which adjoins it on the east. A fire pit 1 foot

7 inches in diameter and 5 inches deep was at the center of the floor, and although there were no artifacts upon the latter, a large black-on-white olla (Field No. 4652) was buried beneath the southeast corner. A test pit sunk where this pot was found revealed several hard-packed yard levels and none but Chaco sherds.

In the south wall, 1 foot 3 inches from its east end, there remains the bottom of a doorway 2 feet wide, its sill 1 foot 10 inches from the floor. Slightly east of the center of the north wall is a second 2-foot door, with sill 1 foot 10 inches above the floor.

Room 50

Room 50 was filled with refuse practically to the surface of the mound, this material having a depth of 15 feet at the northeast corner. The specimens recovered were two black-on-white bowls, one black-on-white mug, a pottery disk, a sandstone mortar, one grooved hammer, one grooved ax, two polished rubbing stones, four sandstone slabs, one chipped knife blade, three arrow points, one mammal bone scraper, one bone needle, fifteen mammal bone awls, seven bird bone awls, one bone cylinder, potsherds (29.0-7085-7127), and one ladle handle, one dipper handle with rattle, four grooved axes (20.0-7132-7133, 7136-7139). 29.0-7125 represents the sherds from a section taken in this room. The material is not at hand for observation at the present time, but it is safe to predict that the sherds from the lower strata will prove to be of Chaco and those from the upper strata of Mesa Verde type.

In the southeast corner an irregular excavation, with an average diameter of 3 feet, extended $2\frac{1}{2}$ feet into clean sand. It had been filled with slabs and exceptionally regular blocks of building stone neatly piled as if cached for future use.

In the west wall, which was a portion of the front of the East Wing before Room 55 and the tier thence northward was added, there had been a Tau-shaped door. It had been variously remodeled, but most of the dimensions could be ascertained: height of sill above floor, $1\frac{1}{2}$ feet; width of lower part, 2 feet 5 inches; height, 2 feet 3 inches; width of upper part, 5 feet 3 inches; height, more than 3 feet. A rectangular door occupied the center of the east wall. The sill was 2 feet 3 inches from the floor and the opening 2 feet 8 inches wide and 3 feet 11 inches high. This door had been filled with sandstone masonry. Beginning at its northern edge and continuing thence to the north wall, is a series of seven beam insertions at a height of 5 feet 8 inches above the floor, the timbers having spanned the room with their opposite ends embedded in the west wall.

In line beneath the southern beam a row of cedar posts had been set into the floor at 4 to 10 inch intervals. These had been plastered over to form the exposed side of a small chamber of which the horizontal timbers inserted in the walls had been the roof supports. In the north end of the east wall, 2 feet above the platform afforded by this roof, a doorway 1 foot 10 inches wide and 2 feet 6 inches high, communicates with Room 43. Doubtless this was of secondary construction.

In the west end of the north wall, 9 inches above the roof of the small chamber, a round peeled stick $1\frac{3}{4}$ inches in diameter and 3 feet 2 inches long had been embedded horizontally in the masonry, its outer edge flush with the plaster. At the east end of the stick and immediately above it, also 6 inches from the west end, round pegs had protruded at right angles from the wall. Nine inches above the center, a similar peg had been inserted between the stones, its outer end pointing toward the southeast, and 4 inches above and 7 inches eastward of it was another peg, pointing toward the southwest. Four inches above the latter, a second horizontal pole $2\frac{1}{2}$ inches in diameter and 4 feet 2 inches long was set in flush with the masonry, and 9 inches above this, and a like distance from the west wall, a fifth peg protruded, pointing toward the southwest.

In the east wall, 8 inches south of the top of the blocked door, the end of a large beam had been set into the wall and on the same level a second one appeared adjacent to the south wall. As these had been torn out there was no proof of what they had been part. A horizontal ventilator 1 foot 5 inches high and 10 inches wide pierces the south wall 10 feet 3 inches above the floor at a distance of 7 inches from the east wall.

ROOM 43

Two floor levels were found in Room 43. The upper was covered with 2 to 3 inches of refuse from which came an incomplete black-on-white dipper (29.0-6863) and some Mesa Verde sherds. In the center was a fire pit, 1 foot 3 inches in diameter and 7 inches deep, lined with sandstones. Between the floors were $3\frac{1}{2}$ feet of refuse containing some fallen wall stones and timbers, large pine logs, small round poles, and cedar splints, composing the full quota of wooden elements for a ceiling. This refuse was a Chaco deposit from which came a mammal bone awl and a ladle of black-on-white ware (Field Nos. 4230, 4653) and numerous potsherds. Burial 81 was beneath the lower floor.¹

West of the center of the south wall is a blocked and almost obliterated door, 2 feet wide and of unknown height. Built up in the room

¹This volume, 190, 193.

against it was a masonry ventilator shaft, like those with which kivas were equipped, extending down to the lower floor. A door at the center of the east wall had been sealed with masonry. Its dimensions were: width, 2 feet 4 inches; height, 3 feet 11 inches; sill, 1½ feet from floor.

Room 40

Room 40 had two floors; upon the upper one rested an average of 5 feet of refuse, principally dust and ashes, containing many potsherds. From this deposit came a sickle-shaped red jasper blade, an arrow point of the same material, a mammal bone scraper, eleven mammal bone awls, a bird bone cylinder, and a section of worked shell (29.0-6914, 6916, 6918, 6920-6932). The 2½ feet space between the floors was filled with sandstones, adobe clods, and earth in which were sherds, animal bones, three chipped knives, a yellow jasper arrow point, sixteen quartzite arrow points, and a mammal bone scraper (29.0-6911, 6913, 6915, 6917, 6919). Evidently the roof had been removed as no timbers from it were found in the fill.

At the center of the south wall was a door, its sill 1 foot 2 inches above the lower floor. The original dimensions were: width, 2 feet 4 inches; height, 3 feet 10 inches. Presumably when the second floor was laid, the door was filled with masonry for a distance of 1 foot 5 inches, and thence upward narrowed by the addition of a 4-inch shell of masonry placed against the east jamb. The door in the center of the east wall was also blocked. It was 2 feet 1 inch wide and more than 3 feet high. The door opening in the middle of the north wall is 1 foot 11 inches wide and 3 feet high. Beginning 11 inches from the face of the wall and sloping thence backward to a distance of 1 foot 5 inches at the top, is a 3-inch shoulder of masonry on each side of the door, thus reducing its width to 1 foot 7 inches where it emerges into Room 41. The sill of this door is 1 foot 2 inches from the floor.

Beneath the lower floor was about 1 foot of refuse-stained earth from which came a black-on-white olla (Field No. 4231) and some sherds, all of Chaco type.

Room 37

Upon the upper floor in Room 37 was a thin stratum of drift sand, then charcoal from the burned ceiling. A black-on-white bowl (29.0-6890) was inverted at the center of the floor, 10 feet from the south wall. A small red bowl with an animal's head in relief on one side (29.0-6889)¹

¹This volume, 86.

was broken and scattered across the north end of the room and into the door into Room 41. In a cavity in the north wall was the head of an animal or bird effigy pot (29.0-6982).¹ Burials Nos. 10 and 11 were on the upper floor at the north end of the room.²

The 1 foot 10 inch space between the floors was filled mostly with fallen wall material, among which were found an archaic bowl (29.0-6891) and a trough-shaped metate (29.0-6910).

The great length of this room is due to the fact that a partition once dividing it into two and crossing in line with the north wall of Room 40 had been torn out, down to the cobblestone foundation. The south wall had also been dismantled or else had fallen to within from 2 to 4 feet of the lower floor. The wall which eventually was raised to take its place rests upon the original, and is from 10 inches, at the east end, to 1 foot 3 inches, at the west end, thinner than the former one.

In the angle formed by the junction of the foundation of the torn-out partition and the east wall a pit extended from the upper floor to 2½ feet below the earlier one. In it was much charcoal from the burned ceiling. Since it must have been open at the time they were made, it seems strange that Burials Nos. 10 and 11³ were not placed in this pit rather than left exposed in the diagonally opposite corner of the room.

Since the east wall is an outer boundary of the pueblo, it contains no doorways.

Room 56

Refuse filled Room 56 from the floor to the surface of the mound. In it were found five black-on-white bowls, a small coiled ware pot, fifteen bird bone tubes, a mammal bone awl, potsherds (29.0-7849-7863) and Burial No. 15.⁴

A roughly laid masonry trough, about 1 foot square, which probably was roofed over to form a tunnel, extended from an opening in the center of the west wall, just below ground level, diagonally downward across the room, to the north side of the sealed door in the opposite wall. The fall of this tunnel was slightly more than 1 foot. Presumably the device was a ventilator for Room 51.

Below the floor there is refuse and mixed earth to an undetermined depth.

¹This volume, 84.

²This volume, 147-148, 151.

³This volume, 147-151.

⁴This volume, 153, 155.

Room 51

The initial deposit in Room 51 was an average of 8 feet of refuse, over which lay charcoal from the burned ceiling. The specimens found in the refuse were: a rectangular bowl, three black-on-white ware bowls, fragment of a black-on-white pot lid, potsherds, seven grooved axes, one grooved hammer, one sandstone block, a polished stone disk, a pounding stone, four polishing stones, one chipped knife, seven mammal bone scrapers, ten mammal bone awls, eight bird bone awls, two bone cylinders, two worked deer horns, and potsherds (29.0-7128-7131, 7134-7181). 29.0-7181 represents potsherds from a vertical section taken in this room.

Centrally placed in the west wall had been a T-shaped door with the following dimensions: width of lower part, 2 feet 4 inches; height, 2 feet 6 inches; width of upper part, 4 feet 11 inches; height, 4 feet 2 inches; sill, 1 foot above floor. The door had been completely filled with masonry. The wall beneath it had been torn out to provide a vent for the tunnel described under Room 56. The rectangular door in the center of the east wall also had been blocked. Its dimensions were: width, 2 feet 5 inches; height, 3 feet 10 inches; sill, 1 foot 3 inches from floor. At the center of the door, 1 foot 3 inches from the sill, there had been left a recess 7 inches square and 9 inches deep. The interior was smoothly plastered.

In the southeast corner a triangular bench of masonry rose to a height of 1 foot 7 inches. It extended 3 feet along both east and south walls. Two poles had spanned the north end of the room, $4\frac{1}{2}$ feet above the floor. They were set into the masonry, respectively, 4 inches and 1 foot 3 inches from the north wall. The northern one had been laid with butt to the east, and the other in the opposite direction. Both were about $3\frac{1}{2}$ inches in diameter at the butt and $1\frac{1}{4}$ at the tip.

Room 44

A terrific fire had raged in Room 44. The chamber had been filled to a depth of from 10 to 15 feet with refuse containing a large proportion of vegetable substance. After combustion, this mass had been reduced in bulk to a depth of 7 feet. The heat generated had been intense. In places adobe clods had been melted and fused and sandstones had been burned to a brick red. Eleven black-on-white bowls, a dipper, potsherds, a grooved ax, a chipped knife blade, and a mammal bone awl (29.0-6894-6909) were recovered. Among the animal bones from this room, skulls of deer and mountain sheep were conspicuous. The fragments of a

number of pottery vessels were sorted from the large quantity of sherds recovered. All are of Mesa Verde type. Where the scattered pottery fragments had been subjected to different degrees of heat, some were clear white, some of a pinkish caste, and others black as coal. By heating the blackened fragments to a cherry red, the carbon deposit was driven off with the result that it was possible to determine to which of the vessels they belonged.

The door in the west wall has been previously described. The one at the center of the east wall had been sealed. Its dimensions were: width, 2 feet 3 inches; height, 4 feet; sill, 2 feet 4 inches above the floor. Two horizontal ventilators pierce the ends of the east wall just below the ceiling level. Poles had been set into the masonry across the north end of the room like those described in Room 51, except that there were four instead of two, the southernmost being 4 feet from the north wall.

ROOM 41

Conditions in Room 41 are given in the description of Burial 16.¹ The conflagration which so badly damaged the accompaniments of this burial produced heat sufficient to burn portions of the walls a brick red to a depth of 6 inches, and to harden the adobe plaster so that a good deal of it remains in place.

The doors in the west and south walls have been previously described. The one at the center of the east wall is 2 feet 3 inches wide, and was more than 3½ feet high, with sill 2 feet 3 inches from the floor. The lower portion was filled with masonry, but if the opening ever had been completely blocked, the upper two-thirds was re-opened previous to the fire.

As in Rooms 56 and 51, poles had crossed the northern end of the chamber. In this case there were two, 4 feet 5 inches above the floor, the eastern ends, respectively, 3½ inches and 1½ feet from the north wall, and the western, 1 foot 1 inch and 2 feet 4 inches.

ROOM 57

Refuse filled Room 57 to the surface of the mound. From it came a coiled ware bowl² with black interior, a gilsonite pendant, worked gilsonite, potsherds (29.0-7864-7867), and many animal bones. Beside the center of the north wall was a fire pit, 2 feet in diameter and 1 foot deep, lined with flat cobblestones set on end and flaring slightly outward toward the top. A walled passage, probably a ventilator, runs beneath the floor

¹This volume, 155-161.

²This volume, 67.

into Room 52. The west end is an opening, slightly more than 1 foot square, piercing the front wall, 1 foot south of the door. Thence the passage runs diagonally northward to beneath the center of the door in the east wall where it ends in a neatly walled vent 11 inches wide and 1 foot 3 inches high.

The door in the center of the west wall was 2 feet 2 inches wide, and of unknown height, with sill 4 inches above the floor.

Room 52

The basal stratum in Room 52 was $3\frac{1}{2}$ feet of refuse. Upon this lay Burial No. 14,¹ and thence upward there were 9 inches of refuse on the east side of the room and 4 feet on the west. In addition to the specimens found with the burial five black-on-white bowls (29.0-7182-7186), twenty mammal bone awls, five bird bone awls, potsherds (29.0-7248-7273), and a fragment of a black-on-white bowl with animal handle² (29.0-7187) were recovered. Portions of the burned ceiling of the room were among the fill immediately above the refuse. The T-shaped door in the east wall was 2 feet 4 inches nearer to the south end than to the north. It had been completely sealed. The original dimensions were: width of lower part, 2 feet 3 inches; height, 3 feet; width of upper part, 4 feet 7 inches; height, more than 3 feet; sill, 10 inches above floor.

In the west wall, had been a second door with its northern edge $1\frac{1}{2}$ feet from the north wall. Originally it was 2 feet 7 inches wide and 4 feet 7 inches high. First it was narrowed by building up $5\frac{1}{2}$ inches of masonry against each jamb, then closed completely, the filling of the central part being set back 2 to 5 inches from the wall face.

The door in the center of the east wall had not been blocked. It is 2 feet 8 inches wide and 3 feet 6 inches high, with sill 2 feet above the floor. There had been a second door in the east wall, its north edge being 6 inches distant from the north wall. Although neatly sealed, its dimensions are evident: width, 2 feet; height, 3 feet 3 inches; sill, 1 foot above floor. Somewhat east of the center of the north wall is another blocked-up door. It was 2 feet 3 inches wide, 4 feet high, with sill 1 foot from the floor.

In the south wall, 1 foot 9 inches from the east end and 1 foot from the floor is a recess, 2 feet 2 inches wide, 8 inches high, and 1 foot deep. The corners are rounded and the interior smoothed with adobe plaster.

¹This volume, 151-153.

²This volume, 84.

Room 45

Moist, well-solidified refuse covered the floor of Room 45 to a depth of 8 feet. In it were many animal bones and sherds and a few specimens worth cataloguing (a mammal bone scraper, mammal bone awl, two bird bone awls, and potsherds, (29.0-7076-7080). Burial No. 12 was in the southwest corner above the refuse.¹ The ceiling had broken and sagged down upon the refuse at the center of the room, and most of it had been burned.

The door in the center of the east wall is 2 feet 1 inch wide and 4 feet high, with sill 2 feet 3 inches from the floor. The door described as in the north end of the east wall of Room 52 was narrowed at the east side, the opening into Room 45 being 1 foot 4 inches wide. This side was left open back to the shoulder, giving the resulting recess a depth of 1½ feet.

A drawn-in door at the center of the north wall had been similarly blocked from the side of Room 47. The recess which it provides is 1 foot 5 inches wide, 2 feet 9 inches high, its sill 1 foot 7 inches from the floor.

Room 42

The first four to five feet of fill in Room 42 was of refuse. Apparently the waste material had been brought in through a door in the west wall and had been heaped highest in the parts farthest distant from the door. The entire deposit was sifted. The sifting yielded three bushels of bird and animal bones, conspicuous among them those of deer and turkey; 2½ bushels of black-on-white potsherds, half a gallon of black-on-red, and three bushels of corrugated ware; also six black-on-white bowls, one light brown bowl, five black-on-white dippers, potsherds, nine arrow points, hematite bead, four shell beads, bone scraper, bone spatula, twenty-eight mammal bone awls, four bird bone awls, three bird bone beads (29.0-6796-6862). One large bowl (29.0-6796) was assembled from fragments scattered all over the chamber. The handle and half of the bowl of a dipper (29.0-6804) were in this room, and the remainder was found in Room 48, two rooms distant. Most, if not all, of the refuse was a Chaco deposit. Overlying it was a stratum of washed and blown sand, then the remains of the charred ceiling.

In the east wall was a doorway of practically the same dimensions as the one in the west, described in connection with the preceding room. The wall collapsed just as excavations were completed; hence, measurements were not taken. Up to a height of 13 feet this wall retained its

¹This volume, 151.

width of 3 feet. Built upon it was a carelessly laid secondary portion, 1 foot 8 inches thick, which stood to a height of $3\frac{1}{2}$ feet. When the room was repaired the latter was not rebuilt.

Room 38

Two bowls of the earlier type (29.0-6933-6934) were crushed against the base of the south wall of Room 38. Fallen masonry, 2 feet 8 inches thick, covered the floor. Upon this another floor had been laid. The next stratum was 2 feet of sand containing a few wall stones, and then came 4 to 7 feet of sweepings, deepest against the east wall. Among them were many potsherds. In the fill above the dust deposit were burned ceiling timbers.

The east and north walls had fallen to within $3\frac{1}{2}$ to $4\frac{1}{2}$ feet of the floor. Eventually they were rebuilt, the eastern one of sandstones, the northern of very small pieces of the same material and cobblestones indiscriminately mixed. Of the latter 9 feet remained at the northwest corner of the room. Inasmuch as the bowls from the floor are of Chaco type and the sherds from the refuse of Mesa Verde ware, the rehabilitation may be assigned to the latter period.

Room 58

The first element of the fill in Room 58 was $5\frac{1}{2}$ feet of dust, evidently sweepings, among which were some ashes, potsherds, and animal bones. Specimens recovered were an arrow point, a mammal bone awl, a mammal bone with ends cut, seven bird bone tubes, a grooved bone, two stone beads, a shell bead, and potsherds (29.0-7506-7520). Evidently the ceiling had been removed as there were no traces of timbers, either burned or decayed, in the fallen masonry which lay above the dust.

At the center of the south half of the room was a fire pit, 1 foot 8 inches in diameter and 7 inches deep. The door in the center of the east wall is 2 feet 3 inches wide. The sides, when uncovered, stood to a height of 2 feet. In the repair subsequent to excavation, the masons proceeded on the assumption that the door was T-shaped, which point can neither be confirmed nor disproved.

At one time there was a door in the north wall, 1 foot 10 inches from the east end, 1 foot 9 inches wide, 2 feet 9 inches high, with sill 1 foot 10 inches from the floor. Probably when Kiva G was built it was blocked up from the north side, in a manner which left a recess 1 foot 2 inches deep opening into Room 58. In the northeast corner, the ventilator shaft

of Kiva G extends 4 inches past the east edge of the recess. The external dimensions of this shaft are: east and west, 2 feet 2 inches, and 1 foot 3 inches in the opposite direction.

Room 53

Room 53 was completely filled with fallen masonry. Only two specimens were on the floor: a fragment of a bowl and a chipped knife blade (29.0-7452-7453). The former is a portion of a large red bowl with black interior pattern outlined in white and white exterior decoration. This is a piece of foreign ware, evidently brought in from Arizona.

In the center of the floor, midway between the two doors, was a fire pit 1 foot 4 inches in diameter and of undetermined depth. The pit was lined with long blocks of sandstone 2 to 3 inches thick, and set on end so that they extended about 2 inches above the floor. There is an older floor 1 foot 10 inches below that containing the fireplace. A pit sunk in front of the T-shaped door communicating with Room 58 revealed 2 to 3 inches of refuse on the lower floor. The remainder of the fill was of relatively clean earth in which were a few sandstone wall blocks.

The sill of the T-shaped door was on a level with the upper floor, that is, 1 foot 10 inches above the one in existence when it was built. The width of the lower part is 2 feet 2 inches; its height, 2 feet 7 inches. The upper part is 4 feet 8 inches wide and was more than 3½ feet high. The bottom had been filled up to a height of 10 inches, that is, to the level of the floor in Room 58.

The original dimensions of the rectangular door at the center of the east wall were: width, 2 feet 6 inches; height, 3 feet 7 inches; sill, 1 foot above the upper floor. On the eastern side it was provided with inset shoulders reducing its width to 2 feet. Later, secondary lintels were put in, a second panel of masonry added on the south side, and one of mud on the north, giving the door, as it was ultimately used, a width of 1 foot 6 inches and a height of 2 feet 8 inches. The blocked door in the south wall was described in connection with Room 52.

There had been at least five coats of plaster on the walls, the first three adobe, each smoked black before another was added; and the last two of white.

Room 47

A Chaco refuse deposit 5½ to 8 feet deep covered the floor of Room 47. Evidently the waste had been poured in through a hatchway in the center of the ceiling since the accumulation was thickest at that point and sloped

thence downward in all directions. This refuse was characteristically rich in specimens, seven black-on-white bowls, one black-on-white dipper, one black-on-white water jar, eight portions of effigy pots, potsherds, a piece of worked wood, head of reed stem arrow, three shell bracelets, a shell bead, two gilsonite pendants, one selenite pendant, plate of worked bone, two turquoise beads, one turquoise set on bone, copper ore, pigment, worked pottery, a grooved ax, a polished sandstone slab, a fragment of a skinning knife, a polished stone, a fragment of an agate knife blade, a portion of a quartzite knife blade, twenty-six arrow points, a bone hammer, three deer horns with points worked, two mammal bone scrapers, one mammal bone spatula, two mammal bone needles with eye, thirty mammal bone awls, seven deer bone awls, and two bird bone cylinders (29.0-6980, 6982-7073) being recovered. From a purely esthetic standpoint, no more pleasing specimen has been found in the entire ruin than the shell bracelet (29.0-7002) set with turquoise. Upon the drift sand immediately overlying the refuse were the rotten ceiling timbers showing no trace of fire.

The door in the center of the east wall is 2 feet 3 inches wide, 3 feet 4 inches high, with sill 2 feet 2 inches from the floor. This door is of the recessed type, a shoulder of masonry on either side reducing it to a width of 1 foot 10 inches where it opens into Room 46. The blocked door in the south wall has been described under Room 45. The sill is a thin slab of stone which protrudes 2 inches beyond the masonry. In the northeast corner is a recessed diagonal second story doorway leading into Room 48. On the side of Room 47 it is 3 feet wide, dropping to 1 foot 10 inches at the opposite end. The sill is 2 feet 1 inch above the level of the second floor and 14 feet above the first.

Room 46

Refuse 5 to 7 feet deep, its surface sloping downward toward the south, covered the floor of Room 46. From it were taken two black-on-white bowls, the side of a small pot, potsherds, two polished stones, a chalcedony arrow point, the point of a chipped knife blade, a cylinder of wood, two deer horns with points worked, two mammal bone scrapers, a mammal bone needle with eye, eight mammal bone awls, two bird bone awls, a bird bone cylinder, five shell beads, animal bones, a fragment of worked copper (29.0-6936-6969), and between two and three bushels of animal bones. Burned ceiling timbers were immediately above the refuse.

The rectangular door in the east wall is 2 feet 3 inches wide and 3½ feet high, with sill 2 feet from the floor.

Room 39

With the exception of an 8 to 12 inch stratum, Room 39 was filled with fallen wall material. This stratum, composed principally of ashes, and containing many potsherds, occurred at a height of 8 feet above the floor. Over the ash layer were the remains of the burned ceiling.

The east wall, an element of the outer boundary of the pueblo, leans outward 1 foot 3 inches in a rise of 8 feet. It had assumed this position previous to the aboriginal rebuilding of the south wall described under Room 38, there being no separation between the secondary and original masonry. There is a marked contrast in the appearance of the two; the later wall is carelessly made of small stones with thick layers of mud between. The face is wavy and irregular as if built by a novice, or by one who took no pride in his work. The north wall was rebuilt in the same clumsy fashion, from a height of 8½ feet upward. In some places cobblestones were used exclusively, and in others, sandstone.

Room 49

The initial 3 to 5 feet of fill in Room 48 was of refuse, mostly ashes, deepest against the east wall near the door. In it were found a red pottery disk, part of a pottery human effigy, potsherds, eleven mammal bone awls, a bird bone awl, a bird bone tube, two shell beads, two arrow points, a gilsonite pendant, a chipped knife blade, two grooved axes, a grooved hammer, grains of corn, human excrement, eight reed stem cigarettes, a wooden knife handle, the end of a bow, the notched end of a reed arrow, a piece of wrapped reed, the foreshaft of an arrow, two pieces of buckskin, two cedarbark pot rests, fiber, cord wrapped with hide, six fragments of mats, baskets and cloth, a bundle of rushes wrapped in cloth, and many potsherds (29.0-7274-7320). Above the refuse were the timbers of the fallen ceiling. The latter had consisted of two pairs of pine timbers crossing the shorter dimension of the room and dividing its area into thirds. Above them, laid in the opposite direction, had been peeled poles 2 to 3 inches in diameter, then a layer of cedar splints, an inch of adobe, a covering of cedarbark, and finally several inches of clean earth, the top of which had formed the floor of the room above. Fire had reached no portion of this ceiling.

The floor at which excavations ceased is at least 2 feet 2 inches above what was ground level at the time the walls were erected. Where the floor was broken through, the fill beneath was found to contain small cobblestones carried in presumably at the time Kiva G was erected for the purpose of raising the floor level well above that of the kiva.

The door in the center of the west wall proves that the floor above the gravel was not part of the original plan because the sill is an undetermined distance below the limit of excavations. This door is 2 feet 5 inches wide, $3\frac{1}{2}$ feet of it being now visible. Doubtless it was sealed when the chamber with which it communicated was dismantled to make room for Kiva G. Also, in the west wall, beginning 2 feet 3 inches from the north end and 6 feet 3 inches from the floor, is the base of a door 3 feet wide which opened out on to the area above the roof of the kiva.

A recessed door occupies the center of the east wall. It is 2 feet 3 inches wide and 3 feet 6 inches high, with sill 6 inches from the floor. The reduced aperture on the side of Room 48, $1\frac{1}{2}$ feet wide and 2 feet 3 inches high, is a secondary feature. Instead of the usual panels of masonry, a pole slanting to the eastward was set up parallel to each jamb, secondary lintels were put in, and the sticks plastered over and hidden with adobe. Two feet south of this door is a wall recess constructed in a cavity where a considerable mass of masonry had been torn out. The opening into it was 1 foot 3 inches square and 1 foot 2 inches above the floor. Two round sticks, the north ends resting upon a wall stone, the south upon a section of pole set vertically, served as lintels. The ragged hole in the wall had been closed by building over the sticks, a thin wall to a height of 1 foot 5 inches. The roof of the recess had been slightly above the lintels. Sticks lay with one end upon them and extended back to the masonry. Over them lay a mat of parallel reed stems which was torn out soon after the room was excavated by some heedless visitor. The adobe-coated interior of the recess is very irregular in shape, its maximum dimensions being: length, 2 feet 9 inches; depth, 2 feet; height, $1\frac{1}{2}$ feet. There was a second recess $1\frac{1}{2}$ feet south of the first, with interior dimensions of: length, 1 foot 3 inches; depth, $1\frac{1}{2}$ feet; height, 1 foot. The aperture had been somewhat smaller than the above figures, but was too badly destroyed for exact dimensions to be obtained.

At the center of the east wall remains the base of a second story doorway, 2 feet wide, with sill 2 feet 1 inch above the level of the floor. A diagonal door traverses the northeast corner to Room 62². It is 2 feet wide, $3\frac{1}{2}$ feet high, with sill 2 feet 2 inches from the level of the second floor.

Room 48

The floor of Room 48 was covered with refuse to a depth of from $4\frac{1}{2}$ feet to 7 feet, deepest in front of the door in the east wall. The greater proportion of this deposit was of vegetable substance; cornstalks, husks, tassels, and cobs, cedarbark, splinters of the same wood, as well as human

excrement. This deposit of Chaco age had been completely protected from moisture and constituted, aside from some found in the caves of Del Muerto cañon, the richest repository for perishable artifacts (29.0-7521-7839) that has come within the experience of the writer. Among other objects this deposit contained: two black-on-white bowls, fragments of mended vessels, pottery effigy of a skunk, three pottery feet belonging to animal effigies, black-on-white potsherds, two jar stoppers of unburned clay, four pieces of moulded unburned clay, two grooved axes, one grooved hammer, two chipped knife blades, an arrow point, two pounding stones, a stone covered with red pigment, a polishing stone, a drilled pink stone, four mammal bone scrapers, five mammal bone awls, three pieces of worked horn, remnants of corn, beans and pumpkins, fragments of a gourd shell bottle, bundles of herbs, wads, quids, rings, and bundles of cornhusks, strips and chains of yucca, bundles of prepared yucca fiber, bundles of yucca strips, yucca cord, plain and sinew and feather wrapped, cotton cord, twenty pieces of cotton cloth, twenty-two twined-woven sandals, twelve plaited yucca sandals, seventeen cedarbark pot rests, eleven corn leaf pot rests, two grass pot rests, two twig pot rests, four plaited pot rests, nine yucca rings, examples of plaited matting, bundles of rush stems, two basket frames, six meshwork baskets, a snowshoe frame, various parts of baskets, five hairbrushes, two rolls of cedarbark, thirteen reed stem cigarettes, two reed arrows, a wooden arrow, twelve parts of reed arrows, five foreshafts of wooden arrows, two corn-cob darts, pieces of bark, various worked sticks, five cylinders of wood, twelve pieces of worked wood, two hearths of fire drills, a wooden disc, feathers and quills, pieces of tanned hide and strings, two parts of moccasins, a shell bead, a disc-shaped bead, adobe mud bearing impressions of cloth and human foot, and potsherds.

From $1\frac{1}{2}$ to $2\frac{1}{2}$ feet of sand had worked down through the second floor before the timbers supporting the latter had failed. These had fallen in recent times, after the mound had reached its final form, as evidenced by the ragged crater left by the settling of the débris above them subsequent to their collapse.

The door in the center of the east wall is 2 feet 3 inches wide, and 3 feet 10 inches high, with sill 1 foot 10 inches from the floor. Above and slightly northward of it is the base of a second story floor, 2 feet 9 inches wide, beginning 2 feet 10 inches from the level of the floor. The floor of this room is 2 feet below that of Room 49.

ROOM 54

The first 1½ feet of fill in Room 54 consisted of fallen masonry and the uncharred wood of a ceiling which had been supported by two transverse pairs of cedar logs. The interstices between the stones were not filled with earth, indicating little action of wind and rain before the subsequent filling took place. Above this basal deposit was 9½ to 10 feet of dry refuse with a large vegetable component. It had been well sheltered from moisture; hence, perishable objects were excellently preserved. That the waste material accumulated during the Chaco period is shown by the fact that a human effigy vessel¹ (29.0-7321) was scattered from one end of the room to the other. Such vessels do not occur among Mesa Verde pottery. Other specimens from this room are: a grooved hammer, a chipped knife blade, a selenite pendant, a piece of selenite, five arrow points, a quartzite drill in a wooden shaft, bits of turquoise, a mammal bone scraper, nine mammal bone awls, four bird bone awls, a bird bone tube, pumpkin stem and shells, a bundle of husks, two bundles of grass, three bundles of yucca strips, fiber, various weights of yucca cord, three cloth sandals, a plaited sandal, a plaited bag, fragments of rush matting, fragments of coiled baskets, seven pot rests of cedarbark and cornhusk, rings and coils of twigs, oval and rectangular withe frames, bound and laced with yucca, two sticks bound with cord, four sticks strung on yucca cord, two sticks bound with sinew, two reed stem arrows, a wooden fore-shaft, four pieces of rawhide, a piece of buckskin, part of rawhide moccasin sole, and many potsherds (29.0-7322-7407). 29.0-1588 represents the sherds from a section taken in this room. The charred timbers of a ceiling were above the refuse, separated from it by 8 inches to 1 foot of drift sand.

The door communicating with Room 48 was lowered on the side of the chamber being described by the insertion of two secondary lintels 7 inches below the original ones, and filling the space above them with stones and mud. Beneath the north center of this door, the top of a square-cut cedar post, 5½ inches in diameter, rises 6 inches above the floor. Evidently it served as a step. A door 2 feet 9 inches wide in the center of the east wall begins 2 feet 10 inches above the level of the second story floor.

The door at the middle of the north wall is 2 feet 3½ inches wide and 4 feet 2 inches high. The sill is at a height of 2 feet 3 inches; 1 foot from the floor a block of sandstone, 6 inches wide, protrudes 3 inches from the wall to provide a step for anyone entering Room 59.

¹This volume, 82.

The south wall, previously described as the northern one of Room 39, shows plainly that Room 54 was filled up to a height of $8\frac{1}{2}$ feet before the secondary portion was built. The north side of the latter rests upon refuse throughout the eastern two thirds of its length. The original wall was broken down $1\frac{1}{2}$ feet lower on the north side than on the south, and the masons began the later wall upon the level of the highest existent masonry instead of digging down to bed it on stone all the way across which would have been unavoidable had not the space been filled. Above a height of 4 feet the southern two thirds of the east wall was also rebuilt, the newer portion being set back from 1 to 4 inches from the wall face beneath.

A door leading into Room 60² occupies the center of the north wall. It is 1 foot 11 inches wide, with sill 2 feet 6 inches above the level of the second story floor. The original height was more than $3\frac{1}{2}$ feet.

On the court side of the East Wing a walk, or platform, $29\frac{1}{2}$ feet long, 4 feet wide at the south end, $4\frac{1}{2}$ feet at the north, and an average of 1 foot 3 inches high, extends from in front of Room 57 northward across the space once occupied by Kiva S. to the edge of Kiva I. Immediately south of it is a fire pit, walled with sandstones, $4\frac{1}{2}$ feet from north to south, 3 feet 3 inches wide, and more than 2 feet deep.

On the assumption that the excavation of the Aztec Ruin would be completed and the débris immediately beyond the outer walls removed, while the masons were occupied in that quarter, a trench was dug along the exterior wall of the east wing to the depth necessary to reveal solid masonry, and the face of the wall repaired. During the course of this work it was discovered that in the rehabilitation of the portions along Rooms 38 and 39, previously described, the wall had been considerably thickened with the result that it appeared as if a great blister-like patch had been added at this point.

THE NORTH WING

The North Wing constitutes practically half of the building mass of the pueblo. The mound into which it had disintegrated rose abruptly at each end to a height of some 25 feet, then sloped gradually downward toward the center until it approached the cluster of walls behind Kiva L which stand to a maximum of 29½ feet. For practically half of this altitude they always stood above the débris. Here it was that most of the pictures taken previous to 1916 were made. Elsewhere occasional bits of wall protruded from the surface in many parts of the North Wing with the result that a fairly accurate chart of the groundplan could have been traced out before excavations were begun.

The rooms which have been cleared will be described, where their arrangement permits, in successive tiers from south to north, beginning at the southeast corner.

Room 59

Room 59 has been open for many years, having first been broken into during the early eighties. Although the pair of supports crossing the center of the room, from east to west, had cracked midway of their length, the ceiling was otherwise intact, except for the hole torn out of the southeast corner by the relic hunters. This was repaired after the chamber above (Room 62²) had been cleared of débris, and a cement floor was laid over them to protect the timbers from moisture.

There was nothing to indicate that the chamber had ever been used as a living room. A pit sunk through the floor in the northwest corner revealed a cobblestone wall extending 3 feet beneath the sandstone structure, at which point excavations were stopped without having reached the bottom of the masonry.

Débris had run in through the doors in the north and south walls in sufficient quantity to fill the room to a depth of 5 feet. Among it were found a yucca sandal, yucca cord, a worked stick (29.0-5241-5243), and a few sherds and animal bones.

The door in the center of the north wall is 2 feet 2 inches wide and 3 feet 9 inches high with sill 1½ feet from the floor. In each end of the east wall is a horizontal ventilator opening about 1 foot 3 inches below the ceiling. Such ventilators are also present in the west wall, but they are 3 to 6 inches lower than those on the east side. Those who first entered the room made a breach in the masonry beneath the northern one of the western pair in order to gain access to Room 61. The details of construction

of the ceiling of Room 59 and of the others which remain intact will be given in a future paper which is to deal with architecture.

Room 60²

A thin stratum of drift sand covered the floor of Room 60², and thence upward, fallen masonry rose to the surface of the mound. The door in the south wall was mentioned in the description of Room 54. The one at the center of the west wall is of the recessed type, 1 foot 10 inches wide, and 2 feet 10 inches high, with sill 9 inches from the floor. At the opposite end, it is 2 feet 2 inches wide and 3 feet 3 inches in height. The east edge of the sill consists of three peeled pine saplings about 1¾ inches in diameter, laid side by side. Presumably there was a door in the north wall communicating with the chamber above Room 70, but the wall had fallen below the level where the sill would have been.

Room 70

Covering the floor of Room 70 was 4 inches to one foot of adobe, washed down from the walls before the ceiling collapsed. It was deepest in the southwest corner where it had mingled with a small deposit of ashes and decayed organic material among which were a few sherds and the skulls of two coyotes. Above the layer of adobe, for about 10 feet, the fill consisted of the first and second ceilings, the charred remains of the third, and wall material all mixed together. The support of the first ceiling had been two pairs of cedar logs placed transversely and spaced so as to divide the room into thirds. Two thick pine timbers similarly placed had held up the second ceiling. The secondary layer of both ceilings was of peeled pine poles and the third of cedar splints.

Apparently the east wall settled outward *en masse*, finally pulling free from the ends of the beams of the second ceiling. These broke off where they entered the west wall, and, together with the mass of débris above them, fell bodily on to the ceiling of the first story. Beneath the weight, the supports of the latter broke at the center, then snapped off, flush with the walls on either side.

About two thirds of the left side of the skull of an adult came from the débris 2 feet above the floor, just north of the center of the room. There was a cavity beneath the floor across the center of the chamber. It proved to be the work of burrowing animals, and extended to the southwest corner, thence under the wall beneath Room 59. In it was a quantity of corn grains of the kind grown the previous year in the field east of the ruin.

The veneer on all but the extreme ends of the west wall had peeled away from the core and fallen, necessitating replacement. There are ventilator openings in both ends of the east and west walls, and one in the west end of the north wall. The doorway in the center of the latter is 2 feet 3 inches wide, 4 feet 1 inch high, the sill being 2 feet 3 inches from the floor. Directly above it there remain part of the sill and the west jamb of a door beginning 2 feet 4 inches above the level of the second floor. The one at the center of the west wall is 2 feet 3 inches wide, beginning 2 feet 8 inches from the second floor level.

Room 73

The floor of Room 73 was soft and loose, indicating that there had been little human traffic in the chamber. Immediately above the floor was a scum of washed adobe and over it, from 10 inches to 1½ feet of sandy earth, which had drifted in before the ceiling fell. A section of reed with a number of cactus spines inserted in one end (29.0-8587) came from the floor level at the southeast corner.

The support of the ceiling had been three cedar logs placed side by side across the center of the room from east to west. The smaller poles were of pine. In falling, the stringers broke at the center, then snapped off at the walls. Each section of the ceiling swung back against the wall in which the ends of the small poles were embedded, north to north, and south to south. In consequence, they were in a nearly vertical position when uncovered.

In the northeast corner of the room above Room 73 there had been not over two bushels of refuse, most of it corn tassels, with some corn leaves, still green, but dry as tinder. In the extreme corner, on a small area of the adobe floor which slanted, but had not fallen, were a cloth sandal and an incomplete cloth headband (29.0-8304-8305). Scattered among the dust and wall débris, thence downward to the layer of sand, were five small slabs of wood, a flattened stick painted black, split willow painted red, the forward end of a reed arrow, fragments of rush matting, a cornhusk wrapped pot ring, yucca cord, and a piece of tanned hide (29.0-8579-8586, 8588-8591). It is probable that all of these were originally in the pile of refuse, having become scattered when the ceiling fell. The portions of wooden altar fittings (29.0-8579-8585) may have fallen through the second story doorway from the room above Room 72 to the one above Room 73, or they might have been brought from that chamber by rats.

In the débris above the level of the first ceiling were many poles and splints from the second. The stringers were not found, but they may

have fallen outward with the east wall and may still be buried in the unremoved talus adjacent to Room 73. Along with the unburned wood were considerable charcoal and reddened earth from the burned third ceiling.

The door in the north wall is 2 feet 3 inches wide and 4 feet high. A sandstone block 7 inches wide, juts out 7 inches from the wall face, at a height of 2 feet, to provide a step to the unusually high sill, 3 feet 1 inch from the floor. There is a ventilator opening through the south end of the east wall and one through the west end of the north wall. Through the southwest corner there is a diagonal passage which once connected the second story rooms above Rooms 73 and 71. It is 1 foot 10 inches wide and 3 feet high, with sill 2 feet 2 inches from the level of the second floor.

Room 74

On the soft little-used floor of Room 74 was an average of 1 foot of clean sand free from sherds and refuse. In this, parallel to the east wall and 1 foot 3 inches therefrom, lay a peeled pine log 8 inches in diameter and 6½ feet long which had not been part of the ceiling. The latter had been supported by three cedar stringers centrally placed, running east and west. The small poles were of pine. The ceiling failed in the most usual way, the supports having been broken first at the center, then at each end, where they entered the wall. The small poles seemed to have parted from the walls almost as soon as the center timbers gave way. Some were standing upright against the end walls, while the majority were mashed back against and along the east wall. The splints, bark, and adobe were in a grievous tangle, most difficult to excavate. Above the first ceiling were decayed, but unburned, timbers and lumps of charcoal and reddened earth representing, respectively, the second and third ceilings.

The door in the center of the north wall is 2 feet 3 inches wide, and 4 feet 2 inches high, with sill 2 feet 1 inch from the floor. Ventilator openings are present in the west end of the north wall, the north end of the east wall, and probably there had been one in the south end of the latter, which was too badly fallen to leave evidence of its existence. There are bases of second story doors in the centers of the west and north walls, 2 feet 3 inches and 2 feet wide, respectively, with sills 2 feet 3 inches and 1 foot 2 inches from the level of the floor to which they pertained.

Room 76¹

The ceiling of Room 76 had not altogether collapsed. The three cedar logs running east and west beneath its center had broken near the middle and sagged downward (Fig. 6), but previously débris had run in to within 2 feet of the beam insertions, and upon its surface the ends

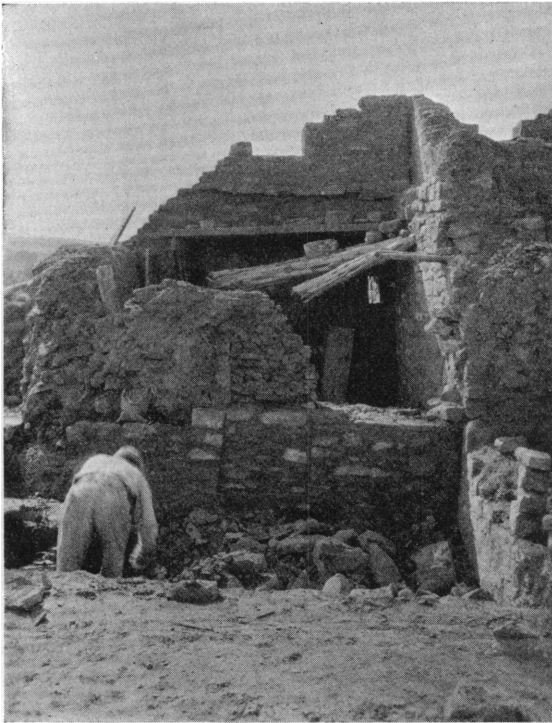


Fig. 6. Looking South across Room 97, North Wing, into Room 76. The broken ceiling supports in the latter, may be seen at right center.

of the stringers came to rest. The cottonwood poles lying above the supports were so badly decayed that, to facilitate excavation, all the ceiling but the west ends of the large timbers were removed.

The room yielded a black-on-white bowl, a bird bone awl, a mammal bone scraper, worked horn, worked mammal bone, a fragment of yucca

¹Listed as Room X in plan given in Fig. 3, part 1, of this volume.

sandal, and plaited strips of yucca daubed with pitch (29.0-5244-5250, inclusive), a crude stone ax, and a few sherds. The eastern two-thirds of the north wall had bulged inward to the extent that it had to be rebuilt. Ventilator openings remained in the west end of the north wall, and the south end of the east wall, and probably were once present near the corner where these walls meet. In the west wall, 3 feet 1 inch from the floor, is a single horizontal course, $2\frac{1}{2}$ to 3 inches in width, of black green stone set in to form an ornamental band.

Room 97

Room 97 was a part of the original structure, all traces of which had been obliterated long before the pueblo ceased to be occupied. The hard-tramped last level of occupation on the north side of what was supposed to be the outer boundary of the ruin extended unbroken above, and had not Mr. B. T. B. Hyde dug through this level, the existence of the chamber would remain unknown. The floor was found 2 feet 8 inches below the ultimate plane of occupation. The walls had been dismantled, the east and west practically to yard level, and the north, to floor level at each end. All of the faced stones had been carried away for use elsewhere, only the rough blocks from the core of the masonry being present in the fill.

Scattered over the floor and upward through the first 1 foot 8 inches of the fill were four black-on-white bowls, a black-on-red bowl, potsherds, worked bone, a pounding stone, a chipped blade, an arrow point, two worked quartz crystals, a piece of chalcedony, fragments of wood painted green (29.0-8317-8330) and corrugated sherds, flint and obsidian chips (29.0-9004) and animal bones (29.0-9018). The five nearly complete bowls assembled from fragments, and all of the sherds, are of the Chaco complex, thus indicating that the Chaco people and not the Mesa Verde re-occupants of the pueblo destroyed Room 97.

A door, 2 feet 3 inches wide and 3 feet 11 inches high, with sill 2 feet 3 inches from the floor, once communicating with Room 76, had been sealed with masonry. There had also been a doorway in the center of the west wall, 2 feet 3 inches wide, with sill 3 to 4 inches below that of the one previously mentioned.

Room 98

Room 98, forming an extension of the north wing jutting eastward from Room 97, had received the same treatment as the latter. The east wall, two-thirds of the north, and about one third of the south, had been torn down to floor level, and all faced blocks were carried away. The

foundations, cleared off by Mr. Hyde, proved to be of river pebbles, ranging from the size of a hen's egg to that of an orange. The depth was not determined. 29.0-9007 represents the sherds from this room.

Room 61

Room 61 is one of the chambers, with standing ceilings, which was entered by relic hunters over forty years ago. They burrowed in through the north end of the east wall and also sunk a shaft through Room 62² at the south side. The hole in the ceiling was repaired and a cement floor placed over the latter to exclude moisture from the timbers.

There are no lateral, that is, east and west, doors in the tier of which the chamber in question is the southernmost member. The only doorway into the room is in the center of the north wall. It is 2 feet 3 inches wide, 3 feet 6 inches high, with sill 2 feet 4 inches from the floor. The floor was very wet and devoid of specimens. The fill, 5 feet deep on the north side, and 8½ on the south, was principally of débris which had come down through the hole in the ceiling. The veneer of most of the south wall had to be rebuilt; it was also necessary to fill up a jagged hole in the north end of the west wall where a tunnel had been driven by the relic hunters beneath Kiva F in search of open rooms.

Room 62²

A rat nest of which the major constituent was about six bushels of cornhusks and tassels, reed stems, and cedarbark, occupied the southwest corner of Room 62². Among this mass were a bird bone tube, knotted yucca strips, a rectangular frame, a cedarbark pot rest, fragments of plaited matting, a plaited sandal, cotton cloth, buckskin, reed stem arrows, a smoothed stick, a carved stick, and adobe mud with a human footprint (29.0-7409-7423), and a hafted knife¹ (29.0-7408) which lay on the floor in the northeast corner.

The fallen timbers of the roof of the second story were uncharred. The door in the west wall is mentioned under Room 60² and the diagonal passage in the southwest corner under Room 49. The door in the middle of the north wall is 1 foot 11 inches wide, beginning 2 feet 1 inch from the floor.

Room 71

On the floor of Room 71 was a thin wash of adobe. Above it were the stones which had been the components of the veneer of the greater part of the west wall and the areas over the doors in both the north and

¹This volume, 31.

south walls. This veneer had bagged and fallen before the ceiling fell. The latter had been supported and divided into thirds by two thick transverse pine logs. The small poles were also of pine and the splints, as usual, of cedar. Evidently the ceiling had stood a very long time. The upper walls fell in upon it and the resulting débris had become thoroughly consolidated before it was precipitated to a lower level. When this took place, a ragged hole was left in the surface of the mound. The supports broke, first near the center, then where they entered the walls. The mid-

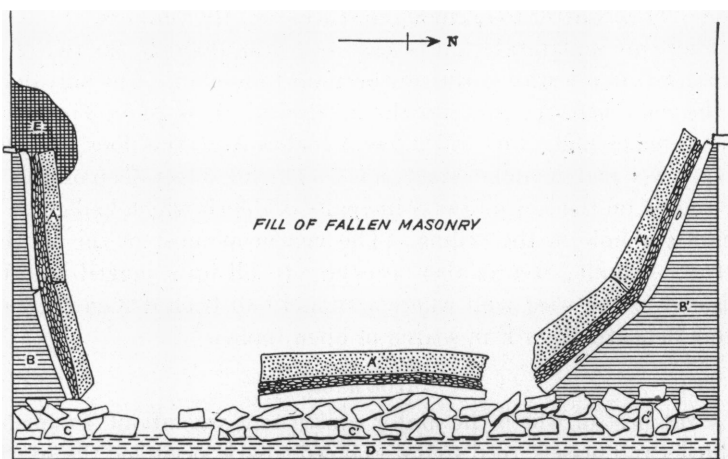


Fig. 7. Longitudinal Cross-Section of Room 71, North Wing. The fill of fallen masonry was very compact consisting mostly of sandstone, and contained also a few cobblestones from the west wall. A, Southern element of ceiling; A', Central element of ceiling; A'', Northern element of ceiling; B, Dust and rat's nests; B', Dust, rats' nests, and refuse from Room 72; C, Veneer from south wall, over door; C', Veneer from west wall; C'', Veneer from north wall over door; D, Adobe washed down from walls; E, Dry refuse.

dle section of the ceiling fell directly downward, while the two end sections being bound to the walls in which the ends of the poles were embedded, swung down and back as if hinged to these walls (Fig. 7). Dust and rats' nests filled the narrow space between the southern element and the south wall and helping to fill the triangular area between the northern ceiling element and the north wall there was, in addition to this sort of material, refuse which had worked in through the door leading from Room 72. Among the latter were a few fragments of a black-on-white bowl (29.0-8405) most of which was found in Room 72.

On the south end of the second floor there had been a small quantity of vegetable refuse, mostly cornhusks, tassels, and reed stems. From this were recovered pieces of tanned hide, a hide bag, a ceremonial stick, a knotted yucca strip, the border of a rush mat, and part of a cloth sandal (29.0-8262-8268).

In the débris above the first ceiling were a few rotted timbers of the second, and charcoal, presumably from the burned third ceiling. The door in the north wall is 2 feet 4 inches wide, 3 feet 10 inches high, with sill 2 feet 2 inches from the floor. There is a ventilator opening in each end of both the north and south walls. The diagonal second story passage in the northeast corner has been mentioned under Room 73. In the center of the north wall was a door 2 feet 3 inches wide, beginning 2½ feet above the level of the second floor.

Room 72

A layer of washed adobe 2 to 4 inches thick covered the floor of Room 72. Eleven long unpeeled willows had been left standing in the southeast corner.

The ceiling support was one pine log running north and south, that is, parallel to the longer dimension of the chamber. The small poles were also of pine. Somewhat more than five cubic yards of dry refuse had been deposited in the room above Room 72. Its components were cedarbark, cedar splinters, cornstalks, husks, and tassels; some animal bones, potsherds, ashes, sweepings, and a varied assortment of manufactured articles (29.0-8404-8536) consisting of black-on-white bowls, potsherds, two pounding stones, a polished stone, a bird bone and mammal bone awl, part of a shell bracelet, worked deer horns, yucca leaves, cornhusks and leaves, prepared for use, three cornhusk pot rings, prepared yucca fiber, yucca, cedarbark, and cotton cord, cotton cloth, three cloth sandals, portions of cloth sandals, nine plaited yucca sandals, two cedarbark pot rings, plaited and sewn rush matting, withe and twig rings, ten basket frames laced with yucca, five basket frames stuffed with husks, twelve cylindrical reed stem containers, willow matting, a yucca leaf burden strap, two reed arrows with wooden foreshafts, parts of arrows, plaited yucca strips, pieces of hide, two small buckskin bags, a cylinder of wood, pieces of worked wood, a wooden knife handle, twelve arrow points tied on yucca cord, three pine boards, and fourteen ceremonial objects of wood.

Eventually, probably because of the pressure of the fill of earth in Room 63, the wall between that room and Room 72 collapsed into the

latter chamber, filling it with masonry from 1 foot at the east side to 3½ feet at the west. In falling, the wall brought with it most of the west half of the ceiling of Room 72. Through the aperture thus created refuse poured down from above until the opening was clogged with cornstalks, etc. At a later time, more refuse was added upon the surface of the already existing deposit. This was of a different nature, consisting of ashes, sweepings, adobe clods from dismantled walls, bones, and sherds, with but a very slight admixture of vegetable substance. This secondary deposit continued in an unbroken line across Rooms 63 and 72. It was about 6 feet deep against the west wall of Room 63 and dwindled down to 2 feet at the east wall of Room 72. The center of deposition was over Room 63, as evidence of which the successive strata sloped downward toward the east, that is, across Room 72.

Potsherds from the upper level of Room 72 were not kept separate from those obtained lower down. However, as the upper refuse was a continuation of the deposit in Room 63, upper level, the sherds from that region (29.0-7881) would provide material for comparison. This material is not at hand, but in the light of subsequent observations it may be ventured that the wares from the first refuse are Chaco, and those from the upper level, Mesa Verde.

In the fallen masonry above the refuse were partially burned timbers from an upper ceiling.

Eventually, the timber supporting the ceiling of Room 73 slivered near the south end and, with the mass above it, settled down upon the previously mentioned vegetable refuse. A large cavity was left beneath the then sloping ceiling along the north and east walls. In time, this became filled with dust which filtered down through the cracks left where in falling the ceiling pulled away from the walls, and by the nests and accumulations of generations of pack rats. In consequence, some having been moved by gravity, and some by the rodents, portions of the wooden ceremonial objects and other artifacts which belonged in the earlier refuse were scattered through a vertical elevation of 8 feet.

At the middle of the north wall is a door, 2 feet 4 inches wide, and 4 feet high, with sill 3 feet from the floor. Beneath this door in Room 75, a rectangular block of sandstone was set like a post in the floor, providing an 8-inch step below the unusually high sill. Directly above the door just described, another, 2 feet 3 inches wide, begins 2 feet 4 inches above the level of the second floor.

ROOM 75

Upon the well-defined floor of Room 75 there had been a considerable deposit of organic refuse which had rotted down to a layer 1 to 6 inches in thickness. A coiled plaque or basket bottom lay upon the floor 2 feet from the south wall, in line with the east side of the south door. Although rotted to dust, it appeared to have been between 5 and 6 inches in diameter.

In settling, the west wall of Room 75 split at the center, and the entire east half, up to the point of insertion of the smaller timbers of the ceiling, bellied out and fell across the room, filling it from 2 feet at the east to 5 feet at the west side, with masonry. One pine stringer, running the long way of the room, had been the ceiling support. The other elements were: small pine poles, cedar splints, adobe, and cedarbark. The ceiling did not collapse *in toto*. Enough fine earth worked down past its edges to fill the interstices among the building stone and to complete the fill up to a point between 1½ and 2 feet of the timbers. The stringer broke slightly south of the center and the ends settled down upon the fill. The weight above them crushed the small poles downward into the cavities on each side of the large beam.

The second floor was free of refuse and of specimens. Toward the surface of the mound were encountered the decayed, but unburned, timbers of the second ceiling, with charcoal, ashes, and burned adobe from the third.

The door in the middle of the north wall is 2 feet 4 inches wide, 4 feet 1 inch high, with sill 2 feet 10 inches from the floor. Its west jamb at the center of the same wall, a door 2 feet 3 inches wide, begins 2 feet 2 inches from the level of the second floor. There are ventilators in each end of the south wall.

ROOM 77

There was little evidence of human occupation in Room 77. Rats had long frequented it, their nests and excrement having rotted down to a layer 2 to 6 inches in thickness, cemented together with adobe washed from the walls. Burial No. 17 was in the northwest corner.¹ Sand and dust with an admixture of rat accumulations covered the initial layer to a depth of 5 feet.

The ceiling had been held up by one pine log running north and south. The smaller poles were of cottonwood. After the ruin had been reduced to a mound, the support rotted off where it entered the north

¹This volume, 161.

wall, and the timber settled down on to the fill, leaving a crater in the surface of the mound. The ends of the smaller poles remained embedded in the east and west walls. In consequence, a cavity, triangular in cross-section, was left beneath the ceiling on each side of the large timber. In recent years, skunks and squirrels had nested in these shelters.

Along the northern half of the west wall, at the level of the ceiling were a portion of a painted wooden sandal form, four cylindrical sticks, a fragment of wood, a section of reed plugged with wood, and a mammal bone awl (29.0-9317-9324). Whether these originally were on the second floor or were brought from elsewhere by rats is uncertain. In the débris above the first ceiling were numerous decayed timbers from the second. Among them were peeled willows, about $\frac{1}{8}$ inch in diameter, which presumably had been elements of an ornamental finish applied to the ceiling of the second story between the small poles and the layer of cedar splints.

There is a ventilator in each end of the north wall. Since the latter is a portion of an outer boundary of the pueblo, it is not broken by a doorway.

ROOM 63

The ceiling of Room 63, supported by one pine log running east and west, gave way at the east end and swung back against the west wall. After this had taken place the chamber was filled to a point considerably above the level of the second floor with relatively clean earth. This must have been tramped as it was being put in, so great was its hardness. There were few stones among it, and it was as difficult to remove, as if it had been a solid adobe brick. The earth was of a quality that might have been obtained anywhere outside or beneath the pueblo, except on the south where refuse is plentiful. Probably the reason for this filling was an attempt to prevent the collapse of walls that had begun to fail. The west wall of Room 63 had settled and the veneer had bagged so badly before the earth was dumped in, that after it was removed, the facing had to be rebuilt to the level of the second floor.

There was nothing to indicate that the room had been lived in. The floor was so clean and free from the usual brown-black stain resulting from occupancy that it was not easy to distinguish the line of demarcation between natural soil and artificial fill. There are ventilators in each end of the north wall, but none elsewhere. The door in the center of this wall begins 3 feet 3 inches from the floor, and is 2 feet 1 inch wide and 3 feet 4 inches high. Directly above it there remains the base of a door 2 feet 7 inches wide, its sill $2\frac{1}{2}$ feet above the level of the second story. At

one time there was a doorway at the same height in the west wall of the second story. The portion of wall containing its south side fell and as it was repaired during some period of rehabilitation, the door was filled, the line of its north jamb being the only remaining evidence of it. This west wall of Room 63 is the highest in the northeast corner of the ruin with an elevation of 22 feet.

Room 79

The stratum directly above the floor of Room 79 consisted of from 4 to 8 inches of decayed organic material accumulated chiefly by rats. Mixed with and on top of this layer was a deposit of washed adobe and sand at no point more than 1 foot thick. Then came masonry from the veneer of the east wall and about two thirds of that from the south. The same settling movement which threw the east half of the east wall across Room 75, as previously described, forced the west half down into Room 79. Up to the ceiling level this wall was completely gone except for the stubs where it had been attached to the longitudinal walls of the wing. The depth of fill resulting from the fallen masonry was from 2 to 4 feet.

One pine log, extending from north to south, had supported the ceiling; the smaller poles were also of pine. At least ten cubic yards of refuse had been thrown into the second story room, all of it practically free of vegetable matter. When the pine log failed, it broke midway between the center and the south wall, then snapped off where it entered the north wall. The ceiling parted at the line of the supporting timber, and the two elements, being free at one end, and fastened to the east and west walls respectively at the other, swung back toward them as if hinged until the small poles broke and pulled away, then slid down upon the deposit of masonry. In consequence, ceiling elements, refuse, and wall material from above the latter were all mixed together. From the refuse seven black-on-white bowls, the rim of another, five arrow points, three shell beads, a piece of worked gilsonite, potsherds, four mammal bone awls, one bird bone tube, and the bottom of a coiled basket (29.0-8242-8260); also, a mammal bone awl, three bird bone awls, and three bird bone tubes (29.0-8331-8337) were recovered. Potsherds were more plentiful than usual, and since the mass had not been wet, they were easily seen. In consequence, the workmen gathered a greater proportion of them than is ordinarily possible to save without sifting. By actual count there were 2752 fragments from which eight nearly complete vessels were assembled (Fig. 8). In addition, portions of 432 others were recognized among them, and could the sherds too small to bear distinctive

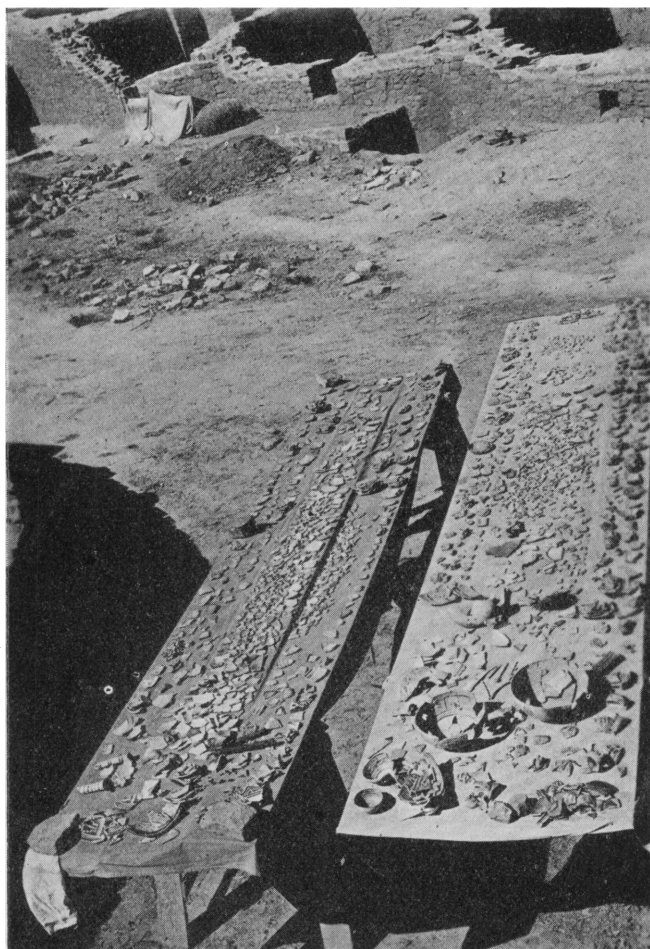


Fig. 8. Sorting and Assembling Pottery Fragments from Room 79.

portions of designs have been identified, the total number would have been much greater.

In the débris above the refuse were timbers from the unburned second ceiling and charred remnants of the third. Ventilators pass through the ends of the north wall. In the center of this wall is a door 2 feet 4 inches wide, 3 feet 4 inches high, with sill 2 feet 7 inches from the floor. Above it, but with center 6 inches farther to the westward, a second story door, 2 feet 2 inches wide, begins 2 feet 4 inches from the level of the floor to which it pertained.

ROOM 78

About three-fourths of a cord of cedar splints such as were used in the construction of ceilings had been left in Room 78, covering the entire area of the chamber, but deepest against the north wall. They had been carried in in armfuls or in bundles and had been placed in a leaning position, one end upon the floor, the other resting against the north wall. The presence of decayed strips of yucca leaf here and there among the mass, running transversely to the longer axis of the splints, indicated that some at least had been done up in sheaves. They had been piled up until they were 5 feet deep at the north side, while in front of the door at the south, the splints were only two or three deep. The individual sticks were of all lengths from 1 foot to as much as 5½ feet.

One pine log, extending north and south, had supported the ceiling. The small poles were of cottonwood. This ceiling had remained intact until after the ruin was reduced to a mound. Finally, due to dampness, the log rotted off next to the north wall, and permitted that end of the ceiling to settle down upon the mass of splints (Fig. 9). Where the timber entered the south wall it broke, but did not fall.

An extensive deposit of vegetable refuse had been thrown into the room above Room 78. When the ceiling settled, much of this ran through and around it, and, together with dust and sand, filtered in among the splints, and eventually completed the filling of the room except for a cavity, triangular in cross-section, across the south side.

Of the numerous specimens from Room 78 (29.0-8593-8654) the burnt clay with prints of sticks and finger marks (29.0-8652-8653) represents portions of the second ceiling. A grooved ax (29.0-8648) was on the floor just in front of the door. The rest were distributed from the surface of the refuse above the ceiling, down to, and even among the upper layers of splints. Practically all of them had once been among the refuse on the second floor. The plaited yucca basket (29.0-8633) was in the southeast corner upon the sloping ceiling.

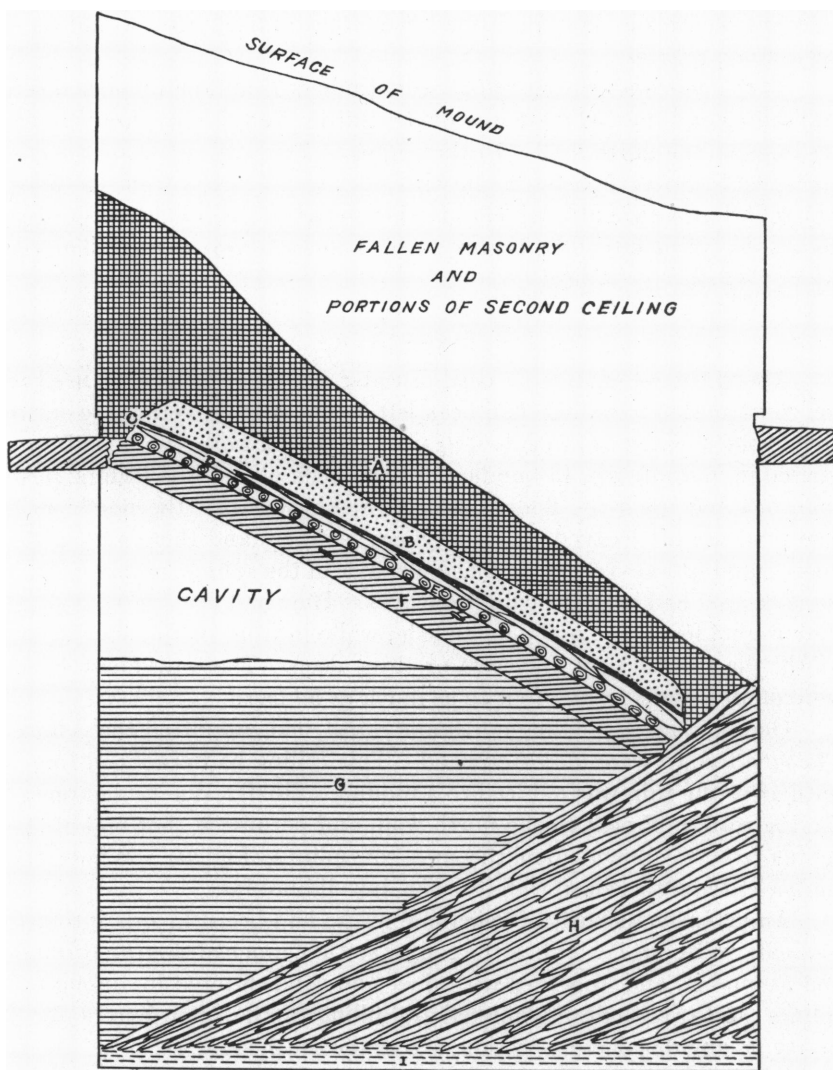


Fig. 9. Cross-Section of Room 78, North Wing; viewed from East Side. A, Dry refuse; B, Adobe; C, Splints; D, Cedarbark; E, Poles; F, Supporting timber; G, Dust, sand, and refuse from above; H, Cedar splints; I, Layer of decayed organic matter.

There was a greater concentration of animal remains in Room 78 than has been observed elsewhere in the ruin. Rats had lived in it for generations; in the northwest corner were the dried body of a badger, skeletons of many skunks and ground squirrels, and yards of desiccated bull snakes.

Between the refuse and the surface of the mound were elements of the second ceiling; partially charred wood and fire-hardened adobe. Numerous peeled willows and their impressions in adobe clods indicated that in the second ceiling there had been an ornamental finish of these slender sticks closely placed on top of the layer of small poles. Ventilators are present in the ends of the north walls.

Room 64

The upper 6 feet of fill in Room 64 was a Mesa Verde refuse deposit in which all vegetable substances had decayed. From it came ten black-on-white bowls, a sandstone mortar, a grooved ax, a mammal and a bird bone awl, eleven bird bone tubes, a shell bead, and a copper bell (29.0-7433-7449), the most unusual of them being the copper bell.¹ (29.0-7449). This room had passed through the same cycle as Room 63, immediately eastward of it. The ceiling, supported by one pine log running east and west across the center, had fallen upon a relatively clean floor. Between the debris from it and the bottom of the refuse deposit, a distance of about 16 feet, the fill was mostly of clean earth containing a small proportion of wall material, packed to unbelievable hardness. Among it were three sandstone and three boulder metates and some potsherds (29.0-7873-7876).

The door in the center of the north wall is 2 feet 3 inches wide, 4 feet 3 inches high, its sill 2 feet 8 inches from the floor. Beneath its west center a cedar post step 3 inches in diameter stands to a height of 1 foot 6 inches from the wall. Directly above, there is the base of a second story door, 2 feet 4 inches wide, beginning 2 feet 6 inches from the level of the floor. There are ventilators in each end of the north wall.

Room 80

From 6 inches to 1 foot 3 inches of washed sand and adobe covered the floor of Room 80. In it was the usual representation of rat leavings. The veneer of the south wall, from the bottom of the door to the ceiling level, had fallen, as had a similar portion of the north wall. Dust and refuse which had sifted around and through the ceiling, together with rats' nests, completed the fill to a depth of 5½ feet.

¹This volume, 98.

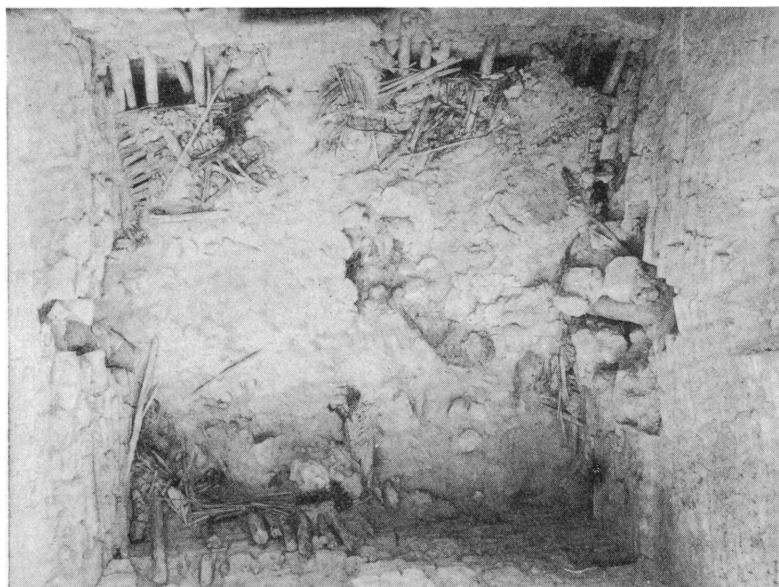


Fig. 10. Partially Fallen Floor of Room 80, North Wing, seen from Above.

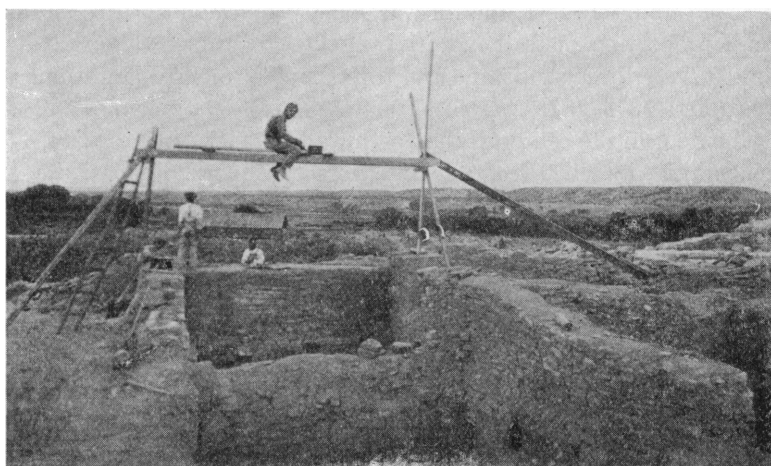


Fig. 11. Photographing the second Floor of Room 80, North Wing.

One pine log extending north and south had upheld the ceiling and the small poles were likewise of pine. The beam broke near the center, but did not snap off at the walls. Instead, the ceiling bagged downward until the broken ends of the timber came to rest on the fill beneath. Along the walls, under the woodwork, there was a cavity on all sides which never filled.

There was much refuse on the second floor, predominantly of vegetable matter. From what remained above the ceiling and the considerable amount that had worked down beneath it, potsherds, a clay spindle whorl, a grooved ax, an arrow point, part of a polished stone implement, two mammal bone awls, worked bone, two conical shells, two shell beads, five withes, two wrapped sticks, three pieces of worked wood, four worked sticks, a wooden foreshaft, four ceremonial sticks, two rolls of cedar bark, pumpkin shells, bundles and rings of cornhusks, fragments of rush matting and coiled basket, three plaited pot rings, yucca fiber and cord, three pieces of cotton cloth, quills strung on a cord (29.0-8338-8398 inclusive), were obtained. In the fallen masonry, reaching to the surface of the mound, were parts of the unburned second ceiling and charcoal and burned earth from the third.

The door in the center of the north wall is 2 feet 2 inches wide, 4 feet 2 inches high, with sill 2 feet 5 inches from the floor. Above it, there is one in the second story, 2 feet 2½ inches wide, with a sill height of 2 feet 8 inches. There is a ventilator in each end of the north wall.

Room 81

In Room 81 was a mass of cottonwood bark comparable to the store of cedar splints in Room 78. It had been stripped from green trees, most, if not all of them, long-leaved cottonwoods. In size, the pieces varied from mere fragments to slabs 6 feet long. In peeling each stick, a longitudinal incision was made along one side, and some rough, but relatively flat-pointed implement was inserted and driven between bark and wood until the entire cylindrical shell was freed. The sections chosen for peeling were from 2 to 10 inches in diameter.

Two pine logs lay against and parallel to the north wall. A slab had been split off from the side of each and the flat surfaces were downward. A round pine log lay at right angles to these, 1½ feet from the west wall, its northern end touching the southernmost flattened timber. On the east side of its other extremity a digging-stick (29.0-9309) had been driven into the floor in an upright position, as if to hold the log from moving forward.

The bark was brought in through the door in the south wall and leaned against the east, west, and north ones, completely hiding the logs and the floor. Its total bulk was approximately one cord. It was 3½ feet deep against the east wall, while in front of the door, the depth was not more than eight inches. A little more than 1 foot north of the door, upon the floor beneath the bark was a bow (29.0-9306) and around it the decayed remains of numerous reed arrows. Just east of the center of the room was part of a bowl of Pueblo Bonito type (29.0-9313). Other specimens recovered were a grooved ax, a reed arrow, a knife handle, a digging stick, a wooden awl, a cedar slab, a black-on-white bowl, a polished perforated stone, and a grooved hammer (29.0-9305-9315).

The north and south timber and the small poles were of pine. The stringer broke slightly south of the center. As the ceiling settled, much earth sifted down, through, and around it. The prying action of the south end of the heavy timber, together with the settling of the south wall, threw down the central part of the latter from the bottom of the door up to the ceiling. This masonry and the sifted earth filled the chamber to an average depth of 6 feet, and the ceiling rested on the surface of this mass.

The second floor had been relatively clean, there being no refuse on it except a small quantity of husks, cobs, etc., along the south wall. In the débris above, were timbers, including peeled willows, from the second ceiling. There are ventilators in the ends of the north wall.

Room 67

An exception to the order of description will be made in regard to the offset row of rooms beginning with Room 67 and extending westward to and including Room 118. These rooms were not a part of the original building plan and do not conform to the alignment of the tiers of secular chambers lying northward of and separated from them by the east and west row of kivas.

Refuse 3 feet deep against the center of the south wall and tapering down to floor level toward the corners and against the opposite wall, formed the initial deposit in Room 67. In the wall material above it were the remains of a charred ceiling. As a glance at the map reveals (see this volume, pt. 3, and Fig. 1), the south wall of the room extends across the north half of Kiva I. When this wall was first built, two pine logs were laid side by side as a foundation upon the earth forming the ultimate layer of the kiva roof and two posts were set vertically as braces beneath the latter. In this first wall a doorway was left at the

center. Eventually, the timbers gave way, probably as the result of decay, and the mid section of the wall settled a distance of 5 feet. The kiva must have been long abandoned and about half filled up when this took place, else the masonry would have continued its downward movement to the floor. Sooner or later the pit was completely filled with refuse, excepting a cavity beneath the ceiling at the north side which remained open until Room 67 was excavated, when Mr. O. Owens, who was working beside the writer fell through into it, thus discovering the kiva. A cobblestone foundation was laid on top of the original wall and a second southern boundary of the chamber, this time without a door, was raised upon it. The $2\frac{1}{2}$ to 5 feet of wall remaining were removed, logs placed where the original ones had been, braces set in the same places as the former ones, and the wall rebuilt as it now appears.

The T-shaped door in the east end of the north wall will be described under Room 66. There is the base of a door 1 foot 10 inches wide, with sill 2 feet 3 inches from the floor, its north jamb 2 feet 10 inches from the north end of the west wall.

Room 68

The enclosure marked Room 68 in the plan given in Fig. 3, Part I of this volume, through an error on the part of the writer, is not numbered on the more complete map accompanying Part 3. It is the triangular space at the southeast side of Kiva H. This area had been filled mostly with vegetable material which burned out during the fire which ran through most of the pueblo. At the time of excavation there was a depth of 8 feet of charred rush stems, cornstalks, cedarbark, and chunks of reddened adobe in it.

Room 69

Refuse beginning 5 feet from the west wall and rising to a height of 3 feet against the east wall lay immediately upon the floor of Room 69. In it were a black-on-white bowl and dipper, a mammal and a bird bone awl, and potsherds (29.0-7868-7872). Above the refuse were the charred ceiling beams.

A walled passage runs northward beneath the floor, probably a ventilator for the room the walls of which were removed to permit the construction of Kiva H. Beneath the south side of the room there remain the basal courses of the walls of a circular chamber, as indicated on the map. Doubtless this was a kiva. If so, because of its shallow depth, it represents the beginning of a house cluster which was abandoned before

completion, or is all that remains of an early portion of the pueblo dismantled beyond further recognition.

There was once a door, its west jamb 7 inches from the west wall, which communicated with one of the rooms destroyed to make space for Kiva H. It was 2 feet 11 inches wide and of undetermined height. The north side was sealed and the south walled up to within 1½ feet of the lintels, leaving a recess of this height and the same depth opening into Room 69. There must have been a door in the south wall, but the latter had fallen below the proper height for the sill. At the center of the floor was a cobblestone lined fire pit 1 foot 9 inches in diameter and 8 inches deep.

Room 96

Although showing some discoloration due to use, the floor of Room 97 was relatively clean, and was not overlaid with refuse. Red plaster had formed a dado on the north, west, and south walls, and presumably on the east one also, although none of it remained on the masonry. The red extended upward on the north wall for 2 feet 3 inches, but this is less than the original height of the dado. Quantities of white plaster on the floor showed that the upper walls had been finished in this color.

In the east end of the north wall, 5 feet 8 inches from the floor, is an opening 1 foot 8 inches long by 1 foot 4 inches high which runs back into a large irregular cavity in the masonry, the surface of which is smoke-stained. Cedar poles formed both sill and lintel of the opening. On the floor of the niche were a skinning knife, pieces of selenite, and a stone flake with chipped edge (29.0-8993-8995). In the east center of the same wall there was once a T-shaped door which led into part of the area made over into Kiva J. The wall west of it had fallen and been replaced in ancient times, involving the sealing of the door; hence, some of the dimensions could not be ascertained. Those evident are: width of lower part, 2 feet 3 inches; width of upper part, 4 feet 7 inches; height thereof, more than 3 feet. The sill was on a level lower than the floor of Room 96. The ceiling had been destroyed by fire. In the fill of masonry above its remains, near the north wall, and from 4 to 7 feet from the floor were three river boulder metates.

Room 120

The floor of Room 120 was much blackened by use. Coarse charcoal, ashes, sweepings, and numerous potsherds, mostly of corrugated ware, filled the room to a depth of 3 feet 2 inches at the west end, and 4 feet 5 inches at the east. Among this refuse were portions of at least ten manos

and one large trough-shaped river boulder metate deeply stained from the grinding of red pigment. Lying above the refuse were chunks of charcoal and partially burned timbers from the ceiling.

The west wall of Room 120 is described as the east boundary of Room 117. Being thicker than the *jacal* portions, and flush with its west face, the central pillar of masonry protrudes 9 inches into Room 120. The red dado and white upper zone of the north side of Room 117 extend behind the *jacal* partition and on across Room 120. Moisture having penetrated deeper in the latter than in the former, nearly all of the white plaster had peeled off. No tracings were found on those portions observable. Both red and white zones continue behind the east wall of the room. At the center of the east wall is a rectangular niche 11½ inches square and 1½ feet deep, with sill 3 feet 2 inches from the floor.

Room 117

Room 117 is the western half of a chamber that originally occupied the areas of Rooms 117 and 120. In this chamber was a rectangular pillar of masonry, with dimensions of 21 by 15 inches, built up to a height of 33 inches, practically in the center of the room. When the chamber was subdivided, poles were set on end in line with the western side of the pillar (Fig. 12) and heavily coated with adobe, so that the finished wall had the appearance of an adobe partition 6 inches in thickness. This *jacal* wall stood to a height of 5 feet 6 inches when first encountered. Presumably, previous to decay, it extended to the ceiling.

The west wall went into ruin, the veneer, and an undetermined portion of the core having fallen to within 3 feet 6 inches of the floor at the north end, 7 inches at the center, and 14 inches at the south end. At a later date this wall was repaired or another built on top of it. On top of the débris, a cedar log, 6 inches in diameter at the butt, was laid parallel to the floor and 3 feet 3 inches above it. Apparently it was intended to place it in the vertical line of the veneer course, but at the north end, it extended 2 inches out beyond the faced masonry beneath. Around and upon this log, a sandstone wall was erected, of which only 1 foot 2 inches now remain. The fact that earth and fallen stone occupy the space between the top of the fallen face of the original wall and the log foundation of the secondary one indicates that Room 117 must have been filled up to the latter previous to its erection, although no floor level was discernible at the time of excavation.

A dado of red plaster 2 feet 7 inches wide extends the entire length of the north wall. Above it the wall is white, the maximum breadth of the

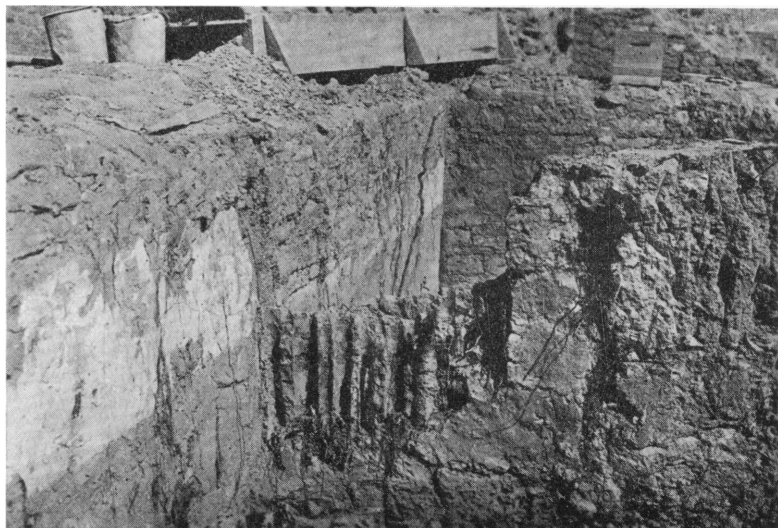


Fig. 12. *Jacal* Partition between Rooms 117 and 120, North Wing.



Fig. 13. Pictographs on White Plaster, North Wall of Room 117, North Wing.

white band being 1 foot 8 inches. Above it all plaster has fallen from the masonry. This white plaster was applied in two coats over an initial layer of adobe. Numerous pictographs were incised into, and often through, the first layer of white. These were completely covered and hidden by the second thicker coat. After the latter had been carefully flaked off, the designs showed as in the photograph (Fig. 13).

The floor was considerably stained by use. It was covered with an average of 3 inches of thin strata of storm-deposited earth. The remainder of the fill consisted of fallen masonry. No traces of the ceiling were found. Probably this was because the sloping surface of the mound had eroded until the portion of the fill that would have contained the ceiling material had been weathered away.

Eleven and one half inches from the *jacal* partition wall, there shows in the north wall the western edge of a door which was sealed up before the colored plaster was applied. It extended on behind the space now occupied by the partition and on into Room 120 to a total width of 3 feet 4½ inches.

Room 119

The south wall of Room 119, eastward from the door, was almost entirely gone and only a few stones remained in the basal course of the east wall. A transverse partition had been built, cutting off the west 6 feet of the room. The space between it and the original west wall had been filled with clean earth to a depth of 3 feet 2 inches. Plain adobe plaster covered the west wall to the height of the fill. The same was true of the north wall, but beneath the adobe were traces of a coat of red extending to a height of 3 feet 9 inches.

On the west wall red plaster began at the level of the top of the fill, which represented a floor level, and extended upward for 2 feet 3 inches, at which point it was supplanted by a coat of white. The north wall had fallen, but the presence of white and red plaster in the fill indicated that it had been surfaced in the same manner as the west wall.

Both floor levels showed little sign of use. Near the northwest corner, 5 feet above the original floor, were four much worn metates. Charcoal from the burned ceiling was scattered over the entire area of the chamber.

At the center of the south wall of the original chamber is the base of a door, 2 feet 1 inch wide, with the sill at floor level. From the fact that the sills occur at practically the same height and the widths at the bottom are the same, it may be inferred that the door was T-shaped, like the one in the front wall of Room 118.

ROOM 118

The floor of Room 118, though somewhat stained by use, did not indicate long occupancy. A few ashes were spread over a circular area, 5 feet in diameter at the center of the chamber and a scant handful of potsherds was strewn over the floor.

The first 1 to 1½ feet of the fill was clean sand and adobe deposited in strata by wind and rain. This was deepest along the north wall. On top of it lay charcoal and portions of partially charred ceiling poles. The remainder of the fill consisted principally of material like that of the bottom layer, that is, storm-deposited earth. Few building stones were among it until near the surface.

Butts of the western two of the three ceiling supports are embedded in the north wall. At the time of excavation, the decayed hearts of these timbers extended about three feet out from the wall. It seems that fire so weakened the poles which were the immediate support of the various sections of the ceiling that they collapsed and the blaze which was consuming the supporting timbers went out, leaving them standing.

Two feet from the north wall and 6½ feet from the east wall a grooved hammer weighing 28 pounds 4 ounces (29.0-8977) was found at a height of 6 feet above the floor.

A large T-shaped door in the center of the south wall had been completely closed with masonry. Its dimensions are: lower part, width, 2 feet 1 inch; height, 3 feet; upper part, width, 3 feet 4½ inches; height, 3 feet 2 inches; sill, 6 inches from floor.

Patches of red plaster adhered to the masonry at the west end of the north wall to a height of 3 feet 4 inches. Above them, beginning 5 feet 9 inches from the floor, remained some 7½ square feet of white plaster. Quantities of red and white plaster on the floor at the bases of the walls, together with these adherent patches, showed that the chamber had been finished with a wainscoting of red extending at least 3 feet 4 inches from the floor, with white plaster extending probably to the ceiling.

ROOM 66

A platform once existed across the east end of Room 66, the supports for which were four logs, 4 to 8 inches in diameter, with ends embedded in the north and south walls, at a height of 4½ feet and respectively, 3 inches, 2 feet 1 inch, 4½ feet, and 6 feet from the east wall.

In the west wall, 2 feet 8 inches from the south end and 4 feet 8 inches from the floor, the end of a beam which had lain east and west had been inserted in the masonry, and 2 feet from the north end at the

same height, there had been another. Their opposite ends had rested upon posts set a few inches into the floor, 4 feet from the wall. Presumably these also had supported a platform. Beginning 10 inches from the north end and $1\frac{1}{2}$ feet from its probable level, is a sealed passage in the west wall, $2\frac{1}{2}$ feet wide, and originally more than 3 feet high. Apparently, this was an inter-story doorway such as those in Rooms 84 and 92.

In the center of the south wall is a T-shaped door which had been variously remodeled. The original dimensions were: lower part, width, 2 feet 4 inches; height, 2 feet 9 inches; sill, 10 inches from floor; upper part, width, 4 feet 9 inches; height, 3 feet 7 inches. The door at the middle of the north wall is 2 feet 4 inches wide, 3 feet 9 inches high, with sill 2 feet 5 inches from the floor.

All the wood had been torn out of the platforms and the ceiling of this room and the chamber filled with ashy refuse to within 1 foot of the second story, that is, to a depth of 10 feet 11 inches. Above this was another level of occupation which will be described later.

Room 65

Against the south wall of Room 65, $2\frac{1}{2}$ feet west of the doorway, was a fireplace 2 feet east and west, 1 foot 3 inches wide, and 5 inches deep. A stone slab stood 8 inches above the floor at the eastern end of the fireplace, as if to deflect the draft from the door. Two feet north of the east end of this fireplace was a slab-lined basin, 1 foot 2 inches square and 4 inches deep, beneath which had previously been another fire pit. Situated 2 feet to the east, there had been a third, and, midway between the two, and 1 foot 4 inches northward of them, were remains of a fourth. A fifth fire pit was 3 feet from the west wall and $3\frac{1}{2}$ feet from the north. All of these, except the one against the south wall, had been abandoned and the adobe floor laid over them. There may be others under parts of the floor not dug over.

In the extreme northwest corner was a pit about 1 foot 2 inches in diameter and $1\frac{1}{2}$ feet deep nearly filled with refuse. Covering the pit was a large boulder metate laid face upward, the latter being 4 inches below the floor. A slab-floored, mud-walled trough, 5 feet long, 1 foot 2 inches wide, and $4\frac{1}{2}$ inches deep, extended southward from the north wall, 4 feet 3 inches from the west wall to center. An almost identical trough jutted out from the west wall, 4 feet 3 inches from the south wall to center. In it were the base of a Chaco pitcher and other Chaco sherds. Probably these troughs were once flanked on either side with a row of metates. Thus it appears that Room 66 was a mealing room and kitchen which had seen long use.

At the center of the west wall is a sealed door 2 feet 1 inch wide, 4 feet high, with sill at floor level. The masonry of the inner course of the fill stopped 1 foot 1 inch below the lintels, leaving a cubby hole or niche, 10 inches deep. With the south jamb of the lower part practically in line with the face of the south wall, there is a T-shaped second story door in the west wall, which as it stands, is anomalous in its proportions. The lower part is 2½ feet wide, 1 foot 8 inches high, sill 5 inches from floor level; the upper part, 6 feet 7 inches wide, and more than 3 feet 8 inches high. The offset at the south side is only 6 inches wide, and at the north, 3 feet 8 inches. Probably in the first place this door was symmetrical, the present width of the upper part being due to remodeling. It ceased to be used after Kiva H was built, the outer face of the wall of which came flush with its western side.

The door in the middle of the north wall is 2 feet 3 inches wide, 4 feet high, with sill 2½ feet from the floor. Directly above it is the base of a second story door, 2 feet 3 inches wide, beginning 1 foot 2 inches from floor level. Sealed ventilators may be discerned at each end of the north wall.

The west end of the room was filled to a depth of 7 feet with refuse which dwindled down to floor level at the east end, upon which the ceiling had fallen. The two supporting timbers, which extended from north to south, and the smaller poles as well, were of pine. The western third of the second story room had been cut off from the rest by a sandstone partition about 1 foot thick, built directly above the western log. From the refuse deposit were obtained three grooved axes, a mano, a rubbing and a polishing stone, two skinning knives, pieces of turquoise, a selenite pendant, two arrow points, a shell pendant and bead, twelve mammal bone awls, three bird bone awls, pieces of worked bone and horn, animal skulls, and numerous potsherds (29.0-7463-7505).

Above the fallen ceiling the fill was of clean sand to a height of 14 feet from the original floor, at which point was another to be described in the following paragraphs.

LATE ROOMS ABOVE ROOMS 65 AND 66

Two rooms and a probable third, built and inhabited late in the history of the pueblo, occupied most of the space above Rooms 66 and 65 (Fig. 14). In erecting these secondary chambers, two original walls were used again; that marking the west end of Rooms 66 and 65 and the north wall of the latter. The others were raised anew and independent of any pre-existing masonry. Both rooms were rectangular. Their east

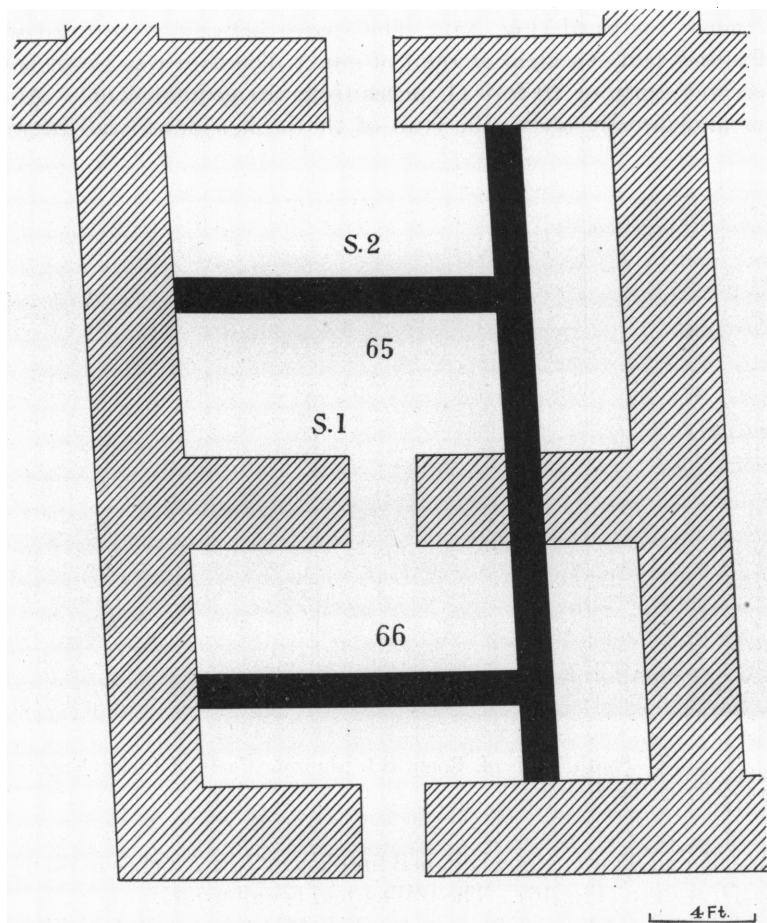


Fig. 14. Late Rooms above Rooms 65 and 66.

wall, 1 foot 3 inches thick, paralleled the original one $3\frac{1}{2}$ feet therefrom. The south room (S.1) was 12 feet 3 inches long and 14 feet wide. Its south wall was 3 feet from that of Room 66. In its longitudinal center were four cedar posts, one at the west end, the others at irregular intervals thence eastward (Fig. 15). The spaces between were filled with small stones laid in a great amount of mud. The floor was 1 foot below the second story, or 10 feet 11 inches from the ground floor. At its center and directly above the stub of the broken down wall between

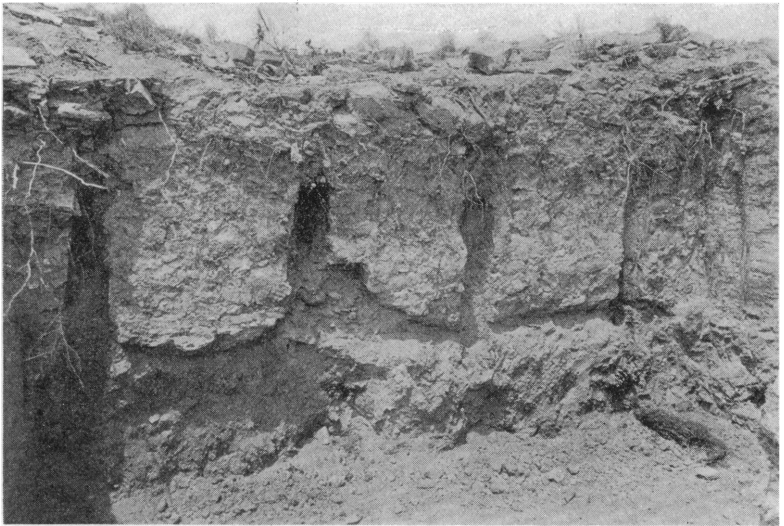


Fig. 15. South Wall of Room S.1. showing Casts of Cedar Logs set Vertically in the Masonry.

Rooms 66 and 65 was a bowl-shaped fireplace, 2 feet 7 inches in diameter and $1\frac{1}{2}$ feet deep (Fig. 16). The ceiling had been burned.

The north wall was of masonry (Fig. 17), 1 foot 4 inches thick, its face in line with the north jamb of the upper part of the T-shaped door in the second story of the west wall of Room 65. It was bedded upon a pine log let down into the sand fill and, when uncovered, stood to a height of 7 feet. The second room (S.2) lying beyond it, was 12 feet 3 inches long and 5 feet 8 inches wide, with floor 3 feet 1 inch above that of the first, or 14 feet from natural soil. Sunken 1 foot into the floor, nearer to the west than to the east end, and paralleling the north wall, $1\frac{1}{2}$ feet there-



Fig. 16. Vertical Section at Longitudinal Center of Room S.1. The fireplace in the floor thereof may be discerned slightly above the broken-down north wall of Room 65.



Fig. 17. North Wall of Room S.1. Immediately beneath the masonry may be seen the cast of the pine log which was buried in the sand fill to serve as a foundation.

from, was a row of three slab-walled slab-floored bins. In the north side of the eastern bin was a bowl. Lying lengthwise of the rooms, south of the bins, were two pine poles about 5 inches in diameter and 9 feet long which had not been part of the ceiling. The eight black-on-white bowls found broken and a quantity of potsherds (29.0-7424-7432), all of Mesa Verde type, were, with the above noted exception, widely scattered.

Since the east wall of the two continued southward of the one reinforced with posts to abut on the south wall of Room 66, it may be assumed that there had been a third late chamber extending southward over the latter. It is evident that a very considerable lapse of time intervened between the building of the pueblo and the construction of the secondary chambers above Rooms 66 and 65.

Room 84

Both floor and walls of Room 84 were stained black-brown with smoke and filth. A layer of decayed refuse covered the entire area, varying from $\frac{1}{2}$ inch thick along the north wall to 6 inches in front of the door into Room 65. Potsherds, most of them small, were numerous, as were fragments of animal bones. From the refuse came two black-on-white pots, a grooved ax, two pecking stones, two polished slabs, three bird bone tubes, and potsherds (29.0-8192, 8202, 8204).

Very little earth had sifted in upon the refuse before the ceiling fell. Two pine logs, running north and south, had been the supporting timbers. The smaller poles were of cottonwood. The pine logs broke near the center and apparently at about the same time, adjacent to the south wall. The two end elements swung back against the east and west walls, respectively, while the central one was crushed back against the north wall. There had been some refuse, mostly ashes and sweepings, on the east end of the second floor. Over about two-thirds of the area of the east wall the veneer had buckled and fallen before the ceiling collapsed, leaving a hole around the ends of some of the poles where they entered the masonry. Most of the second story refuse had worked down through this opening. In the refuse there had been a broken bowl (29.0-8191), fragments of which were found through a vertical distance of 8 feet. In the northeast corner, a wooden knife handle (29.0-8203) lay on the projection of the wall at the level of the second floor.

In the southwest corner, $3\frac{1}{2}$ feet above the floor, was a quantity of decayed peeled willows of the sort used for an ornamental ceiling finish in some second story rooms. Aside from the elements mentioned, the fill consisted of wall débris, containing some timbers from the second ceiling, as well as charcoal and burned adobe from the third.

In the center of the floor was a fireplace 3 feet square and more than 6 inches deep. The door in the center of the north wall is 2 feet 3 inches wide, 4 feet high, with sill 2 feet 1 inch from the floor. In line above it, a second story door, 2 feet 9 inches wide, begins 1 foot 8 inches from floor level.

Passing diagonally through the southwest corner is an inter-story stair tunnel, leading from just beneath the ceiling level in Room 84 to slightly above the previously existent second floor level at the northeast side of Kiva H. It is $1\frac{1}{2}$ feet wide and 1 foot 10 inches high, with a total length of 4 feet 10 inches. The pole-linteled roof rises 2 feet in this distance. Two steps in the floor divide it into three nearly equal areas. The southwest end of the tunnel is recessed, the $2\frac{1}{2}$ inch shoulders giving it a width of 1 foot 11 inches. Directly above, there is a diagonal horizontal doorway 1 foot 10 inches wide and 3 feet 7 inches high, with sill 1 foot 3 inches from the level of the second floor. Sealed ventilators are present in the ends of the north wall.

Room 83

The floor of Room 83 was clean, as if the chamber had seen little use. The ceiling had fallen before deposits of any sort had accumulated on the floor. All of the wood, except the pitchy hearts of the supporting timbers, had utterly decayed. To a depth of 8 feet the fill was almost entirely free from stones, leading one to believe that this part of it was intentional. The earth was a sandy loam such as might have been obtained almost anywhere in the vicinity of the ruin, containing very little refuse. One turquoise bead (29.0-8261) was found 3 feet above the floor, just west of the center of the room. It would seem that Room 83 was involved in the initial ruin of the building, and was never rehabilitated, but instead filled up as were Rooms 63 and 64.

In the center of the west wall, is a sealed door 1 foot 11 inches wide, and $3\frac{1}{2}$ feet high, with sill 2 feet 9 inches from the floor. The dimensions of the door at the middle of the north wall are: width, 2 feet 3 inches; height, 3 feet 10 inches; sill height, 3 feet. Above it, but 6 inches farther eastward, is the base of another door, 2 feet 1 inch wide, beginning $1\frac{1}{2}$ feet from the level of the second floor. There are open ventilators in each end of the north wall.

Room 82

The floor of Room 82 showed so little trace of use that it was difficult to determine within 2 to 3 inches of its actual level. Two pine logs, running north and south, had been the ceiling supports, and the small

poles had been of pine. Very little sand and dust had filtered into the room before the ceiling collapsed. The beams broke well south of the center and then where they entered the north wall. The fill was a tangled mass of stones and timbers, containing in the upper levels, sticks and peeled willows from the second ceiling, together with charcoal and burned adobe from the third. Each end of the north wall contains an open ventilator.

Room 92

Upon the floor of Room 92 were from 2 to 4½ feet of refuse, the minimum in the northeast corner, the maximum along the west half of the south wall. Ashes were the chief constituent, but the amount of brown mould mixed with them indicated that organic substances once composed a considerable portion of the deposit. Potsherds and animal bones were present in liberal quantities, and six black-on-white bowls, two dippers, three mammal bone and two bird bone awls, a grooved ax, and some braided cord (29.0-9025-9041) were recovered.

Three pine logs, so spaced as to divide the length of the room into fourths, had been the ceiling support. The small poles were also of pine. The large logs broke first near the center. The ends of the eastern log and the north ends of the other two snapped off at the wall, while the other extremities pried out of the south wall, bringing down a great portion of it. Above the first ceiling, which rested upon the refuse, the fill was of wall material, among which were some rotted timbers from the second ceiling.

In the center of the south wall is a sealed doorway, 1 foot 9 inches wide and originally more than 3 feet high, with sill 1 foot from the floor. This door connected Room 92 with one of the rooms torn out when Kiva H was constructed. From the width, it may be surmised that the door was of the recessed type, wider at the south end than at the north.

There is a passageway through the south wall, beginning 1 foot 9 inches from the east end and 7 feet 6 inches from the floor (Fig. 18). It is 2 feet 3 inches square. The floor extends horizontally for 1 foot 8 inches to the foot of a step 1½ feet high, the top of which continues on a level for 1 foot 1 inch to the south side of the wall. The pole-linteled roof slopes abruptly upward, rising 2 feet 4 inches in 2 feet 9 inches, the thickness of the wall. Beginning 2 feet 5 inches west of this passage is another essentially the same, but differing from it in some features. It is 2½ feet wide, 3 feet 10 inches high, with sill at the same level as the one previously described. The step is 1 foot 8 inches high, and 1 foot 9

inches from the face of the wall. The roof is horizontal instead of inclined. Against both jambs, poles, sloping northward, emerge from the edge of the step. Presumably these served the function of the shoulders in the recessed doors; that is, they were to support the slab with which the doorway was closed. Clearly these passages provided a means of access between the first and second stories. Thus from a ladder or platform in Room 92, by crawling into one of these passages and mounting the step, one would come out upon the level of the second floor at the northeast side of Kiva H. A cross-section of the passage first described appears in Fig. 18. The writer has not observed this sort of architectural device elsewhere, and, to the best of his knowledge, it is not recorded from any other ruin in the Southwest. Nevertheless, it may be expected to occur in any of the great Chaco Pueblos. Perhaps the presence of such inter-story doors explains, in a measure, the scarcity of hatchways in the ceilings. Obviously, there may have been hatchways in some of the fallen ceilings, where nothing remains to suggest their former presence. However, only three have been found thus far in the Aztec Ruin; one in the fallen ceiling of Room 138, and one each in the standing ceilings of Rooms 132 and 189.

In the center of the floor of Room 92 was a fire pit 2 feet in diameter and 10 inches deep.

ROOM 91

The first stratum of fill in Room 91 was 8 inches of black decayed refuse. It was largely composed of ashes and the débris which collected around fires. Among it were many potsherds and animal bones and three

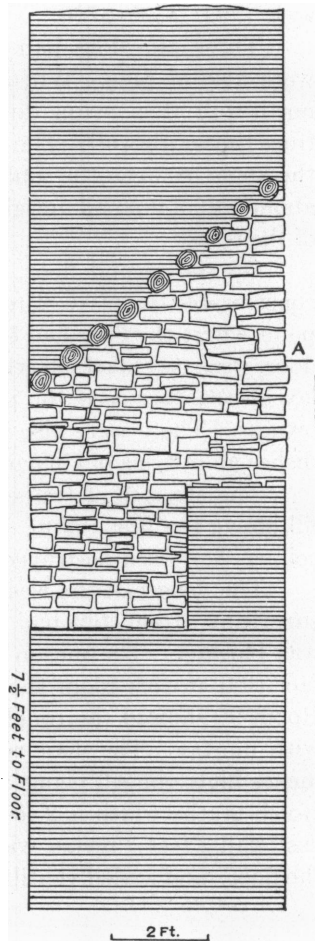


Fig. 18. Cross-Section of Inter-Story Passage, South Wall of Room 92, North Wing. A, Approximate level of second story.

black-on-white bowls, a corrugated bowl, one in black-on-red ware, a bowl with black interior and orange exterior, a pecking stone, an arrow point, a polished sandstone slab, a pottery pendant, and three bone awls (29.0-8720-8730).

Three pine logs had formed the ceiling support; the small poles were also of pine. When the ceiling fell it first pulled free from the north wall, then swung downward for a distance, and finally broke loose from the south wall. The weight of the material above it crushed it into the angle between the south wall and the floor, so that when uncovered, about half of it stood upright, while the other half lay flat upon the surface of the refuse.

On the second floor, especially along the south side, had been a considerable quantity of refuse, like that on the first floor. In this, at a point where the floor had folded in falling, about 3½ feet westward of the door, were two black-on-white vessels (29.0-8718-8719). The fragments lay all together as if the pots had been whole when abandoned by their owners. There were also many potsherds in the refuse, which the two dishes identify as of Chaco age.

The absence of timbers and the presence of much charcoal in the fill above the first ceiling, indicated that both the second and the third ceilings had been destroyed by fire.

The veneer of the west wall had buckled and bellied outward to a surprising extent, but had not fallen. The door leading into Room 90 was blocked. The mason had worked in Room 91, to judge from the fact that in this room the masonry was smooth, while the exposure in Room 90 showed the rough ends of the stones which had not been filled with mortar. The door is recessed, 2 feet 4 inches wide and 3 feet 7 inches high, the sill being 3 feet 2 inches from the floor. On the side of Room 90 the width is 2 feet. There is a sealed door in the center of the east wall 2 feet 3 inches wide, 4 feet high, with sill 2 feet 10 inches from the floor, and sealed ventilators in each end of the north wall.

Room 90

The floor of Room 90 was free from refuse and unstained from use. Three pine logs had formed the ceiling support and the small poles were of pine. In failing, the stringers slivered, then broke at the south wall, and pried out of the north. The entire fill of the chamber, except for a thin stratum of washed and drifted earth on the floor, consisted of wall material tangled through with ceiling timbers. Near the surface were a few sticks and peeled willows from the second ceiling.

About 1 foot below the one at which excavations ceased is an older floor. The space between is filled with sand containing some refuse. There is a ventilator in the east end of the north wall.

Room 95

From 7 to 10 feet from the floor of Room 95 in the masonry portion of the fill were various stone artifacts; a metate, five manos, a polished pestle of red sandstone, and a worked slab of the same material (29.0-8899-8906). Judging from their position they must have come from the third floor. Refuse covered the entire area of the first floor. Along the west wall it was from 4 to 6 inches in depth. From the northwest to the northeast corners, it gradually increased to a depth of 1½ feet. Toward the center of the south wall it became progressively thicker from all directions, reaching a maximum depth of 3½ feet. The western third of this deposit consisted principally of ashes and sweepings. However, as this portion had been wet, it may originally have contained vegetable material. Toward the east end organic refuse became progressively more plentiful. Over nearly one half of the total area it constituted at least 75 percent of the bulk. The components were as usual: cornstalks, leaves, husks, and tassels; yucca leaves, cedarbark and splinters, grass, human excrement, rats' nests and dung; some ashes and sweepings; and numerous specimens: two black-on-white bowls, potsherds (29.0-8896-8898), a flattened chip, a slender unpeeled stick, five worked sticks, two ceremonial sticks, a slender curved stick, sinew and rawhide wrapped sticks, two portions of the hearth of a firedrill, a plume-like brush of cedarbark, bundles of herb stems bound with yucca, yucca cord, cotton cloth, plaited matting, yucca and cloth sandals, portions of plaited and coiled baskets, two nock ends of reed arrows, pieces of tanned hide, etc. (29.0-8907-8954), and a tubular bone bead (29.0-8976). The coiled plaque or tray (29.0-8937) was on the surface of the refuse, just in front of Burial No. 20,¹ and may have belonged with the mortuary offerings instead of having been merely discarded.

Above the refuse, from the line of the doors to the west wall, was a layer of washed sand 2 to 5 inches thick. Scattered through this layer, chiefly along the north wall, were the fragments of a red bowl (29.0-8895), excepting one sherd which later was found in Room 94, beneath the door which connects the two chambers. A black-on-white bowl also came from this level (29.0-8894), one half of it being found well west of the doors, the other south of Burial No. 20. Resting on the floor, with

¹This volume, 161-162.

mouth against the north wall, $3\frac{1}{2}$ feet from its western end, was a decayed coiled basket shaped like a truncated cone. Its dimensions were: diameter of bottom, 6 inches; diameter of mouth, 8 inches; height, 7 inches.

Burial No. 20¹ was near the surface of the refuse in the northeast corner of the room. Resting on the floor in the corner, immediately beneath the burial, was a large plaited basket, and just south of it was another of the same shape and slightly larger (29.0-8935). West of the latter lay the skull and antlers of a four-pronged buck (Fig. 19).



Fig. 19. Plaited Basket and Antlers on Floor of Room 95, beneath Burial No. 20, North Wing.

It appeared that more refuse had been thrown in after Burial No. 20 had been made, because the latter was covered with husks, cobs, etc. However, this covering may have taken place during the extensive activities of pack rats in that corner.

It is noticeable that the bowls (29.0-8896 and 8897) and the sherds from the refuse are of a different type from bowls (29.0-8894-8895) and the other ware from the sand layer.

The ceiling of Room 95 had been supported by three pine logs, running north and south. The two western logs fell long before the

¹This volume, 161-162.

eastern one gave way. The timbers of the western two-thirds of the ceiling were completely decayed. The eastern beam either rotted or broke off close to the south wall. As it was forced downward, the lever-like action of the opposite end, together with the similarly exerted force of the corresponding timber in Room 94, completely demolished the north wall down to within $2\frac{1}{2}$ feet of the floor. By comparing conditions in Rooms 93, 94, and 95, it is seen that the western three-fourths of the ceilings of all the rooms fell long before the remaining portions. The reasons for this are not apparent.

In the center of the south side of the room is the narrowed end of what must have been a recessed door, which, previous to being sealed, connected with a chamber once occupying a portion of the area of Kivas H and J. It was 1 foot 9 inches wide, 3 feet 7 inches high, with sill 2 feet 4 inches from the floor. In the center of the north wall is a recessed door 2 feet $2\frac{1}{2}$ inches wide; 3 feet, 7 inches high; with a sill height of 3 feet 4 inches. A stone step 6 inches wide juts out a like distance from the masonry 10 inches below the sill. On the side of Room 94 there is a similar step beneath the narrowed door opening, which is 1 foot 9 inches wide. There are ventilators in each end of both north and south walls.

ROOM 94

A thin stratum of ashy earth and Burial No. 19¹ were on the floor of Room 94. The ceiling had been held up by three pine logs running north and south; the small poles also were of pine. The central and west supporting timbers gave way relatively early in the cycle of destruction of the pueblo. In crashing downward, the mass of débris which had collected on the western three-fourths of the ceiling, filled the chamber, except for a space triangular in cross-section, the remaining quarter of the ceiling and the east wall forming the sides and the sloping exposure of the débris, the hypotenuse of the triangle. This débris had been wet and was consolidated into a surprisingly hard and compact mass. Among it were quantities of charcoal representing the second ceiling and probably the third as well.

Beginning at a point 5 feet from the west wall, 1 foot from the north, and 4 feet from the floor, numerous potsherds were encountered. These, mixed with charcoal, continued through a layer 8 inches to 1 foot thick, extending obliquely downward to within 6 inches of the floor at the west line of the door and thence eastward on a level to within 4 feet of the west wall. It is uncertain whether these sherds were from vessels left

¹This volume 161.

entire on an upper floor, or were in refuse. Among them was a high percentage of redware.

Eventually the eastern supporting timber broke close to the north wall and swung down and back toward the east wall. The portion of the ceiling which it had held up was mashed down into the space not previously filled.

Across the east end of the second floor there had been from 5 to 9 inches of refuse, containing a small proportion of vegetable substance. From this, in the extreme southeast corner were recovered a piece of

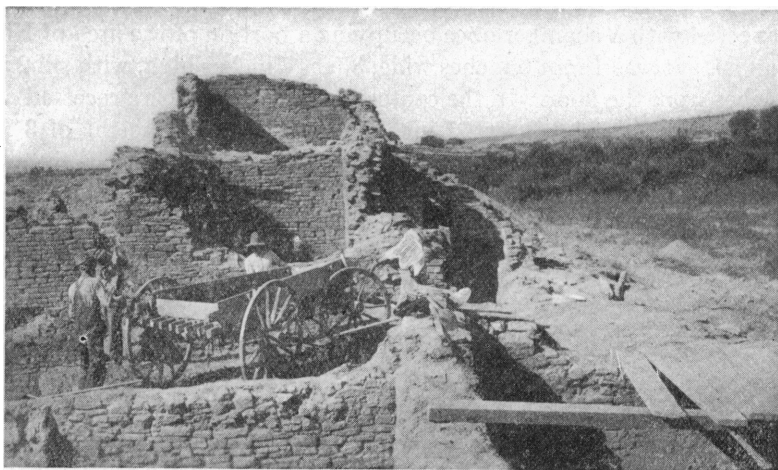


Fig. 20. Loading Earth Wagons above Room 94, North Wing.

buckskin, a piece of cotton cloth, part of a plaited bag, and a plaited basket (29.0-8985-8988).

There is a recessed door in the center of the north wall 2 feet 2 inches wide, 3 feet 4 inches high, with sill 3 feet 2 inches from the floor. On the side of Room 93 it is narrowed to a width of 1 foot 9 inches. There are ventilators in each end of the north wall, the east one sealed, the other open.

Room 93

Some sandy earth had washed and sifted into Room 93 before the ceiling fell. Three pine logs had supported the latter. Willow mats, such as were taken from Room 99, had been placed between the pine

poles and the layer of splints. The two western supporting timbers broke near the south wall, precipitating the western two-thirds of the ceiling and the débris upon it into Room 93. This mass poured back under the remaining portion of the ceiling, almost filling the space beneath it. In the course of time the eastern beam failed, the north two-thirds of it ultimately coming to rest on top of the débris. This portion rotted away. In the southeast corner was a small cavity which did not fill; in consequence, the south end of the timber remained dry and did not decay. The section of ceiling above it remained in place for five years after excavation, or until some vandal tore it down to secure the willow mat it contained.

In the earth that had been above the first ceiling were fragmentary timbers and peeled willows from the second ceiling and signs of the fire which had destroyed the third ceiling.

In the east end of the north wall there is a ventilator, and, had not the west end fallen, doubtless one would have been in evidence there.

Room 116

The floor of Room 116 showed no signs of use. The entire fill of the chamber had resulted from the slow action of the elements. The first 3 to 4 feet consisted of thin strata of sand and adobe deposited by wind and rain. From this level upward, building stones became progressively more plentiful, with now and then a portion of a decayed pole. The ceiling did not collapse all at the same time. Slow decay destroyed all but the two supporting pine timbers which had lain east and west. Eventually, these broke in two and settled down upon the fill. The extremities which had been embedded in the walls showed at the surface previous to excavation.

As this chamber stands, it is but somewhat more than the western half of the room of which the remainder was taken up in the construction of Kiva J. Beginning 1 foot 11 inches from the east end of the north wall of the secondary chamber is a sealed recessed door 2 feet 2 inches wide, 3 feet 2 inches high, with sill 3 feet 3 inches from the floor. At half this height a stone step 6 inches wide juts out 5 inches from the wall face and, beneath the narrowed opening, 1 foot 3 inches wide on the side of Room 101, is a similar step. This door was at the center of the north wall of the original chamber.

Room 101

Along the north and west walls of Room 101, refuse averaged 2 feet 3 inches in depth and thickened to 3 feet 5 inches in the southeast

corner. It contained practically no vegetable substance. The skeleton of a macaw and some potsherds (29.0-9325-9326) were recovered from it.

Over the refuse was a stratum of from 2 to 10 inches of washed and drifted sand and adobe and the charcoal and adobe chunks from the ceilings. As shown by the stubs in the north wall, three logs had been the ceiling support. Previous to excavation, portions of thick logs lay on the surface. Presumably they were parts of timbers from the second or even the third ceiling, which, liberated by the crumbling of the walls, fell within the last century.

In the center of the west wall is a recessed door which had been sealed. It is 2 feet 4 inches wide, 4 feet 3 inches high, with sill 2 feet 1 inch from the floor. The opening on the side of Room 111 is 3 feet 2 inches high and 1½ feet wide. The recessed door in the center of the north wall is 2 feet 3 inches wide, 3 feet 7 inches high, with a sill height of 2 feet 5 inches. The opening on the side of Room 110 is 1 foot 8 inches wide, and 1 foot below it there is a stone step like those previously described. Its east jamb in line above the western one of this door, there is a door in the second story, 2 feet 5 inches wide, 4 feet 4 inches high, with sill about 2 feet from the floor level.

Room 100

The floor of Room 100 was but slightly stained by use. Immediately above it was a layer of washed and blown sand and adobe. Over the western two-thirds of the chamber this was from 7 inches to 1 foot 4 inches thick, while toward the eastern end it rose to a maximum height of 2½ feet. Upon it lay the charred timbers of the ceiling, surmounted by the earth which had been the floor of the room above. Along the north side, great blocks of this earth, about 1 foot thick, had fallen *en masse*. Upon one of them, 2 feet east of the door and 4 feet from the north wall, were three black-on-white bowls (29.0-8537-8539). Near the south wall, in front of the door, and for a few feet on either side of it, were potsherds mixed with the remains of the ceiling. From them three more or less complete vessels were sorted out (29.0-8540-8542). Against the north wall, slightly west of the door, was a large stone ring formed by the wearing through of the bottom of a cylindrical mortar of basaltic stone which must have been brought from a great distance (29.0-8545). Other specimens from the room are: part of a chipped knife blade, a small conical stone ornament, and pieces of turquoise (29.0-8544-8546-8547). The latter represents turquoise inlay fragments found through a zone, 2 to 3 feet thick, over the entire chamber, above the remains of the first ceiling.

From the stubs embedded in the south wall, it is evident that the first ceiling was held up by at least three pine logs. A portion of one supporting timber of the second ceiling remains in the south wall, near the west end. It is so much nearer the end wall than customary where there were three stringers, that it may have been one of a series of four. Not a stick of unburned wood was found in the room. Evidently fire had destroyed the inflammable portions of all three ceilings. This fact gives the key to a point of considerable interest.

The walls in the area covered by Rooms 100, 101, 110, 111, 112, 113, and 114 stand to a greater height than any other masonry in the pueblo. These walls are no better built than many others and the chambers which they bound are large; hence, the great distance between cross walls leaves the longitudinal ones poorly braced. Under the conditions which held elsewhere they would have been expected to have fallen much sooner than the walls of small chambers. By burning away the ceilings, fire removed the three most potent causes of destruction:—

1. Dampness at ceiling levels. When rain or snow was halted in its downward course by an adobe floor, the latter held the moisture, preventing rapid evaporation, and it soaked into the adjacent masonry. Repeated wetting and frost action disintegrated the adobe mortar and some of the poorer quality of sandstone as well. After the ceilings fell, wind and rain rapidly removed the powdery disintegrated material, thus developing an undermining which was a decided element of weakness. This was accentuated in end walls by the presence of the stubs of the ceiling poles which were in effect a course of wood inserted between two successive courses of the veneer.

2. Weight of *débris* upon standing ceilings. The upper ceilings and walls usually collapsed before the lower, more protected ones, gave way. Hence, an enormous bulk and weight of *débris* gathered upon the first ceilings. The weight of this material helped to develop lines of stress in the walls of the first story. The following was the ordinary sequence of events: The core of a wall, containing a relatively large proportion of adobe, settled. The veneer of either face, consisting of stones closely bedded upon one another, split loose from the core to which it was seldom tied, bulged outward, and, if the settling continued, buckled and fell.

3. Lever-like action of supporting timbers. When finally the ceilings collapsed beneath the loads they bore, most commonly each stringer broke where the strain was greatest, that is, near its central point. As the ceiling gradually settled, each half timber, extending as it did entirely through the wall in which it was embedded, exerted the force

of a mighty lever, prying downward on one side of the wall and upward on the other. When these beams were too strong to break where they entered the masonry, they threw off parts of the veneer below them, and when they were wrenched free, tore out great sections of the wall. The exposed cores of the masonry, further weakened by the gaps thus created, rapidly disintegrated, often permitting the walls to fall *en masse*, a story at a time.

Thus, since it eliminated these three destructive agencies, fire may be given as the chief cause of the great height and preservation of the walls of the central portion of the north wing.

In the center of the north wall of Room 100 is a door 2 feet 2½ inches wide, 3 feet 7 inches high, with sill 2 feet 8 inches from the floor. The north face of the wall had fallen; hence, it is uncertain whether or not the door was recessed. In rebuilding it the masons proceeded on the assumption that it was not. There are ventilators in each end of the north wall.

Room 99¹

The floor of Room 99 was clean and showed so little indication of use that it was difficult to differentiate it from the wash of sand and adobe with which it was covered. Aside from a few inches of such material, the fill was of fallen masonry, drifted sand, rats' nests, and material from the ceiling. The north wall, in which there was a ventilator in each end, had settled and split, throwing almost the entire veneer course down to the foundation into and across the chamber. This took place before any of the ceiling gave way, as shown by fragments of willow mats and poles standing vertically against the exposed core of the wall.

Two pine logs, crossing the shorter dimension of the room, had been the ceiling support. The small poles were of pine. Introduced between them and the splints was an ornamental finish, such as has been observed in but one other first story ceiling (Room 93). This was composed of slender willows, peeled and graded to size, and made into mats by being pierced at regular intervals and strung on yucca cords. To equalize the taper, half of the twigs were reversed, that is, each one lay with butt parallelling the tip of the next. The range of size of the mats recovered is from 2 feet 7 inches by 3 feet 9 inches to 3 feet ½ inch by 4 feet 11 inches. These mats were laid with ends and edges overlapping. The western part of the ceiling fell long before the rest, and, as a result, the mats it contained were torn and broken, and having been in contact with earth,

¹Designated LX in Fig. 3, p. 13, this volume.

were badly decayed. Fire reached the northern edge of the eastern portion, burned through the pine log next the wall, charred the other timbers for $1\frac{1}{2}$ feet therefrom, and then went out. Thus freed, the end of the log settled down upon the fill, the other extremity remaining embedded in the south wall. The other ceiling elements settled, but retained their relative positions, and beneath was a cavity which did not fill. Having

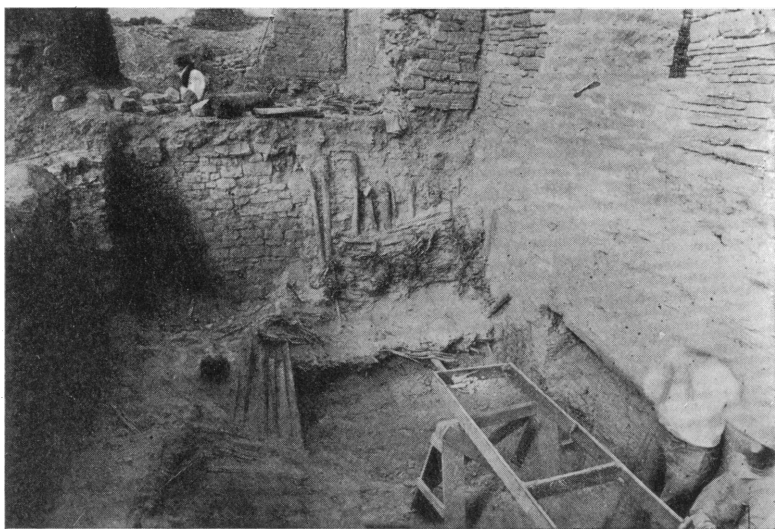


Fig. 21. Sifting for Beads and Fragments of Vessels from Burial No. 25, Room 111, North Wing.

escaped mechanical destruction and having been protected from moisture, the uncharred mats¹ were in good condition when found (29.0-8062-8067).

ROOM 111

Refuse had been poured into Room 111 through a stair tunnel, presumably like that described under Room 92, in the west end of the south wall. Directly beneath the opening the accumulation was 4 feet deep, sloping down to $2\frac{1}{2}$ feet at the northwest corner, and $1\frac{1}{2}$ feet across the east end. Burial No. 25² was on the surface of the refuse in the southwest corner. From the deposit, which had contained practically no vegetable material, four bowls and many potsherds (29.0-8711-8715),

¹This volume, 55.

²This volume, 163-167.

a grooved ax, a grooved hammer, a spherical stone, a mano (29.0-8743-8746), and three small arrow points (29.0-8753) were recovered.

A thick pine log had been set into the refuse 5 feet from the west wall and 2½ feet from the south, as if to hold up the south end of the western ceiling support. It extended from within 5 inches of the floor to within 1½ feet of the ceiling level, at which point it had rotted off.

Over the burial level there was from 6 inches to 1 foot 2 inches of washed and drifted earth, upon which the ceiling had fallen. The two supporting logs and the small poles were of pine. The logs broke first near the center and after settling a few inches snapped off at the north wall. The eastern one broke at the south wall also, while the south half of the western timber pried out a section of the wall, including the east side of the stair tunnel.

On the fallen second floor, just south of the center, were sherds of black Tularosa ware (Fig. 21). In the fill thence upward were decayed timbers from the second ceiling.

The doorway in the east wall had been sealed from the side of Room 111, the masonry being faced on that exposure, but rough, as viewed from Room 101.

The wares from the refuse deposit were of Chaco type, but the majority of the vessels from the burial level were clearly and distinctly Mesa Verde. However, there were some possessing characters distinctive of both periods and the largest proportion of black Tularosa ware which has been observed in the entire ruin.

There is a recessed door in the center of the north wall, 2 feet 3 inches wide, 4 feet high, with sill 2 feet 4 inches from the floor. Directly above it there is another, 2½ feet wide, 4½ feet high, beginning 2 feet 1 inch from the level of the second floor. In each end of this wall there is a ventilator, the east one open, the other sealed.

ROOM 110

Covering the floor of Room 110 was a layer of almost pure ashes containing but few sherds and varying in thickness from a scarcely distinguishable film along the south, east, and west walls, to 6 inches beneath the door in the north wall. These ashes may have been thrown into the room as refuse, or may have resulted from the burning of a deposit of vegetable rubbish.

In a stratum of washed and drifted earth, from 2 to 3 inches thick, lying on top of the ashes were various objects belonging with Burial No. 25.¹ Above the specimen-bearing stratum, the washed and blown

¹This volume, 163-167.

material continued for an average depth of 1 foot. Then came charcoal and adobe from burned ceilings, completing the fill to an almost uniform depth of 4 feet. Thence upward the débris was of fallen masonry.

The door in the center of the north wall is 2 feet 3 inches wide, 4 feet 2 inches high, with a sill height of 2 feet 5 inches. Directly above it is another, 2 feet 7 inches wide, and 4 feet 5 inches high, beginning 2 feet 5 inches from the level of the second floor. Each end of the north wall contains an open ventilator.

Room 112

A wash of sand, seldom more than 1 inch thick, covered the floor of Room 112. Upon it lay a stratum of partially charred vegetable refuse from 2 to 3 inches in thickness. Just west of the door and from 2 to 5 feet from the south wall, were found three ceremonial sticks, a fragment of matting, and part of a heavy sandal-like object (29.0-9044-9047). On top of the burned refuse, from one end of the room to the other, were bones from Burial No. 25.¹ Above the stratum containing the latter, was washed and blown earth 5 to 9 inches thick, packed almost as hard as stone.

The ceiling of Room 112 is standing. Fire, presumably when the vegetable refuse was burning, caught in the ceiling, but went out before it did more than blacken and check the timbers. Two pine logs, 11 inches and 1 foot in diameter, respectively, form the support.

This room was one of those entered by relic hunters during the early eighties. They tore out the masonry around the ventilator in the southeast corner and after gaining access to the chamber, tunnelled through both the east and west walls in search of other open rooms. The names of subsequent visitors are written and cut into the walls and timbers and souvenir collectors have cut away a few poles from the ceiling. There are open ventilators, one in each end of the north wall.

Room 122²

Room 122² is situated above Room 112. Refuse, more than half of its bulk composed of vegetable and other perishable substances, had been thrown in through the door connecting with the room above Room 110, forming a fan-shaped deposit, 2 feet deep, beneath the door and dwindling out in the northeast and northwest corners. Being in an outer tier, the slope above Room 122², was very steep, providing excellent drainage,

¹This volume, 163.

²Designated XV² in Fig. 3, p. 13, this volume.

which condition, together with the air space beneath the floor, had excluded all moisture from the refuse. This mass, of Chaco age, contained a fine assortment of textiles and other perishable artifacts (29.0-5251-5400) such as in most places is entirely decayed. The conspicuous components of the deposit, other than manufactured articles, were shreds of cedarbark, cornhusks, and cobs, strips of yucca leaf in great abundance, excrement, ashes, and floor sweepings.

At the center of the east wall is a recessed door which communicated with the room above Room 99. It is 2 feet 5 inches wide, 3 feet 2 inches high, with a sill height of 2 feet 3 inches. The width at the east, or wider end, is 2 feet 8 inches.

Room 115

Upon the floor of Room 115 were quantities of gypsum and a gray shaly clay, probably materials used in pottery making. These deposits were not removed. Although somewhat intermixed, clay forms the most of the floor covering over the western third of the room, while gypsum is more plentiful over the remainder.

The next element of the fill was refuse, averaging 4 feet deep along the north wall, 5½ feet at the southeast corner, and 7 feet in the southwest. The greater depth in the latter corner was due to the fact that the refuse had been poured in through a stair tunnel in the west end of the south wall. Although only the sill remained, presumably it was like the one in Room 92 (see p. 344). Vegetable substances composed practically one third of the mass, but in proportion to other deposits of "dry" refuse, specimens were not numerous, those secured being yucca strips, cedarbark and grass pot rests, willow rings tied with yucca, yucca cord and fiber, matting, parts of several sandals, and sticks and other forms of worked wood (29.0-8813-8893). All potsherds were of Chaco types.

The ceiling was held up by two north and south pine logs, the largest thus far observed in the ruin. Where the western one enters the north wall, it is 12½ inches in diameter. The pine poles were also uncommonly large, the maximum being 4½ inches. This ceiling had remained intact until fairly recent times. Both timbers cracked near the center, but did not collapse, having sagged only a few inches. Eventually the poles of the middle section broke through, probably as a result of decay. The débris which the poles had supported ran down into Room 115, leaving a hole through which one might crawl beneath the remainder of the ceiling. More than twenty-five years ago unknown parties sawed out a section of the western supporting timber near the north wall and also the south

end of the eastern one. In the course of time, as many of the poles were torn out as those desirous of securing them dared to remove. In consequence, all remaining bits of the ceiling, except a small portion in the northeast corner, had to be removed during excavation.

Along the north wall of the room above Room 115 there was refuse upon the floor to a depth of from 1 to 2 inches. From it came two pieces of cotton cloth (29.0-8576-8577). To a height of 1 foot 10 inches this wall showed patches of red plaster and 6 inches farther up, flakes of white still adhered. As the space between had peeled off, the height of union between red and white could not be determined.

The recessed door at the center of the west wall, narrowed on the side of Room 115, is 1 foot 10 inches wide, and 3 feet 10 inches high, the sill height being undetermined. It had been sealed with sandstone masonry. The door in the middle of the north wall is 2 feet 3 inches wide, 3 feet 10 inches high, with sill about $2\frac{1}{2}$ feet from the floor. It was filled with sandstones to a height of 1 foot and thence upward with large cobblestones. Apparently this was done to hold back the refuse as it accumulated above the level of the doors. The second story door in the north wall is $2\frac{1}{2}$ feet wide, beginning 2 feet 1 inch from floor level. There is a sealed ventilator in each end of the north wall.

Room 114

On the floor of Room 114, midway between the center and the northwest corner, lay part of a bowl of Pueblo Bonito type (29.0-8981). The first element of the fill was washed and drifted earth, 3 to 7 inches deep. Above this layer was an average of 3 feet of charcoal and adobe, representing, to judge from the bulk, the first, second, and third ceilings. Fallen masonry completed the fill to a depth varying from $9\frac{1}{2}$ to 11 feet.

In the middle of the north wall is a recessed door, 2 feet 3 inches wide, 3 feet $8\frac{1}{2}$ inches high, with a sill height of 2 feet 9 inches. The width of the narrowed end, in Room 113, is 1 foot 8 inches. Above it, the second story door, $2\frac{1}{2}$ feet wide and 3 feet 11 inches high, begins 2 feet 5 inches from floor level. Sealed from the side of this room, there are second story ventilators in the ends of the north wall.

Room 113

Over the apparently unused floor of Room 113 was a layer of from 2 to 3 inches of washed sand and adobe. Above this was dry dust and sand which had worked in through the door and ventilator openings, $1\frac{1}{2}$ feet deep along the north wall, and $3\frac{1}{2}$ feet immediately in front of the

door. Mixed with the upper part of the dust were building stones from the modern breaches made in the east and west walls and from the veneer of the south wall which had fallen around the doorway. From a rat's nest at the west side of the door were taken a mammal bone awl (29.0-8578) and a skinning knife (29.0-9256).

The ceiling is in an excellent state of preservation, being clean and new looking. It is supported by two pine logs and the small poles are of cottonwood. There is an open ventilator in each end of the north wall.

Room 123² ¹

A pile of seven plaited rush mats, all badly decayed, lay in the southeast corner of Room 123². It was possible to measure one of them, the dimensions being 3½ by 5 feet. Against the center of the north wall was a willow mat, 2 feet 7 inches wide, and 2 feet long, consisting of sixty-eight sticks strung on ten cords, equally spaced. One side of the willows was flattened. Beneath this were two fine-textured rush mats and eastward of it, extending diagonally toward the center of the room, was a pile of three more. Westward of the willow mat against the north wall, the rush mats were four deep.

In front of the door in the south wall was a small amount of refuse in which were a pottery disk, some cotton cloth, yucca string, a hair brush (29.0-8081-8084), and some human hair (99-7729). Covering the floor and the objects enumerated was a layer of drift sand 3 to 9 inches thick.

The western line of the tier formed by Rooms 115, 114, 113, marks the limit of the systematic clearing of the ruin. Since the work reached this point, numerous rooms here and there in the western half of the pueblo have been excavated. In describing them the same general order will be followed, despite the fact that the surface of many transverse tiers remains unbroken while in others only one or two rooms have been opened.

Room 154²

Through the vent in the west wall of Room 113 made by relic hunters it could be seen that the eastern third of the floor of Room 154² was standing; consequently, this area was excavated. A large rectangular sandstone was found leaning against the center of the east wall. Covering the floor was from 5 to 9 inches of storm-deposited earth, and above this was house wreckage to the surface. Among it were charred bits of the second ceiling and portions of many wooden objects which had been

¹Designated Room XXXV² in Fig. 3, p. 13, this volume.

in the third story room above it (Field Nos. 3908-3918). Most noteworthy among them are the half of a bow (Field No. 3917) once ornamented in red, and incomplete sections of thick squared timbers (Field Nos. 3908-3911). These had been rubbed smooth and true as if ripped out with a saw and subsequently planed.

The central section of the floor has fallen and probably the western one also, but it is not impossible that excavation would reveal the latter in place.

ROOM 124

Decades ago relic hunters entered Room 124. They sunk a shaft through the débris in Room 125² and broke through the ceiling next to the west wall just north of its mid point. The floor was clean, as if it had seen no use. The first fill consisted of, from 11 inches at the east end to 1 foot 9 inches at the west, of fine dust and sand that had blown in before the falling of the upper walls closed the door and ventilators. Among this material, between the door and the southwest corner was an almost negligible quantity of refuse from which came a section of a pole with ends cut, a slab of worked wood, an implement of cottonwood root, plaited rush matting (29.0-8399-8403), and part of a wooden ceremonial object (29.0-9042). On top of the dust layer was the masonry from a hole torn through the east wall and from a great breach made in the southwest corner by those searching for more open rooms. Above this, débris had run in through the hole in the ceiling to a depth of 6 feet. Excepting the area torn out to give access to the chamber, the ceiling was well preserved. Two pine logs supported it and the small poles were of cottonwood. The hole was mended and a cement floor laid in the room above before measurements of the door were taken.

ROOM 125²¹

The floor of Room 125² was unstained by use. Covering it was from 2 to 6 inches of earth laid down in thin strata by storms. In the débris overlying the storm deposit there was much charcoal from the burned ceiling, as well as chunks of adobe from the third floor, fired from black to dull red in color and as hard as brick. Mixed with the charred material were a black-on-white mug, a polished slab, ceremonial sticks, yucca cord, five charred sandals, and an incomplete sandal (29.0-8306-8316), as well as a shattered mug, two dressed stone slabs, and some mosaic elements of shell and turquoise (29.0-5411). Having fallen sufficiently intact to be recognizable, there was a slab-lined fire pit from the third story.

¹Designated Room XXX² in Fig. 3, p. 13, this volume.

The door in the center of the south wall is 2 feet 8 inches wide, 3 feet 11 inches high, with sill 2 feet 2 inches from the floor.

Room 193

The south wall of Room 193 split from about 1½ feet above the floor, settled, and finally collapsed entirely with the exception of a short stub at either end. This failure was long in process and the ultimate stage was not reached until after the neighboring portions of the ruin had weathered down into a mound, as indicated by the irregular crater existing above Room 193 when excavations were begun.

Covering the clean, only slightly used floor, was from 6 inches to 1 foot of sandy earth upon which lay the débris from the fallen south wall. Above this was the wreckage of the ceiling. The two eleven-inch pine logs which had supported it swung downward as the south wall fell and snapped when their tips came in contact with solid substance. At the same time the butts were pried upward through the shallow remainder of the north wall overlying their points of insertion. As found, the south halves of the logs lay flat upon the initial sand fill, while the northern portions stood vertically like posts against the wall. The central third of the second floor came to rest in horizontal position, but the end portions swung back as if hinged, each toward the wall in which the ends of the small poles were embedded, so that they also were in vertical position when uncovered.

Several cubic yards of refuse had been deposited on the second floor, the mass having varied from a few inches at the ends of the room to about 2½ feet in depth in front of the door in the south wall through which it had been cast. This refuse contained much perishable material well preserved, and was rich in specimens (Field Nos. 5546-5473, 5553) having come therefrom. In addition to those listed, a number of pottery vessels could be sorted and assembled from the fragments. The pottery is predominantly of the Mesa Verde complex, but contains a slight Chaco admixture. This mass of sherds is unusual in that bowl fragments are relatively rare among it, while a great majority of the sherds from any normal refuse pile are from bowls, this form having been the most plentiful type of clay container, and the one most subject to breakage. Evidently a considerable number of very fine medium-sized water jars and mugs were shattered in some other quarter of the pueblo, probably intentionally, judging from their number and the fact that they were practically new, and most of the fragments gathered up and carried to the refuse deposit under consideration. Had they been broken where found,

sifting would have recovered nearly all of the fragments, which it distinctly failed to do. The water jars would be of special interest were they repaired, since several obviously are the work of one potter who used the same major plan of decoration on all of them, introducing variation only in the details.

The incomplete twined-woven bag (Field No. 5534) from this refuse is a typical representative of the kind so frequently found in cave deposits of Basket Maker and Post Basket Maker age. Its position here is, to say the least, anomalous.

Another unusual specimen from Room 193 is a portion of the side of a typical Chaco water jar. The entire surface was completely hidden by a coat of lacquer bearing an elaborate design in yellow, red, and black, distinctly similar to those upon the painted mortar and the painted board from *Puebló Bonito*.¹

Above the refuse deposit the fill was of wall wreckage and drifted earth interspersed with decayed timbers from the second ceiling and charcoal from the third. There had been an ornamental layer of willows in the second ceiling and a corresponding layer of willow mats in the third. There were found two river boulder metates and fragments of several sandstone slabs fallen from the third story.

Jamb stones among the *débris* showed that there had been centrally placed doors in the south wall, one in the second, and one in the first story. In the west wall was a jagged hole made during a search for more open rooms by those who first tunnelled into the northwest corner of the ruin.

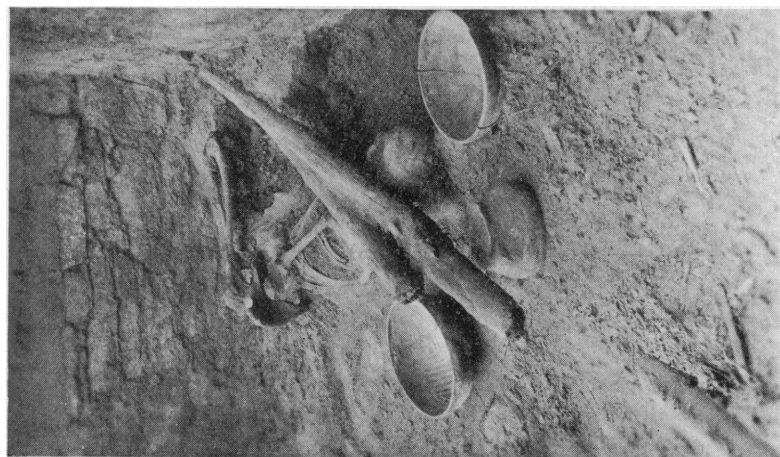
Room 158²

As originally planned, Room 158² was provided with doorways; one at the center of the east wall, another at the center of the north. The dimensions were: the former, width, 2½ feet, with sill 2 feet 3 inches from floor; the latter, width 2 feet 4 inches; sill height, 2 feet 1 inch. These openings were sealed and the room remodeled into a Mesa Verde kiva, the details of which will be given in a future publication on kivas.

Room 196²

Immediately upon the floor, in the southeast corner of Room 196², lay Burial No. 144 (Fig. 22a). The skeleton (Field No. 5577) is that of a young adult female. It was on the right side with femora forming practically a right angle with the trunk, heels drawn up against buttocks,

¹This series, vol. 27, 228, 266.



a



b

Fig. 22. a, Burial No. 144, Room 196³, North Wing; b, Runged Ladder, Room 196³, North Wing.

left humerus straight along the side with flexed elbow, hand over base of throat, right arm extended beneath body. About 6 inches from and in the vertical line of the forehead was a Mesa Verde bowl (Field No. 5578), back of the skull another (Field No. 5579), and between the two, a corrugated pot (Field No. 5580), Fig. 22a. The burial had not been covered by human agencies, instead, having been, in common with many others found in this portion of the ruin, merely laid away in an unused room.

Evidently there had been a hatchway in the northwest quarter of the ceiling, as may be inferred from the fact that a runged ladder (Field No. 5581) which presumably leaned therein was found stretched diagonally from near the northwest corner to the southeast. In falling, the tip crashed down across the breast and skull of the skeleton above described. Originally the ladder was 12 feet long. However, when found, fire had destroyed the upper central portion, leaving only 7 feet of the base intact (Fig. 22b). All of the third ceiling timbers and part of those of the second had been burned. It was the charring of the latter after their collapse that cut the ladder in two.

There had been willows in the second ceiling, but whether or not mats were once present in the third was not ascertained. High in the fill, evidently having belonged in the third ceiling, were a bone scraper (Field No. 5582), two river boulder metates, and a number of dressed sandstone slabs.

In the center of the south wall is a doorway with a sill height of 1 foot 9 inches, 2 feet $4\frac{1}{2}$ inches wide, and 4 feet 2 inches high.

Room 129

Only the upper $2\frac{1}{2}$ feet of fill in Room 129 was removed, for the purpose of lessening the pressure against the east wall of Room 139 which is in a precarious condition. To within 6 inches of the surface the material was Mesa Verde refuse, thoroughly decayed, among which were a parrot or macaw skull, a mammal and a bird bone awl, a concretion, two stone pendants and one of petrified wood, and an ornament of copper ore (Field Nos. 3874-3881).

Room 152²

Two or three armfuls of vegetable refuse, that is, husks, bark, etc., were strewn along the south wall of Room 152². In the southwest corner was a bundle of rush stems (Field No. 3884), the raw material for plaited mats, and a coil of basket splints (Field No. 3885). Other specimens from

the floor level were a bone pendant, a bird bone awl, and a bird bone tube (Field Nos. 3886-3888). The first 6 inches to 1 foot 2 inches of the fill was storm-deposited earth; the material thence upward was wreckage from the upper parts of the building, together with the imperishable contents of the third story room which had been directly above.

There had been an ornamental layer of willows between the small cottonwood poles and the cedar splints. The peeled sticks were the thickness of a finger and had not been made into mats. The ceilings of both the second and third stories had been burned, the latter completely, the former only partially because of the smothering of the flame by the superimposed floor earth after the timbers burned through and fell.

In the third story room there had been a quantity of stone objects of which a polished slate disk, a skinning knife, four polished sandstone slabs, a polishing stone, ten cobblestone manos, and two metates (Field Nos. 3889-3907) were saved, and seven worked sandstone slabs, one polished slab, and three cobblestone manos were discarded. The excellence of the polished slabs and of the manos suggests that the room was burned while in use, or if abandoned, that the inhabitants had been unable to remove possessions that under ordinary circumstances would not have been discarded.

The door in the middle of the south wall is 2 feet 5 inches wide and 4 feet 1 inch high, with sill 2 feet from the floor.

Room 139

When the writer broke through the veneer of masonry which sealed the north side of the door leading into Room 139 from Room 143, the condition of the ceiling dictated a hasty retreat. The supports were of cedar instead of pine. Evidently realizing the brittleness of this kind of wood, the builders spanned the room with two pairs of logs, each pair taking the place of the customary single beam of pine. The cedars had broken at the center and sagged 1½ feet, and splintered again where they were inserted in the west wall. They were in such condition that after the room above had been excavated and the small cottonwood poles, extending the full length of the room, had been removed, the southern pair of beams fell of their own weight. Why the 3½ to 7 feet of débris above them had not crashed its way down into Room 139 is difficult to explain.

On the floor of the room was dry Mesa Verde refuse with a fairly large admixture of vegetable substance, 1 foot deep at the north end and 3½ feet at the south. This refuse was very rich in specimens among

which were six black-on-white bowls, an undecorated bowl, a black-on-white dipper, potsherds, human hair, grains and ears of corn, beans, seeds, and pumpkin shells, wrapped and tied bundles of twigs, bundles of splints, yucca and corn leaves, bundles of herbs, rings and chains of yucca strips, prepared fiber, twisted cords, some in bundles and some in hanks and feather-wrapped, braided cord of yucca and cedarbark, twelve pieces of cotton cloth, two cloth sandals, two woven socks, five plaited sandals, a plaited bag, two plaited baskets, plaited rush matting, six plaited pot rests, seven corn leaf pot rests, two cornhusk pot rests, four cedarbark pot rests, two grass pot rests, one bark pot rest, five yucca rings, one cedarbark ring, small rings of cornhusk, two withe rings laced with fine yucca mesh, three cornhusk flowers, a yucca hairbrush, a cedarbark brush, a cedarbark torch, three flower-like objects, nine reed arrows, seven pieces of worked wood, three worked sticks, a wooden cylindrical plug, two split sticks, two wooden batons, three heads of ceremonial sticks, feathers and quills, pieces of hide, four pieces of worked antler, a sheephorn blade and a ladle of the same material, seven mammal bone awls, two bird bone awls, two bird bone tubes, three miniature unbaked bowls, four small spheres of unbaked clay, an ornament of gilsonite and one of selenite, a piece of worked hematite, two arrow points, a chipped knife blade, three pecking stones, a grooved hammer, a grooved ax, a polishing stone, a rubbing stone, an arrow-straightener, a skinning knife, three pottery disks with edges ground, a drilled potsherd, a pottery bird head, and a yoke-shaped piece of wood (29.0-9388-9639) and contained Burials Nos. 27 and 28,¹ the former that of the individual with the splinted arm. Covering the refuse at the north end were 4 to 8 inches of rat skeletons and nests and at the south a thin layer of dust sifted from above.

As previously mentioned, the door in the middle of the north wall had been sealed from the side of Room 143. It is 2 feet 3 inches wide, 4½ feet high, with a sill height of 2 feet. The door comparably situated in the south wall, also sealed, has the same dimensions. In this room there are no ventilator openings, open or sealed. The veneer of the entire east wall has bellied outward and the central third of it fallen.

Room 128²

Although relatively in place, as described under the preceding room, the floor of Room 128², was removed in order to lessen the danger of working in the chamber beneath. At its center was a sandstone-lined

¹This volume, 167, 214-221.

fire pit $1\frac{1}{2}$ feet in diameter and 5 inches deep. The south third of the room was separated from the rest by a thin partition built directly above the south pair of floor supports. A metate was in place against and parallel to the east wall, with room for the miller to kneel behind it in the northeast corner. The lip of the metate was flush with the floor and surrounded by a grist basin formed by walling the sides of a shallow pit with stones set on end. A small amount of refuse covered the fireplace and continued southward to the partition wall from which came two pot rests, cotton cloth, human hair cord, two mammal bone awls, two sandstone mortars, and a polished stone slab (Field Nos. 3924-3933). There are two niches in the north wall: one, 1 foot from the east wall and 1 foot 2 inches from the floor, 6 inches wide, $4\frac{1}{2}$ inches high and 10 inches deep, the other $4\frac{1}{2}$ feet from the east wall and 11 inches from the floor, 8 inches wide, $4\frac{1}{2}$ inches high and $10\frac{1}{2}$ inches deep. Both are floored with slabs and lined with flat pieces of cedar.

There were doorways at the centers of the south, west, and north walls. The latter is 2 feet 5 inches wide, 4 feet 3 inches high, with a sill height of 2 feet 2 inches. The recoverable dimension of the others is the same: sill height, 2 feet 2 inches.

The ceiling of the room had been burned.

Room 143

When first entered from a shaft sunk in Room 126, Room 143 was empty except for a 1 foot 8 inch to 2 foot layer of Mesa Verde refuse covered with enough washed earth and rat nests to bring the depth of the fill to an average of 3 feet. Specimens from the refuse are two bowls, potsherds, two grooved axes, two mammal and two bird bone awls, shell beads, ornaments of gilsonite and hematite, arrow points, and seven pieces of worked wood (29.1-27-60) exclusive of those found with Burial No. 35¹ which was in the northeast corner. The ceiling is in excellent condition. There are two pairs of cedar supports and small poles of cottonwood, the latter spaced in threes, extending the full length of the room from north to south.

A jagged hole, 2 feet wide and 4 feet high, had been torn out of the east wall beginning 3 feet 10 inches from the south end, and 1 foot 7 inches from the floor. The interior was roughly plastered with adobe and subsequently smoked black. Built up beneath it, like a step or pedestal, is a block of masonry, 1 foot 5 inches long, 1 foot 2 inches wide, and 10 inches high.

¹This volume, 173-174.

The dimensions of the door at the middle of the north wall are: width, 2 feet 5 inches; height, 4 feet 3 inches; sill height, 2 feet. There are no ventilators in this room.

Room 127²

Room 127² was a milling chamber. A double row of metate bins, with longer axes north and south, covering an area $7\frac{1}{2}$ feet long and 3 feet 11 inches wide, occupied the center of the floor, thus leaving a space 2 feet 5 inches in average width between them and the walls. There were five compartments on each side of the central partition. The wallward ends of the inclined metates had been from 5 to 7 inches above the floor. All but three of the mills had been torn from their places and carried away. The walls of the bins were of thin sandstone slabs, excepting the north side of the northeastern one which was a well smoothed pine board (Field No. 5583). In repairing the bins, a stone was put in place of the latter and metates to the original number replaced. Three shallow trough-shaped metates were placed in the western row, which probably should not have been done, because in the writer's experience this type of metate had not been observed enclosed in a bin.

When the south door was sealed, an opening was left in the bottom corner at the east side, 11 inches long and 5 inches high, leading into a cubby hole or niche, 1 foot 4 inches wide, 9 inches high, and 1 foot 8 inches deep. The dimensions of the door in the center of the north wall are: width, 2 feet $5\frac{1}{2}$ inches; height, 4 feet 1 inch; sill height, 2 feet 3 inches. The lintels had been burned, some partially, others entirely, and the ceiling of the room had been completely destroyed by fire.

Room 126

The fill in Room 126 averaged 16 feet in depth. The lower $1\frac{1}{2}$ to $2\frac{1}{2}$ feet was Mesa Verde refuse containing among other specimens rush matting, hide-wrapped cord, worked wood, six mammal and four bird bone awls, worked deer horns, three grooved axes and one grooved hammer, a black-on-white bowl, and potsherds (29.0-9873-9923). Among the rat nests which accumulated on the surface of this deposit, before the ceiling fell, were many bones brought by the rodents from the burials in Room 141. The fill thence to the surface was of building wreckage containing the timbers of the first, and charred remnants of the second and third ceilings. One of the upper rooms had been a grinding chamber, to judge from the five metates, twelve manos, and numerous slabs, such as were used for bin walls, found among the débris.

The first ceiling had rested on one pine log, extending north and south, that is, the long way of the room. The small poles were of cottonwood.

Beginning at floor level and 2 feet from the south end of the east wall, the masonry had been torn out to an average width of 1½ feet and a height of 5 feet 8 inches. The lower part of the cavity had been made into a niche by linteling the breach at a height of 3 feet 2 inches with cedar poles and refilling the space above with masonry set back a few inches from the wall face.

There are first and second story doorways in the center of the north wall, of which the dimensions are, respectively: width, 2 feet 4½ inches, height, 3 feet 11 inches, sill height, 2 feet; width, 2 feet 4 inches, height, 4 feet, sill height, 2 feet 1 inch. There are no ventilators in the first story, but one is present in each end of the north wall of the second.

Room 141

Neither floor nor ceiling of Room 141 showed the slightest discoloration such as would have resulted from use as a living chamber. Burial No. 30¹ was beneath the floor in the northwest corner. From 4 to 10 inches of Mesa Verde refuse had been thrown into the room before Burial No. 29 was made. The refuse² contained walnut shells, a cedarbark pot rest, two pieces of worked wood, two mammal bone awls and one bird bone awl, four bird bone tubes, a bone slab, a shell bead, four pieces of worked gilsonite, a polished stone disk, a worked pebble and worked sandstone, and potsherds (29.0-9640-9660).

The ceiling support is one large pine log, extending north and south; the small poles are of cottonwood, spaced in threes. There is a ventilator opening in each end of the north wall about 2 feet below the timbers. Both the east and west walls are pierced by holes made by relic hunters many years ago.

Room 195²

Upon the floor of Room 195² was a 3 to 4 inch stratum of drifted sand and plaster washed down from the walls. Thence upward the wall débris contained decayed timbers from the second ceiling, as well as charcoal and burned clay from the third. In the second there had been an ornamental layer of peeled willows. Whether or not there had been willow mats in the third was not determined. Clean walls and floor in-

¹This volume, 169.

²This volume, 167-169.

dicated that this chamber had seen little use, at least as a living room. The doorway in the center of the south wall is 2 feet $4\frac{1}{2}$ inches wide, 4 feet high, with a sill height of 1 foot 11 inches.

Room 189

The matrix of the basal stratum in Room 189 consisted of white ashes. This layer varied from 6 inches deep at the southeast corner to 3 feet at the northwest. Corn refuse and cedar splinters became progressively more plentiful in it toward the latter point. The second stratum, of which the top doubtless had been leveled off, completed the fill to a uniform depth of $3\frac{1}{2}$ feet. It was composed almost wholly of organic material, 40 to 60 percent of it human excrement, dried but in no wise decayed; the rest consisted of cobs, husks, bean vines, shredded cedar-bark, and slivers. These two distinct layers were of Chaco age. Potsherds were very plentiful in them, especially those of corrugated ware. The specimens secured, bundles of yucca leaves, prepared fiber and cord, rush matting, fragments of feather cloth, plaited bags, four plaited sandals, four cloth sandals, three pot rings, three withe rings, eleven parts of reed arrows, cotton cloth, pieces of hide, a coiled basket, a black-on-white Chaco bowl, and Chaco potsherds (Field Nos. 5207-5346), contain the largest quantity of perishable objects from the Chaco period that have to date been taken from any chamber in the western half of the pueblo. At least three are noteworthy: a deep coiled basket (Field No. 5341) shaped like a truncated cone, of the sort in which bowls were occasionally made; a coiled basketry ladle (Field No. 5342), originally coated with red lacquer and containing a rattle in the handle; a cotton rag (Field No. 5338) with colored intricately woven ornamentation. In addition to the baskets listed, there were three of bowl shape in the northeast corner, $2\frac{1}{2}$ feet from the floor, decayed because of the moisture which had run down the walls in ancient times.

The Mesa Verde re-occupants laid down a 1 to 3 inch floor of adobe upon the earlier refuse. A bin was built up in the northwest corner, 2 feet 11 inches north and south, 2 feet 9 inches in the opposite direction, and 2 feet 2 inches high. The west and north walls of the room formed two boundaries, the others were of poor sandstone masonry, 7 inches thick, completely coated inside and out with adobe. In the south wall 5 inches from the west end and 1 foot 4 inches from the floor was a niche, 3 inches wide, 2 inches high, and 2 inches deep. The roof of the bin was supported by several unpeeled alder limbs placed diagonally across from east to the south walls. Upon these were spread two reed mats (Field

Nos. 5280-81) which were covered with 1 to 2 inches of adobe. One of the mats lay north and south, the other east and west, so placed as to leave an opening or hand hole, 8 inches square in the southeast corner. On the floor of the bin were a wooden billet, two boards tied together, a beamer, a portion of a Mesa Verde bowl, and a plaited yucca sandal (Field Nos. 5282-5286), the beamer (Field No. 5284) made from the innominate of a large deer or elk, being the only one found in the Aztec Ruin.

In the adobe coating on the southeast corner of the bin were deep claw marks evidently made by the canine whose dried body lay curled up in the southeast corner of the room apparently where death took place. Although this animal has not been identified, it is the opinion of the writer that it is a dog.

On the Mesa Verde floor and in the 2 to 10 inch layer of refuse above it were specimens of cord, fragments of plaited and sewn matting, three cedarbark pot rings, two coiled baskets, a yucca ring basket, three oval wither rings, wooden implements and boards, a ladder, a hafted ax, two awls, worked sheep horn, deer leg bones, body of a canine, and potsherds (Field Nos. 5248-5279). The large bowl-shaped coiled basket (Field No. 5256) was in front of and 2 feet from the south door and the hafted ax (Field No. 5269), with head and handle as perfect as when first fashioned, lay immediately east of it. In the center of the north side of the ceiling was a secondary hatchway made by tearing out a square of the original woodwork. Leaning from its southwest corner, eastward to the floor, was a cedar pole 6 inches in diameter at the butt and 3 inches at the tip. The rung ladder (Field No. 5268) once stood at practically the same angle. Wall débris, crashing down through the hatchway, knocked it from its place and stretched it on the floor, where it was found with top in the southwest corner of the room. Before the hatchway became choked with stones, the fill of débris became 3 feet deep against the south wall and 6 feet beneath the point of entrance. High up in the fill was a coiled basket (Field No. 5257), fallen from an upper story. At the west side, in the surface layer of dust, were an iron bar and a whisky bottle, part of the equipment of those who broke through the west wall just beneath the ends of the southern ceiling supports some forty-five years ago.

The two doorways, one at the center of the north, the other at the center of the south wall, were sealed. A protective coating of cement placed upon the ceiling cut off access to Room 189 before the door measurements were taken.

Room 134²

In the center of the floor of Room 134² was a fireplace, 1 foot 7 inches in diameter and 7 inches deep. A bin 2½ feet square occupied the southwest corner. The east and west walls, as well as those of the room forming the other side, were of sandstone. The door in the center of the west wall, 2 feet 5 inches wide, 4 feet high, with sill 2 feet from the floor, had been sealed from the side of this room. A small boulder metate and the halves of a broken mano composed part of the masonry at the bottom against the north jamb.

There was a meager amount of refuse on the floor, thickest adjacent to the bin, which contained a piece of plaited rush matting, a cloth sandal, yucca cord, a ceremonial stick, two mammal bone awls and one of bird bone, a bird bone tube, and potsherds (29.0-9927-9935). In the débris above the refuse were cottonwood poles and cedar splints from the ceiling, and fragments of ornamental willow matting (29.0-3408-3410).

Room 181

There must have been a considerable deposit of refuse in Room 181. At any rate, the chamber above it had been practically filled with such material, or assuming that the ground floor room was but briefly used as a dumping place, the deposit continued well above the level of the third story. At the time of excavation, refuse extended from natural soil to 3 feet above the level of the second floor in the southeast corner, and 7 feet above it in the northwest, filling the entire space, excepting a small cavity beneath the north end of the ceiling. The latter had rested upon two pairs of cedar logs, running east and west, covered with cottonwood poles extending the full length of the room. The south pair of logs broke at the center and as the severed ends settled, the minor woodwork pulled apart in the line of the longer axis of the chamber, and the two sections were forced back, respectively, toward the east and west walls. The refuse above then poured down through the rent, completing the fill of the first story chamber. The whole mass was so loose and powdery that the line of demarcation between the original and secondary deposit could not be distinguished. The material was mostly dust and ashes, among which, even previous to decay, there had been only a small proportion of vegetable substance. From the mass, Field Nos. 5349-5418, inclusive, were obtained. The numerous potsherds form a typical Mesa Verde series, containing only a very few of the older complex such as inevitably would have been gathered up and included in the waste

thrown out by the occupants of a previously inhabited site. Only two of the specimens are of special interest. One is a bird effigy (Field No. 5416) of which the head was not found, the only one of its kind the writer has observed among Mesa Verde wares. The other, is the top of another bird effigy (Field No. 5417) with head, wings, and tail in relief, and a T-shaped hole in the back. This is of Chaco ware.

Burial No. 102 had been made on the surface of the refuse.¹

The door in the south wall is 2 feet 4 inches wide and 4 feet high. The sill height is not evident, because of the presence of earth which has been dug over but not removed from the chamber, and the door in the north wall is completely buried by this material. The room contained no ventilators.

The second story door in the north wall is 2 feet 4 inches wide and 4 feet high, with sill 2 feet 3 inches from floor level. An opening extends through the wall 10 inches below its center. The south end is 5½ inches in diameter, rounded with adobe and stopped with a removable plug of clay, conical in shape. The mid portion of the opening is rough and about 1 foot in each dimension, while the north end is stopped with a sandstone 7 inches square. The second story door in the south wall apparently had the same dimensions as the one described.

In the débris above the refuse was charcoal from a burned ceiling, presumably the third.

Room 144

Both floor and ceiling of Room 144 were free from discoloration, as if it had not been a living chamber. The fill was 1 foot 3 inches deep at the north end and 5 feet in the southeast corner. Its bottom was fine sifted dust, but the bulk of it consisted of masonry from the holes made in both the east and west walls by relic hunters and débris which had run down from the shaft sunk by them in Room 140², which pierced the ceiling of this chamber adjacent to the east wall near its south end. The only artifacts recovered were a few potsherds (29.1-73).

The ceiling support is one pine log spanning the longer axis of the room, while the poles running east and west are of cottonwood. The support broke near the center, the splintered ends sagging a few inches. The door in the north wall is 2 feet 4 inches wide, 4 feet 2 inches high, with sill 1½ feet from the floor. In each end of this wall is a ventilator opening.

¹This volume, 199.

Room 140²

On ~~the little-used~~ floor of Room 140² were potsherds, a mammal bone scraper, a grooved ax, a rubbing stone, a polishing stone, and two small mortars (29.0-9884-9892). The immediate floor covering was a 3 to 6 inch layer of dust deposited by the elements, débris containing the charcoal of the woodwork of the second and third ceilings coming next above it. Nowhere else in the entire pueblo was there such a quantity of fill above a standing ceiling. It averaged 10½ feet in depth, with a mass of some 1286 cubic feet, and a weight, at a conservative estimate, of 64 tons. The fact that the first story ceiling had not gone down beneath such a tonnage is all the more surprising because, as mentioned under Room 144, the support is one pine log instead of two, spanning, not, as customary, the shorter, but the longer dimension.

The north door is 2 feet 4½ inches wide and 4 feet 2 inches high, beginning 1 foot 5 inches from the floor. In each end of the north wall is a ventilator opening.

Room 142

There was nothing to indicate that Room 142 had ever been used. The fill was 6 to 8 inches of dust, scattered over the surface of which were the stones from the breaches in the east and west walls made by relic hunters. There are ventilator openings, one in each end of the north wall.

Room 191²

Room 191² is situated above Room 142. An intentional deposit of dust and adobe clods from dismantled walls, covered the floor to a depth of from 8 inches to 1 foot 3 inches. Near the southeast corner, halfway up in this material was a woven headband (Field No. 5419) and on top of the clods, most plentiful in front of the door in the south wall, were a few cornhusks and hanks of cedarbark, among which were bits of yucca cord and the remains of a hair brush. In the débris thence to the surface were the charcoal and reddened earth from the second and third ceilings. In the second there had been a layer of willow matting. In the third floor chamber there had been two boulder metates, seven manos, and several dressed sandstone slabs.

Room 179^{2 1}

The ashy refuse containing some vegetable matter on the floor of Room 179² averaged 2½ feet in thickness. From it came four grooved

¹Entered as LXV² in Fig. 3, p. 13, this volume.

axes, two skinning knives, a sandstone slab, flint and obsidian chips, potsherds, bark, reed stems, corncobs, yucca strips and cord, a grass brush, a plaited pot rest, a cloth sandal, part of a coiled basket, worked wood, animal bones, pieces of hide, and a small buckskin bag (29.0-8269-8303). Between the refuse and the fill of wall débris were the timbers, unburned, from the ceiling, among them a few fragments of the willow mats which had completely hidden the splint layer from view. The door in the west wall was 2 feet 6½ inches wide, and 4 feet 1 inch high, with sill 1 foot 9 inches from the floor. Its entire north side had been dug away by the parties who searched the ruin for open rooms during the early eighties. In this case they ran a drift obliquely downward through the débris in Room 157², piercing the top of the wall and the edge of the ceiling below Room 179², then entering the room beneath. They tunnelled through the east wall of this chamber into Room 189 and from the latter went on to Room 182 by tearing out the masonry which sealed the top of the south doorway. Fortunately, they did not sink the drift deep enough to discover that the ceiling of Room 156 had not fallen.

There is a sealed ventilator in the north end of the west wall, but no trace of any others in this room.

Room 194²

A small chamber was partitioned off from the original area of Room 194² by the Mesa Verde re-occupants. The southern of the two large pine supports of the first story ceiling, although broken, did not collapse completely, and partially held up the floor between itself and the south wall. The partition bounding the chamber of reduced size on the north was constructed as follows: a trench was dug through the 11 inches of floor earth directly above the pine stringer above mentioned. In the trench a row of closely spaced alder poles was set upright and held in place by earth tramped in around their butts and also by pliant twigs laced horizontally through them like weft strands. Mud was daubed on to both sides to produce a total thickness of 6 to 8 inches, thus completely hiding the wattling and giving to the wall the appearance of being constructed entirely of adobe. In the settling permitted by the sagging of the beam beneath, this wattle wall was badly broken down, but from the length of the sticks it was apparent that it had been more than 6 feet high. At some point it contained a doorway as evidenced by portions of the smoothly plastered, rounded jambs found among the débris. It is probable that excavation of the area northward would reveal that the northern two-thirds of the original Room 194² was also used at the same time as the portion here described.

The floor of the small room, 5 feet 2 inches north and south by 10 feet east and west, was tinted red, as were the walls to a height of 2 feet 2 inches. Thence upward the plaster was white, except for series of red



Fig. 23. Southwest Corner of Room 194², North Wing. The small doorway at the right and the colored plaster on the walls are features added to the original chamber by the Mesa Verde re-occupants.

triangles pointing upward from the basal zone of the same color. These occurred in groups of three. On the south wall were two series, one beginning 1 foot 3 inches, the other 6 feet 2½ inches from the west end,

each triangle being $2\frac{1}{2}$ inches broad at the base and $2\frac{1}{2}$ inches high. The north wall was fallen, and most of the plaster was gone from the east. In the west wall is a doorway of secondary construction (Fig. 23), 1 foot 5 inches broad, 2 feet 5 inches high, its sill 5 inches from the floor, beginning 2 feet 9 inches from the southwest corner. The lintels are of poles about $1\frac{1}{2}$ inches in diameter, closely placed. One series of red triangles remained on the west wall, beginning $10\frac{1}{4}$ inches from the south end. These were larger than those on the south, being 4 inches broad and $3\frac{1}{4}$ high.

The masonry beneath the red plaster was smoked black, showing use of the room previous to its decoration in color. The ceiling was supported by rough cedar poles extending from the wattled wall to the original southern one of masonry. On the floor were Field Nos. 5554-5576, and the following which were discarded: 1 small pine board, 1 chico stick, the end sharpened to a blade, 1 sandstone pot lid about 8 inches in diameter, 1 bone awl, several river boulder metates, numerous pieces of worked sandstone slabs, and a number of rubbed cobblestones.

The fill was of wall and ceiling débris.

Room 180

Evidently Room 180 had fallen into ruin before the bearers of Mesa Verde culture established themselves in the Aztec Ruin. The partial excavation of this chamber revealed the first story filled with detritus from the upper walls, including the well-preserved, though broken, timbers, apparently of two ceilings. This débris has not been dug over. Visible in it, through the door leading into Room 147, were long slender pine poles and portions of willow mats, some of them with a striped color effect produced by alternating series of white peeled sticks with series of dark brown unpeeled ones.

Extending from the upper limit of the débris to 5 feet above the level of the second floor at the west side and 7 feet at the east, was a Mesa Verde refuse deposit containing nine black-on-white bowls, three Chaco bowls, ten black-on-white potsherd disks, a large quantity of black-on-white sherds, twenty-one mammal bone awls, sixteen bird bone awls, eleven bird bone tubes, a mortar, a grooved hammer and a grooved ax, three skinning knives, three chipped knives, three arrow points, two pendants, sinew and hide, corn grains and beans, corn tassels and husks, withes, yucca strips, cord, and a sandal, cotton cloth, and two firedrill hearths (Field Nos. 493-5063) and the following objects which were discarded: three grooved axes, incomplete; two pecking stones; one rubbing

stone; a conical clay jar stopper; three arrow points, incomplete; three coin leaf pot rests; one cedar bark pot rest; one twig pot rest; fragments of twined cloth sandal; rim of plaited basket; fragments of rush matting and twisted cedar bark cord. Burials Nos. 89-101, inclusive, were in the refuse.¹

The entire contents of the chamber settled considerably after the refuse had been cast in, disarranging the burials, as elsewhere described. The first story door in the north wall is 2 feet 4 inches wide, its altitude and sill height not being apparent because of débris which has not been removed. The second story one is 2 feet 5 inches wide, 4 feet high, with sill 2 feet above floor level. There was a similar second story door in the south wall. All but a few stones of the jambs have fallen. The support of the first ceiling was two pine logs, extending east and west, as revealed by their broken stubs showing flush with the wall and that of the second two pine trunks also, but much smaller, not over 7 inches in diameter. There were no ventilators in the second story.

Room 147

In Room 147 the immediate floor covering was an average of 1 foot of refuse, containing an increment of partially decayed vegetable substance. Specimens recovered from it are: potsherds, bone awls, a wooden and reed arrow, cornhusks, bundles of twigs and roots, yucca rings, chain, and cord, rush matting, plaited sandal, two coiled basket plaques, cotton cloth, seven pot rests, pieces of hide and thong, etc. (Field Nos. 3704-3758). Burials Nos. 60 and 61 had been on the surface of the refuse.² Above the latter was a thin layer of fine dust over most of the area, but in front of the south door was a fan-shaped mass of débris which ran in from Room 181 to a maximum depth of 3½ feet.

The door in the north wall is 2 feet 4 inches wide and more than 3½ feet high, its bottom being covered with dug-over débris. In each end of the west wall is a ventilator opening and in the north half of the east wall is a hole made by relic hunters.

The one ceiling support was a pine trunk extending from north to south. The poles were of cottonwood, spaced in threes, and spanning the entire length of the room. The support broke, first at the center, and again at the north wall. In consequence, the ceiling bagged down more than 2 feet at the central point and probably would have completely fallen during the last forty years, wreaking havoc with the contents of

¹This volume, 196-199.

²This volume, 186.

Room 136², had not the early visitors to the ruin set up a post with a cap piece beneath the break in the stringer. Because it was so badly wrecked, this ceiling was removed.



Fig. 24. Mass of Corn Tassels in Dry Refuse, Room 136², North Wing.

Room 136²

A great quantity of Mesa Verde refuse had been cast into Room 136² and evenly distributed, its upper limit being nearly level at a height of 3½ feet from the floor. There was a predominant proportion of organic matter, mostly vegetable, and owing to the air space afforded by the

open room beneath (Room 147) and to the 5 to 10 feet of débris above, preservation of perishable objects was practically perfect, except in the upper 3 to 6 inches which had been moistened by rain water before the ceilings above gave way.

Burials 36-41, inclusive,¹ were in or upon the rubbish and among them were some of the most intact interments found in the entire ruin. The deposit was also rich in specimens, yielding, in addition to those with the burials, pottery disks, stone implements, bone awls, peeled willows, worked wood, cornhusks and tassels, yucca strips and cord, plaited sandals, cotton cloth and sandal, pot rests and pieces of hide (Field Nos. 3618-3703). The conspicuous perishable components of refuse were, as usual, excrement, corn refuse, cedarbark, and splinters. At the center of the room, beginning 1½ feet from the floor, was about one-half cubic yard of corn tassels (Fig. 24). The tips of the plants had been broken off and tied into bouquet-shaped bundles, as flowers might be. Although similar masses of corn tassels have been observed in several other refuse heaps, nothing has, as yet, revealed the use to which they were put.

A thin partition of crude masonry crossed the room 3 feet 3 inches from the north wall, and a second, at right angles to the first, divided the space thus segregated into two bins, the eastern one somewhat smaller than the other. These walls stood to a maximum height of 2 feet. The second ceiling had come down upon the refuse before an appreciable quantity of storm-deposited earth had gathered upon it. The northern support, a pine 7 inches in diameter, broke near the west wall, and the southern one rotted off where it entered the east wall, with the result that the south third of the ceiling swung back against the east wall, the central one lay flat, and the north stood vertically against the north wall when uncovered. Fire had not reached the woodwork of this ceiling. In it willow sticks, peeled, but not strung into mats, had been closely placed between the pine poles and the layer of cedar splints.

The third story room above Room 136² was abandoned, without the removal of its normal contents, or else a cache had been made in it. A store of objects, most of them of imperishable nature; hence, probably representing only a part of the original contents, came from above the 8 inches to 1 foot of earth which had been the covering of the second ceiling. Those saved are represented by a black-on-white bowl, two bone scrapers, three bone awls, two digging sticks, nine boards and other pieces of worked wood, three coiled basket plaques, fragments of a coiled basket, yucca strips, pottery plate, seven grooved axes, a polishing stone, two

¹This volume, 174-178.

polished sandstone slabs, two grooved sandstone slabs (Field Nos. 3587-3617), and the following were discarded: four rubbed cobblestones; one mortar; one sandstone pot lid; three thick burned sandstone slabs, probably baking stones; six worked sandstone slabs; ten polished sandstone slabs; one sandstone metate; eleven cobblestone metates; one sandstone mano; fifteen cobblestone manos; one pine board, $23\frac{1}{2}$ by $9\frac{1}{2}$ by $1\frac{1}{4}$ inches; two coiled basket plaques; one coiled basket shaped like a truncated cone; and the fragments of several large corrugated jars.

The walls of the third story room had borne a wainscoting of red and an upper zone of white, and there had been a layer of willow mats in the ceiling.

There were doorways in the north, west, and south walls of Room 136², the latter having been described under Room 180. The one in the west wall was approximately 2 feet 3 inches wide, with a sill height of 1 foot 10 inches. That in the north wall is 2 feet 4 inches wide, 4 feet 1 inch high, with sill 2 feet 3 inches from the level of the floor. There is a ventilator in the east end of the north wall, but none in the east and south walls. The west wall has fallen below the proper height for ventilators.

Room 153²

The refuse deposit in Room 153² was in reality a continuation of that in Room 136², just as the latter was an extension of the rubbish present in the upper level of Room 180. The depth varied from $3\frac{1}{2}$ feet along the south wall to 4 feet along the north. The basal stratum consisted of floor sweepings, earth, adobe clods, cedar bark, and an occasional splint from ceilings dismantled in some other part of the pueblo. The only specimens from this layer are two large bowls (Field Nos. 3981, 3982) broken and thrown away while still new and unstained by use. The remainder of the rubbish had a large vegetable content, for the most part excellently preserved. Burials Nos. 48-55¹, inclusive, were among it, as well as many specimens consisting of bowls and potsherds, much yucca fiber and cord, pot rests, cotton cord and cloth, wood worked in various forms, bone awls and tubes, pieces of hide, shell and stone beads, and a mosaic ornament (Field Nos. 3983, 4001-4135). As mentioned in connection with Burial No. 55, Room 153² was used as a turkey coop at the same time that it was being used as a dumping place.

In the débris between the refuse and the steep northward sloping surface of the mound, were a few unburned timbers of the second ceiling. If there were many stone objects in the third story room, as was the case

¹This volume, 180-185.

above Room 191², adjacent to the east, and Room 136², immediately southward, they may be found in the unremoved talus beyond the north wall of the pueblo, which along the side of Room 153², fell outward *en masse* down to within 5 feet of the second floor.

Room 156

When it was discovered that there was an intact ceiling beneath Room 157², a pit was sunk in the next room northward, and entrance gained through a doorway to what may well be the best-preserved room in the great house at Aztec, or in any other ruin situated in the open in the entire Southwest. The wall plaster is tinted red to a height of 3 feet 5 inches and is whitewashed thence to the ceiling. Series of three red triangles extend from the line of junction upward into the white. They vary somewhat in size, but the individual triangles average $3\frac{3}{4}$ inches in height and $3\frac{1}{2}$ inches in width at the base. They are spaced about $1\frac{1}{2}$ inches apart. On the east wall there are three sets beginning, respectively, 1 foot 9 $\frac{1}{2}$ inches, 5 feet 5 inches, and 8 feet 3 inches from the south end, and on the west, two sets, the third presumably having been omitted because of a doorway to be mentioned later. These series start 1 foot 10 $\frac{1}{2}$ inches and 5 feet 3 inches from the south end. On the south wall are two sets beginning 2 feet and 5 feet 8 $\frac{1}{2}$ inches from the east end. The terminal member of the first and the initial member of the second are 4 inches and 2 $\frac{1}{4}$ inches from the respective jambs of a doorway. Two sets are in evidence on the north wall, beginning 1 foot 10 inches and 6 feet 10 inches from the east end. The western series of these is dot-bordered. The nearness of this series to the west wall inclines one to the belief that there may have been a third or central group where water running down the wall has caused the plaster to peel off. Originally, the red zone was only 2 feet 9 inches wide, a secondary coat having been applied over the white to bring it to its present height.

The masonry sealing the door in the south wall is set back, forming a recess 1 foot 2 inches deep. The sides and back are plastered in the same fashion as the rest of the room. There may have been triangles in the center of the back, since in ancient times a hole $1\frac{1}{2}$ feet in diameter, half above and half below the meeting of the red and the white, was beaten out by someone who began to break through into the next room. The dimensions of the recess are: width, 2 feet 4 $\frac{1}{2}$ inches; height, 4 feet 1 inch; sill height, 1 foot 4 inches. The north door has the same proportions as the south recess. It was sealed with a 1 foot 2 inch wall placed flush with the adjacent masonry. In the east side of it a doorway was

constructed 1 foot 3 inches wide and 2 feet high. The sill, 9 inches above the original, is a pine board jutting out 3 inches from the stone work. Rising to its top, in front of the middle of the door, a peeled stick $1\frac{3}{4}$ inches in diameter is set into the floor. As a secondary jamb on the east side was set a digging-stick (Field No. 4148) and, lying on the floor in front of the doorway, was a sandstone slab just large enough to close it.

Extending diagonally across the northeast corner, their ends let into the masonry at a height of 5 feet 8 inches are two peeled saplings split longitudinally, with smooth-rubbed flat sides uppermost. Measured in the line of the northeast-southwest diagonal of the chamber, they cross 7 inches and 1 foot 4 inches from the corner. They must have served as a shelf.

A ventilator opens in each end of the west wall 5 feet 3 inches from the floor. The southern one is 9 inches wide and 11 inches high, the other, 1 foot $4\frac{1}{2}$ inches wide and 1 foot $1\frac{1}{2}$ inches high. The latter was sealed at a depth of 1 foot 8 inches to form a niche. There is a passage through the west wall 2 feet $1\frac{1}{2}$ inches high, 1 foot 3 inches wide at the bottom and $10\frac{1}{2}$ inches at the top, beginning 2 feet 3 inches from the floor and 7 inches from the north wall.

The ceiling rests upon two perfectly straight, cleanly peeled pine logs, $10\frac{1}{2}$ to 12 inches in diameter. The pole layer consists of six sets of three cottonwood saplings reaching the full length of the chamber. A long hank of coarse yucca cord hangs from the inner one of the easternmost set, 1 foot from its south end, and a double loop of the same material passes over the central and eastern members of the second set, 10 inches from the north wall. A loop of twisted withes encircles the northern supporting log, 4 inches from its point of insertion in the west wall. Thrust into a deep crack in the south side of this timber is a bone awl. Hand prints daubed on with whitewash are visible at several places on both of the large logs.

An average of 1 foot of earth, which had worked in through the various openings, covered the floor upon which were a deer-bone scraper (Field No. 4149), a few peeled willows, a number of unworked sticks and slivers of wood, some fragments of a red bowl with subglazed black decoration, the sherds of at least two large corrugated pots, and several broken sandstone slabs.

Although of Chaco construction, the room owes much of its appearance to the Mesa Verde re-occupants. They sealed the doorways, leaving the small one in the north wall, burrowed through the west wall to construct a passageway to their settlement in the annex, and applied the

colored plaster to the walls. This is proved by the fact that the plaster continues to the jambs of and back into the western wall passage. The wooden lintels have their ends set into the stonework, to do which, and to erect jambs with straight edges, it would have been necessary to make a breach considerably larger than the finished doorway. Since the masonry patched in around the opening has the same finish as the rest of the walls, the time of application of the plaster is determined.

Room 157²

The western edge of the floor of Room 157² was within 1 foot of the surface of the mound and it is surprising that enough moisture had not soaked down through the shallow fill to rot the ceiling timbers of Room 156 beneath. Probably the steepness of the slope, favoring run-off rather than penetration, is accountable for its failure to do so.

The floor was clean, as if little used, and overlaid with from 3 to 5 inches of storm-deposited earth, above which came building wreckage, containing some minor timbers from the second ceiling, among them peeled willows from the ornamental layer. The only specimen from this chamber is a highly polished serpent-shaped ceremonial stick of hard brown wood (Number 4151) found on the floor against the east end of the south wall.

Room 177^{2 1}

The toppling outward of the northwest corner of the pueblo destroyed the north and west walls of Room 177², almost to the level of the floor. Most of the west half of the latter was removed in opening the hole which for nearly four decades served as the entrance to the largest group of open rooms in the Aztec Ruin. On the remaining portion of the floor were found in addition to Number 319, a decayed coiled basket, at least one crushed corrugated pot, and two worked sandstone slabs.

On the east wall some plaster adhered at the time of excavation, showing a basal zone of red 3 feet in height, with white thence upward. At the junction of the two, an upward extension of the red produced a pattern consisting of series of three dot-bordered triangles, the spaces between filled with short vertical lines. In the middle of the south wall a few stones of the east jamb of a doorway were in place.

¹Designated XXV² in Fig. 3, p. 13, this volume.

THE WEST WING

The west wing is larger in every proportion than the east and the mound covering it had about twice the cubic contents of the one removed in laying bare the eastern side of the pueblo. Its crest averaged 17 feet in height to within 50 feet of the south end, then sloped gradually downward to the terrace flanking the great house on the south. The entire length of it was and, for the most part, now is, underlaid with sandstone walled chambers in marked contrast to the flimsily constructed enclosures at the southeast corner of the ruin, which because of their architectural similarity thereto, were included in the south wing. This block of chambers seems originally to have been the equivalent of seven rooms wide, to within one or two rows of the south end, in which locality some irregularities are present, the exact nature of which excavations have been too limited to reveal.

Room 182

Room 182, an open chamber entered through the doorway communicating with Room 189, from which the early visitors had removed the masonry with which it had been sealed, contained a Mesa Verde refuse deposit varying little from 2 feet 4 inches in depth. Above the refuse was a thin layer of rats' nests and sandy earth washed down from the walls. The rubbish had contained much vegetable material, but enough moisture had soaked through the shallow fill along the east side of Room 135² and run down the east wall, to cause much of it to decay. The specimens secured were three pottery vessels, potsherds, three grooved axes, a skinning knife, a deer jaw scraper, nine mammal bone awls, five bird bone awls, two bird bone tubes, worked bone, antler, wood and sheep horn, pieces of hide, yucca cord, and cotton cord and cloth (Field Nos. 4867-4918). Burial 88¹ was in the northeast corner.

In the center of the east wall is a doorway, now hidden by earth which has been dug over, but not removed. This room contains no ventilator openings. Although no fireplace was observed when the contents of the room were turned, there must have been one, since the remaining patches of wall plaster were smoked black.

The ceiling was held up by two sets of supports, each composed of three cedar logs laid side by side, dividing the length of the room into thirds. The second timber layer was eighteen peeled cottonwood poles, extending the full length of the chamber, placed singly, with spaces between. All but the stringers of this ceiling were removed.

¹This volume, 195-196.

Room 135²

A cobblestone-lined firepit, 1 foot 8 inches in diameter and 5 inches deep, occupied the center of the floor of Room 135². A masonry wall some 7 inches thick, built above the south set of floor supports, transformed that end of the room into a bin. Above a height of 2 feet this wall was broken down. The bin contained 2½ feet of refuse which thinned down to a depth of 6 to 8 inches along the north wall. Burial 34¹ was against the center of the latter and aside from those with the body, the refuse yielded a very considerable quantity of yucca and corn strips, cord and fiber, cotton cloth, yucca sandals, pot rests, bone awls and tubes, matting, worked wood, pottery, shell beads, and stone implements (29.0-9936-9999; 29.1-1-90; Field Nos. 3571-3591). On top of the rubbish was some washed and blown earth and thence to the surface, wall débris, containing a few decayed, but unburned, sticks from the second ceiling.

In the center of the west wall there was once a doorway, 2½ feet wide and beginning 2 feet 4 inches from the floor level. Eventually the masonry below its south side was torn out to within 6 inches of the floor; lintels were laid across the 1 foot 2 inch opening at the level of the sill; and the original door walled up, leaving a secondary passage, perhaps an entrance, but more probably an air hole.

Room 178

Room 178 was one of the chambers with intact ceiling overlooked by the early settlers in the Aztec vicinity who burrowed so diligently in their search for open rooms. It was empty, except for a layer of rats' nests infiltrated with sandy earth left by the winds and rains of centuries, 8 inches thick over most of the area, but mounting to 1½ feet deep in the southwest corner. The Warrior's Grave, Burial No. 83², was against the north wall. There was no refuse in this chamber, the only specimen it contained, in addition to those in the burial, being a coiled basket plaque (Field No. 4772) found on the floor under the doorway in the south end of the west wall. Originally there was a doorway in each end of the room. The northern one was sealed flush with the preëxistent masonry, but that at the south was deeply recessed. The sill was left bare for 1 foot 1 inch, then a bench 5 inches high and 10 inches wide was built upon it. From the rear edge, adobe coated masonry continues to the pole lintels, sloping backward about 5 inches in the total rise. When this was built an opening 11 inches wide and 1 foot 1 inch high was left in the upper east-

¹This volume, 173.

²This volume, 193-195.

ern corner, which later was sealed. The original door was 2 feet 5 inches wide and 4 feet high, with sill $1\frac{1}{2}$ feet from the floor. The dimensions of the north door were practically the same.

The two ventilators in the west wall are about 2 feet from the ends thereof and slightly more than that distance below the ceiling. Of the pair in the opposite boundary, one is $2\frac{1}{2}$ feet from the south end, and the other at the center of the wall, the only one so situated observed in the ruin. All four were sealed. The two timbers which supported the débris in the room above are of pine, while the poles which rest upon them, laid in six sets of three each, are of cottonwood.

When the Mesa Verde dwellers in the Annex¹ chose to make use of this room, they broke through the south end of the west wall and built in a fairly neat doorway $1\frac{1}{2}$ feet wide and 2 feet 8 inches high, beginning 1 foot 11 inches from the floor. Above the upper south corner is a niche large enough to admit one's hand. A puzzling feature of this room is a vertical row of five flat sandstones protruding 3 to 5 inches from the face of the masonry, 2 feet north of the Mesa Verde door. The lower one is on a level with the sill of the latter, the others occurring at 8 inch to 1 foot intervals. These would have served satisfactorily as a built-in ladder, but as there is and never was a hatchway in the ceiling, they could scarcely have had this function.

Room 192²

The entire west wall of Room 192² is missing, the slope of the mound having been less than 2 feet above the western margin of the floor. Evidently this room was one of the last occupied in the entire pueblo. The floor was free of refuse, and upon it were many serviceable articles, a digging-stick, three small coiled basket plaques, a mammal bone awl, a grooved and polished sandstone slab, a sandstone pot lid, and four grooved axes (Field Nos. 5462-5472) and, in addition, a coiled basket and a heavy pine plank, decayed; portions of a runged ladder constructed like the one from Room 189 (Field No. 5268); three river boulder metates, four river boulder manos, complete, and one broken, parts of several worked sandstone slabs, a crude grooved hammer, and a pestle-like stone.

The fill, from the faintly stained floor to the surface of the mound, was of fallen wall material, storm laid earth, and decayed ceiling timbers. At the center of the east wall is a doorway $2\frac{1}{2}$ feet wide, standing to a height of 4 feet, with sill 2 feet from the floor. There were no door open-

¹This volume, 227-257.

ings in the north and south walls. While there is no proof of the point, it is probable that a secondary opening pierced the west wall to give access from the chamber to the Mesa Verde settlement in the adjacent portions of the annex.

Room 130²

The central third of the floor of Room 130² had broken down and the shallow mass of *débris* above had followed it in its descent, leaving visible the ends of the timbers of the north and south elements. Upon the sections of the floor above these were found a bird bone awl, a digging stick, four grooved axes, a chipped knife blade, a polishing stone, a sandstone *mano*, and an oval cobblestone (Field Nos. 3838-3847), and the following objects: two cobblestone metates, five broken *manos*, six worked sandstone slabs, one polished sandstone slab, two pecking stones; and one rubbed cobblestone. There was a spot 1½ feet in diameter in the southwest corner where a fire had been long maintained without the construction of the customary fire pit in the floor. The supports of the latter were two transverse sets of three cedar logs and the singly-spaced poles were of cottonwood, nineteen in number.

Room 148²

Only the south third of the floor of Room 148² was in place. Supporting it was a set of three cedar logs, resting upon which were seventeen cottonwood poles, singly spaced. In the southwest corner, among a mass of decayed rush stems, were a portion of a skinning knife and a pine board (Field Nos. 3836-3837).

Room 138

On the floor of Room 138 was a film of refuse containing Chaco potsherds (29.0-9849). Thence upward, for from 10 to 12 feet, mixed with dust, wall wreckage, and rubbish from a deposit which had been in the second story, there was an almost inextricable tangle of pine timbers, splints, and cedarbark. There had been no fire above this area and all three ceilings had fallen into the first story room. Having been deeply buried, the wood was perfectly preserved.

All of the ceilings had been of the same pattern: two pine log supports with pine poles resting upon them. The southern one of the lowest pair gave way before the other began to crack and relieved the weight so that the latter was perfect when the room was excavated. This log proved to be only the tip or slenderer portion of the trunk which had

spanned both this room and the one in the outer tier west of it. In the north third of the ceiling the poles had broken and settled down upon the fill occasioned by the previous collapse of the rest of the woodwork, allowing the material above to settle, as described under Burial No. 32.¹

As has been the case wherever observations have been possible, the supports of the successive ceilings were smaller than those of the ones beneath. In Room 138 the first pair were 9 to 11 inches in diameter, while those in the third story were only 7 inches through. In the first and second ceilings the poles were unusually large, some 4 inches in diameter, and perfectly straight, evidently having been selected with the greatest care. All of the timbers were stained a rich and pleasing brown by smoke and age. In the second ceiling had been an ornamental layer of willows, peeled but not strung, and, apparently in the central section, a hatchway cribbed with sections of neatly peeled uniformly sized pine saplings, 2½ to 3 inches in diameter. The embellishment of the third ceiling was a layer of willow mats.

As stated in describing Burial 32, there was about 3 feet of fallen masonry on the north end of the second floor. This mass had become thinner and ceased near the center of the room. Above it had been dry refuse only a few inches thick over Burials Nos. 31 and 32, but becoming deeper thence southward. When the ceiling fell, as previously mentioned, the refuse became thoroughly mixed with the material precipitated into the first story room. Apparently all having belonged in it were ears and grains of corn, three pot rests, yucca strips, cord and rope, cotton and feather cloth, reed arrows, wooden cylinders, pieces of tanned hide, thong, and a rawhide bag (29.0-9699-9740).

At the north end of the room, above the refuse overlying the burials, wall wreckage continued to the surface of the mound, but toward the center of the chamber it gradually was replaced by a Mesa Verde refuse deposit extending past the south wall, which was broken down to the level of the second floor, and on over the next room, reaching a depth of 8 feet at the middle of the latter where excavations ended. From the part dug over among other specimens came fourteen mammal bone awls, fourteen bird bone awls, twenty-two bird bone tubes, three grooved axes, two sandstone slabs, two skinning knives, sandstone disks, arrow and knife points, twenty-four worked potsherds (29.0-9741-9848) and Burial No. 33.²

¹This volume, 170.

²This volume, 170.

The door in the north wall is $2\frac{1}{2}$ feet wide and 4 feet high, with a sill height of 2 feet. The one in the south wall, badly wrecked, was of practically the same proportions. The one ventilator is in the south end of the west wall.

It may have been that Room 138 and the chambers above it ceased to be kept in repair while Chaco people continued to reside in some other portion or portions of the pueblo. However, it is more probable that their abandonment was synchronous with the disappearance of the Chaco group from the great house. If such were the case, the destruction by time alone of the massively and substantially constructed upper stories bespeaks a very long interval between the departure of the descendants of the builders and the coming of the bearers of Mesa Verde culture who buried this wrecked portion of their adopted home with refuse.

ROOM 121²¹

In the center of the original floor of Room 121² was a circular fire pit, 2 feet in diameter and 5 inches deep, walled with thin sandstones set on edge. Parallel to the north wall and $3\frac{1}{2}$ feet therefrom was what remained of a mealing trough, 1 foot 2 inches wide, 4 to 6 inches deep, and $7\frac{1}{2}$ feet long, beginning at the east wall and continuing to within $1\frac{1}{2}$ feet of the west. The ends and south side of it had been lined with thin sandstone slabs; it had been divided into six grist basins by slabs set transversely in sockets of mud. The basins were floored, four with sections of pine boards and two with flat stones. The board in the eastern one was 11 inches wide, 9 inches long, and $1\frac{1}{16}$ inches thick, resembling a piece of sawed lumber. The one in the next was 1 foot long, 7 inches wide, and of about the same thickness as the first. A slab formed the bottom of the third basin, and the board in the fourth was 11 inches long, 8 inches wide, and $1\frac{1}{4}$ inches thick. On top of and separated from it by a layer of decayed corn tassels was an unusually large sandal form, blocked out, but not finished by polishing. The bottom board of the fifth compartment was 1 foot 4 inches long and 8 inches wide. The interiors of the bins were neatly smoothed with adobe, coming flush with the edges of the floor pieces, and rounding thence to the boundaries. The six metates had been set along the north side of the trough, their wallward ends some 4 to 6 inches higher than the lips. All of them had been removed, only the mud beds in which they had been set remaining. Ashes, corn tassels, and cedar splinters filled the trough, among them being a few Chaco sherds.

²¹Designated XX² in Fig. 3, p. 13, this volume.

A second mealings trough, essentially like the one described, was situated in the south half of the room. It was 7 feet long, 1 foot 4 inches wide, and 5 inches deep, beginning at the south wall, 3 feet 5 inches from the east one, and continuing to within 1 foot 2 inches of the fireplace. At least the first and third basins, counting from the south, had been floored with boards. Along the east side there had been five and probably six metates set in adobe.

Separated from the original floor by 5 to 8 inches of clean sand, evidently laid down by natural agencies, there was another. Rising from it, a crude masonry partition crossed the room, roughly in line above the north set of floor supports. It was somewhat diagonal, being 5 feet 4 inches from the north wall at the east end and 4 feet at the west. A door 1½ feet wide with a sill height of 1 foot pierced it 1 foot 8 inches from the west end. A similar partition rested above the southern floor logs. A cross wall divided the space beyond it into two bins or minor chambers. The western one was 4 feet 1 inch east and west by 4 feet 7 inches in the opposite direction and had a doorway 1 foot 3 inches wide, with a sill height of 1 foot in the east end of the north wall. The other, 4 feet 11 inches east and west by 5 feet wide at the east end and 4 feet 7 inches at the west had been entered by a door 2½ feet wide, adjacent to the east wall of the room. The maximum height to which the bin walls stood was 4 feet. It is uncertain whether or not they once continued to the ceiling.

Slightly south of the center of the portion of the floor not occupied by these bins was an irregular fire pit 1 foot 10 inches in average diameter and 6 inches deep. A cobblestone metate rested upon the floor, 1½ feet north of the fireplace, sloping upward toward the west because it was propped up on a stone. Both north and west of it a single thick flat sandstone was set into the floor like a post.

Specimens from the room are a mammal bone awl, a polished slab, a hematite ax, three stone axes, and a worked slab of wood (29.0-5403-5409), the hematite ax (29.0-5405) being found in the débris at a height of 5 feet above unburned timbers from the second ceiling. The very few decorated sherds from the secondary floor were of Mesa Verde type.

There was once a door 2 feet 4 inches wide at the center of the west wall, beginning 2 feet 3 inches from the lower floor. Both it and a rough-edged opening, doubtless secondary, 10 inches wide and 2 feet 5 inches deep beneath its north center, had been sealed with masonry. Placed as if for a lintel to the lower opening, was a cobblestone metate. Probably there was also a door in the east wall opposite the one described. The middle 4 to 6 feet of this wall were torn out in sinking to the open room

beneath Room 121² which has not been excavated. Rising from the surface of the fill in this lower chamber, a thin partition cuts off approximately the southern third of the floor area and from its top a stick-supported, adobe-covered platform extended to the south wall. In 1895, when the writer first saw this room, the leg bones and part of the ribs and vertebrae of a grown person were lying on the platform.

Room 145

The floor of Room 145 was black from long use. In the center was a fire pit, 1 foot 10 inches in diameter and 10 inches deep, excavated into clean sand. The lowest stratum of the fill was refuse 1 foot 8 inches deep in which, if an appreciable quantity of vegetable matter were once present, decay had obliterated it. In the refuse among other remains were seven black-on-white bowls, arrow, knife, and drill points, pigment, parts of a copper bell, bone awls and tubes, and beads and pendants of shell and stone (Field Nos. 3790-3835). Burial No. 42 was in the northwest corner and against the west wall, a short distance south of the grave pit, a large corrugated jar (Field No. 3789) had been buried. Bones from at least two bodies were scattered through the refuse from one end of the room to the other.

The surface of the deposit had been smoothed and an adobe floor laid upon it. In the center thereof was a circular fire pit, slightly smaller than the one directly beneath it, and midway between this one and the northeast corner was another, 1 foot 9 inches square and 8 inches deep, walled with cobblestones. Specimens from the upper floor are five black-on-white pots, potsherds, three grooved axes, a rubbing stone, a polished slab and pebble, two bone awls, a digging-stick, a worked cottonwood slab, and a disk of pitch composition (Field Nos. 3770-3788*a*). Southward from the line of the doors was some refuse, infiltrated with earth washed down from the walls. Broken and scattered through it were the fragments of several pottery vessels, as well as the impressions of at least six bowl-shaped coiled baskets. The smallest basket of which the approximate size could be determined, was 9 inches in diameter and the largest, 1 foot 11 inches.

The entire ruin has afforded no more clear-cut proof of the superimposition of Mesa Verde upon Chaco wares than was to be observed in Room 145. In structure, range of form and decoration, pottery from the refuse was uniformly representative of the earlier complex. By sifting, some black-on-white vessels (Field Nos. 3790-3795) sufficiently complete for restoration were secured. In contrast to these, the four bowls and the

mug (Field Nos. 3770-3773) found on the upper floor are as typically Mesa Verde as any specimens one might select. The interment and the burial of the corrugated pot were the work of the re-occupants who laid the secondary floor.

A doorway is present at the center of both the east and west walls. The former is $2\frac{1}{2}$ feet wide, 4 feet high, with a sill height of 2 feet 4 inches; the latter, 2 feet $5\frac{1}{2}$ feet wide, 4 feet 1 inch high, with sill height of 1 foot 8 inches. The size of the west door had been reduced, presumably during the Mesa Verde occupation. Upon the mid-portion of the sill, masonry was built up to a height of $1\frac{1}{2}$ feet; poles slanting westward from this mass to the lower lintels were set up and plastered over, leaving an opening $1\frac{1}{2}$ feet wide and $2\frac{1}{2}$ feet high. There were no ventilators in this room.

A hole of intentional origin extending into the west half of the south wall to its opposite face had at some time been used as a niche. The cavity, 1 foot 10 inches wide, began 2 feet 7 inches from the floor, and to a height of 3 feet had been smoothly plastered, at which point it had been linteled over. Eventually it was sealed up to the lintels, the part thence upward, however, remaining open until it was filled by accumulating débris.

The ceiling had rested on two sets of three cedar logs, which arrangement seems to be the rule in this quarter of the pueblo, but had, in addition, what seems to have been a supernumerary pair of logs side by side against the south wall. The poles were of cottonwood, mostly singly spaced, but in at least one instance placed three together.

Room 131²

The middle section of the floor of Room 131² had given way and the débris which caved down through the resulting aperture formed a conical mass in Room 145, failing completely to fill the spaces beneath the end sections of the floor. Each of these rested upon a set of three cedar logs. The latter had broken at their centers and the splintered ends had settled until they came to rest on the sloping sides of the fill. The cottonwood poles had been singly spaced. The woodwork was in such condition that it was removed to facilitate work in Room 145.

As there was no fireplace in the remaining parts of the floor, there must have been one in the central section, since the wall plaster was smoked black. At floor level in the south end were a billet of hard wood, a chipped knife blade and a heart-shaped chipped blade (Field Nos. 3767, 3769) and in the north, six cobblestone metates, two manos, four worked sandstone slabs, and two sandstone pot covers.

Room 146

Room 146, one of the chambers long accessible, had been entered through a rent made in the north wall, thus communicating with Room 121². It contained only 1 foot 3 inches to 2 feet of fill. The bulk of it was refuse, above which was 1 to 2 inches of ashes, resulting from the burning of rats' nests and perhaps some vegetable rubbish, fired since the first white visitors found their way into the chamber. In the ash layer were numerous fragments of human bones, once included in the rats' nests, and presumably brought by the rodents from some neighboring chamber, not as yet excavated. It is probable that it was the recent fire which blackened both walls and ceilings. From the refuse layer came potsherds, a plug of unburned clay, green pigment, two grooved axes, and two mammal bone awls (Field Nos. 3760-3766) and one coiled basket plaque, 7 inches in diameter, three manos complete and one broken, and one fragmentary metate. As a final element of the fill was the masonry from the veneer of the south half of the north wall and from breaches in both the north and south boundaries.

The ceiling supports are two sets of three cedar trunks, the northern ones slivered at the center and settled about 5 inches. The cottonwood poles are carelessly spaced, few if any of them extending the full length of the chamber. Apparently they were cut with no fixed length in mind. The extremities of some are hidden above the supports, but others end at irregular intervals in the central section, giving the ceiling as a whole a tawdry appearance.

The door in the east wall was described under Room 145. The one opposite it, though badly ruined, seems to have had approximately the same proportions. It was sealed to half its height with masonry from the side of the next room west, leaving a niche, 1 foot 4 inches deep, usable from the room under discussion. There were no ventilators in any of the walls.

Room 137²

Room 137² is crossed by a substantially built sandstone partition 1 foot 2 inches thick. It is somewhat diagonally placed, being 5 feet from the north wall at the east end and 5 feet 11 inches at the west. The minor chambers resulting from the presence of the partition are connected by a doorway in the latter, 1 foot 8½ inches wide, with a sill height of 2 feet 4 inches. The top of the door has weathered away. The base of the partition is from 2 feet 3 inches to 2 feet 6 inches above the ceiling timbers of Room 146. Originally this ceiling was covered with the usual coating of

earth, about 1 foot thick. The fill between the surface of this layer and the stones of the partition is of sandy earth, adobe clods, and partially decayed ceiling splints and bark. Thus, it would seem that the ceiling of the room was dismantled, all of the larger timbers taken out, and the débris left as it fell upon the floor. Eventually this mass was leveled off, surfaced as a secondary floor, and the partition erected on top of it.

On the later floor, south of the partition, were a piece of tanned hide, potsherds, two grooved axes, a piece of sandstone worked to the shape of a human foot (29.0-9879-9883), and two river boulder metates, three manos, as well as several fragments of worked sandstone slabs. At the center of the west wall is the base of a door 2 feet 4 inches wide, with a sill height of 1 foot from the secondary floor. The north jamb of a similar door remains in the east wall. In the fill of fallen masonry were some decayed ceiling timbers.

Room 132

When O. O. Owens and the writer were working in Room 145, the finding of the south end of the ceiling undecayed, although covered with only 2 to 4 feet of débris, suggested that the chamber later numbered 132 might still be open. A bar sunk through the fill in Room 133² finally encountered an obstacle which emitted the resonance of wood and then passed on into a cavity, thus confirming the suggestion. On the assumption that there would be doors in each of the side walls, a pit was sunk in the next room to the west. A sealed door was found and a breach large enough to crawl through was made in the upper south corner. The light of a candle revealed a skeleton lying on the floor, and a chamber unmarred, at least by the hands of white men.

The veneer of practically half of the north wall had bellied outward and fallen. Elsewhere most of the adobe plaster remained, smoked black as was the ceiling. Two sets of three cedar logs held up the latter and as an additional support, there is a pair of cedar trunks beneath the south end, the farther one set half way into the masonry of the south wall. The small poles are of cottonwood, singly spaced in the end sections, but lapping past each other in the central one, thus forming a solid layer through which the splints above are rarely visible. Beginning two poles, or 6 inches distant from the east wall, is a hatchway, provision for which was made by leaving out the next six poles in the central section, and bridging the north end of the vacancy with sticks laid transversely, leaving an opening 2 feet 8 inches north and south and 1 foot 8 inches wide. Above the basal timbers the hatchway is flanked with masonry to a

height of $1\frac{1}{2}$ feet, thus acquiring a rim raised some 8 inches from the floor of Room 133². However, at a height of 1 foot 1 inch, the south end is roofed over for a distance of 8 inches with flat cedar splints, thus reducing the top of the opening to a length of 2 feet. In the lowest cross stick at the north end are visible two grooves, 1 foot $4\frac{1}{2}$ inches apart, worn into the cottonwood by the uprights of a ladder which rested long against it. The vent had become choked with stones fallen from upper walls. Over the smoke stain many of the ceiling timbers have become white due to a saline encrustation deposited by rain water which had soaked down to them.

In the south wall was an irregular hole averaging 1 foot 10 inches wide, $1\frac{1}{2}$ feet high, and 1 foot 8 inches deep, beginning 1 foot 10 inches from the west wall and 4 feet 3 inches from the floor. The interior was smoked as black as the rest of the room. In it was a deer's scapula, the blade-like end worn, a portion of a deer's innominate, a disk of squash rind, and a spherical pebble.

In the west wall, respectively, 1 foot 7 inches and $2\frac{1}{2}$ feet from the south end, and 4 feet 5 inches from the floor, two slender slightly upward sloping pegs protruded $5\frac{1}{2}$ inches. From the southern one something had been suspended by means of a strip of yucca leaf. Another peg, 2 inches long, is situated 9 inches south of the one just mentioned and 1 foot 10 inches below it. It also was encircled with a yucca tie. A fourth peg, 3 inches long, juts out and upward from the edge of a tiny mud shelf daubed on to the masonry of the sealed east door, 6 inches from the upper north corner.

The west door had been sealed with a vertical wall set back sufficiently to leave a recess or niche 10 inches deep. The dimensions of this door are: width, 2 feet 4 inches; height, $4\frac{1}{2}$ feet, sill height, 1 foot. A block had been pried out of each jamb, 1 foot 9 inches from the sill and an unpeeled stick set across the recess, $2\frac{1}{2}$ inches back from the corners. The east door also was sealed, the masonry being flush with the wall at the bottom and set back 3 inches at the top. The dimensions of this door were: width, 2 feet 4 inches; height, 4 feet 8 inches, sill height, 11 inches. At the south center is a plastered opening leading into the next room, 10 inches square, half of it below and half above the sill. The visible lintels are two digging-sticks laid flatwise. In front of this opening is a platform of adobe and small stones, 2 feet 3 inches north and south, 1 foot 3 inches wide and 7 inches high. With buttocks against the southwest corner of it lay the curled up skeleton of an adult, apparently a female, on the left side, with head pointing toward the southeast corner of the room. The

body sloped downward toward the head, the latter being six inches lower than the pelvis.

When the average of 1 foot of material upon the floor was dug over, it was found to be composed mostly of dust and fine sand compacted into earth by leakage through the roof. The floor was dirty, but not enough filth was present to lead to the conclusion that it was more than had accumulated during the occupancy of the chamber; that is, it was not refuse brought from elsewhere. The objects on the floor were: alder limbs and twigs, as if for firewood; two flattened sticks about 1 foot long; one mammal bone awl; a bone from a deer's leg and one from a turkey's wing; a metate; two manos; an ax; and several rubbed cobblestones. The few sherds were of Mesa Verde wares. Buried under the floor against the west wall, $1\frac{1}{2}$ feet north of the door, was a corrugated pot. At the center of the room was a fire pit, 1 foot 7 inches in diameter and 10 inches deep. None of the walls contained ventilators.

The skeleton in this room was not included among the burials because there is doubt in the writer's mind whether the individual received the final rites customarily accorded to the dead. The body is closely flexed, a frequent burial position, but there were no accompanying objects and no vestiges of wrappings, which, if once present, would not be expected to have decayed beyond recognition, at least where the bones held them up and prevented their contact with earth; facts which are suggestive, but prove nothing. Since the chamber was sealed, the only openings into it being the 10 inch tunnel in the east wall, through which food and drink but not a body might pass, and the hatchway, its smooth sides well out of reach, there would have been nothing to mar its serviceability as a dungeon. May not an unfortunate have died sitting on the low platform and toppled forward into the position in which the skeleton now lies? It has been left as found with the hope that it may be protected *in situ* as an exhibit in the ruin.

Room 133²

The fill in Room 133² was shallow, being $2\frac{1}{2}$ feet deep at the center of the west side and 5 feet deep at the south end. The hatchway at the middle of the east side has been described in connection with Room 132. Three bins were cut off from the chamber by thin partition walls of masonry. The one in the southeast corner was 4 feet north and south by 3 feet in width. The other two occupied the north end of the room. Their dimensions were: eastern one, 5 feet north and south, 4 feet 2 inches east and west; western, $5\frac{1}{2}$ feet north and south, and 5 feet wide.

The walls were fallen almost to floor level. There was no well-defined fire pit in the floor, but fires had burned for a long time in the angle formed by the bin and the south wall, and in the southeast corner of the bin as well. On the filth-stained floor were potsherds, a grooved ax, and a sandstone pot cover (Field Nos. 3870-3873), and two cobblestone metates, one broken mano, a grooved ax, a pounding stone, and two pecking stones. The few potsherds were of Mesa Verde type.

Among the fill were a few unburned cedar splints from the ceiling.

Room 176

Since the rooms which have been excavated in the south end of the west wing lie in longitudinal rather than transverse tiers, the order previously followed will be abandoned and the remaining chambers described in sequence from north to south.

Excavations in Room 176 have not been carried below the last used floor which is in the same plane as the ultimate yard level adjacent to the west wall of the pueblo. This floor was clean and had seen no great amount of service. The fill of the chamber throughout was the work of natural agencies. The first few inches consisted of laminated fine-grained earth laid down by wind and rain storms. Thence upward the material was drift sand and fallen masonry with here and there decayed splinters from the ceiling.

The north boundary walls of the room and all other transverse walls in this tier, southward to and including the north wall of Room 149, varied from 7 inches to 1 foot in thickness and were very carelessly built. Thus, they differ markedly from the construction typical of the original building and, as further proved by the continuation of the side walls to a lower level, they were of late erection. There were no doorways in Room 176.

Room 174

General conditions in Room 174 were identical with those in Room 176. In the southwest corner lay a polished blade of black stone, apparently slate (Field No. 5420). It had been hafted like knives found elsewhere in the ruin, the handle having been slightly wider than the blade and about 4½ inches long. The implement would have been serviceable only as a dirk, or as a chisel or grooving tool.

Room 155

A masonry partition 7 to 10 inches in thickness across the transverse center of Room 155 may at one time have divided the area into separate chambers. However, as only one foot of the wall remained, the

entire space has been numbered as one room. The last-used floor was clean and not hard packed as would have been the case had it been long tramped upon. The fill was of storm-deposited earth and fallen masonry. In the north wall there was a doorway communicating with Room 174, 2 feet 1 inch in height, and 1 foot 3 inches wide with sill 2 feet 8 inches from the floor, beginning $1\frac{1}{2}$ feet from the west wall. A vertical post 6 inches in diameter had been set $2\frac{1}{2}$ feet into the floor, $4\frac{1}{2}$ feet from the north wall and 4 feet from the west. There was a circular fire pit 1 foot 7 inches in diameter and 6 inches deep at the center of the north half of the chamber. In this part of the room, in the angle between the partition and the west wall, was a large corrugated storage jar (Field No. 4187) beneath the floor, its mouth flush therewith. The bottom of this jar extended into another floor 10 inches below the one last used. Scattered over this lower floor were three mammal bone awls, a bird bone tube, two mortars, eleven grooved axes, a rubbing stone (Field Nos. 4188-4205), and a flat cobblestone metate, four complete cobblestone manos and two broken, and twenty fragments of worked sandstone slabs. The stone objects comprising most of the entries were, on the whole, very well made, the paint mortar (Field No. 4192) being thus far unique.

Room 149

In Room 149 the floor at which excavations ceased is practically on a level with the final yard level beyond the west wall. This floor was well defined because of darkening due to use, but was free of refuse and artifacts. Upon it was an almost uniform two-foot layer of fallen masonry, the interstices filled with storm-laid earth. On top of this layer was another adobe floor. At the center of the northwest fourth of the room was a large corrugated storage jar (Field No. 3920) covered with a sandstone slab (Fig. 34). Scattered over the final floor were a mammal bone awl, a grooved ax, and an obsidian flake with edges chipped (Field Nos. 3921-3923), and one sandstone and one cobblestone metate, complete; one cobblestone metate, broken; eight broken cobblestone manos; twenty-eight fragments of worked sandstone slabs, and a few Mesa Verde sherds. The fill above as well as below the last floor was of wall material and washed and drifted earth.

Test pits sunk in Rooms 155, 149, and 174 were continued to a depth of from 4 to $5\frac{1}{2}$ feet before virgin earth was reached. This basal fill consists of fallen walls and decayed roof timbers with a slight admixture of ashes and refuse. Scattered human bones were conspicuous, and all sherds were of Chaco types. The side walls of the rooms, being massive

longitudinal ribs of the west wing, are bedded on natural soil, but the thin, unstable partitions in no case extend below the floors at which thorough excavations were halted. The south wall of Room 149, however, is of the same construction as the side walls and, like them, rests on virgin earth. It is possible that the thorough removal of the basal fill would reveal the bases of other similarly massive cross walls, but no trace of one has been observed in the digging that has been done. The apparent absence of partitions suggests that the area in question, instead of being cut up into rooms, was a long first story corridor, like those to be seen in Pueblo Chetrokettle and in Pueblo del Arroyo. Certain it is that the flimsy partitions which are in evidence were of late construction, evidently erected by the Mesa Verde people in reclaiming a part of the building which had fallen into ruin sufficiently to have become filled for a distance of several feet since its previous occupation.

Room 150

It is probable that Room 150 was not a part of the original plan of the pueblo, having been added at a later time. Were excavations carried to natural soil and the bedding of the walls and the nature of the junction of the east and west walls with those of the north studied, this point could be definitely determined. Whatever the case, the walls are massively and excellently constructed, the northern one containing ornamental bands of dark green stone.

The ultimate floor was at the level of the adjacent yard. It was hard packed from much use. Upon it in the southwest corner was Burial No 43¹ and in the northwest, Burial No. 44.² In the first foot of fill was some thoroughly decayed refuse and thence upward only wall débris and drifted earth. The pottery from the burials and the sherds from the refuse are of the Mesa Verde complex.

Beneath the last floor, artificial material extends more than three feet. In pits cut into it were Burials Nos. 45 and 46.³ This subfloor fill is composed of wall material and sandy earth containing some refuse and decayed ceiling timbers. Part of it was dug over and two black-on-white vessels, six potsherds worked to disk form, unworked potsherds, and a rabbit femur, with drill hole in shaft (Field Nos. 3953-3963) found. As elsewhere in this tier of rooms, scattered human bones were present in this level. Parts of the skeletons of one adult and two children were observed.

¹This volume, 178-179.

²This volume, 179.

³This volume, 179-180.

Originally, there were two doorways, one at the center of the north wall, the other similarly situated in the south. The north doorway was 2 feet 8 inches wide. The upper part is exposed for $2\frac{1}{2}$ feet, the sill being below the last floor. The opening was sealed and the line of its jambs obliterated on the side of Room 149, but in Room 150 a recess, 1 foot 2 inches high and 1 foot 1 inch deep, was left immediately beneath the lintels.

The south door also was obliterated on the outer side of the wall. On the inner side it was sealed, without, however, destroying the lines of the jambs. A niche, 1 foot 4 inches long, 5 inches high, and of the same depth was left in the upper southeast corner. This door was 3 feet wide and of undetermined height.

Room 151

Room 151 has been cleared to a length of 35 feet without encountering a cross wall or partition of any sort, nor is there a trace of one at the surface of the mound for thirty feet thence eastward. Apparently this chamber is another long corridor like the one assumed to have occupied the area of Rooms 149, 155, 174, and 176, of the type which, as previously stated, is to be seen in Chaco pueblos of the parent cluster.

Room 151, as well as the nearly destroyed row of rooms south of it, was an addition built long after the rooms to the northward. The exact sequence of construction in this area could not be determined without digging beneath the last used floor, which has not been done. From relations now apparent, Room 150, itself evidently an addition, once stood free except on its northern side as the southwest corner of the pueblo. Both southeast and southwest corners were finished on both exposures, the blocks having been dressed to the greatest smoothness permitted by the grain of the stone. Eventually a wall was built eastward from the one of which these handsome corners were the extremities, abutting it, but not tied into it except at one or two places where corner blocks had fallen out or were pried out to permit the insertion of bonding stones. When the south wall of the corridor was constructed, ground level was considerably higher than when the north wall was built.

The present west end of the corridor is in line with the west wall of the pueblo. Evidently this terminal wall is not the original, for $5\frac{1}{2}$ feet east of it, the stub of another juts out from the south wall and continues to a lower level. The west facing of this wall continues on across the interrupted south wall to form the east jamb of a passage 3 feet 2 inches wide and of undetermined depth. Extending south from this

opening is a hall-like passage of the same width and $9\frac{1}{2}$ feet long, beyond which distance the walls have been destroyed. The hallway communicating with the corridor may have been an exterior entrance to the pueblo. If so, it is the only one of which a trace has been found. A masonry wall 1 foot 3 inches thick had been built across the north end of the hall, after it had been filled to a height of $2\frac{1}{2}$ feet.

Covering the well-defined, but clean floor, was a thin layer of wall stones, then an intentional fill of clean earth 2 feet deep at the west end. Its surface rose gradually to a height of 4 feet at a point 16 feet eastward thereof, then sloped to floor level 16 feet farther on. In pits in this layer were Burials Nos. 63 to 71, inclusive, and Nos. 74 to 77.¹ The fill above the clean earth was of wall wreckage and refuse in varying proportions, the former being almost pure in some places and the latter unadulterated in others. In this horizon were Burials Nos. 62, 72, 73, 78.² All of the burials and the deposits in which they lay were of Mesa Verde age. In addition to those with the burials, a black-on-white bowl, two polished disks, four grooved axes, nine bone awls, six bird bone tubes, a bone spatula, and potsherds (Field Nos. 4162-4186) came from this room. Among the wall stones immediately upon the floor were scattered human bones, both of adults and children.

Room 183

The latest floor in Room 183 was 1 foot above that in Room 155, adjoining on the west, or 9 feet at the east side and $7\frac{1}{2}$ feet on the west, below the surface of the mound. It was poorly defined and could not have been positively identified had it not been for the artifacts scattered over it and the fact that above it the plaster had peeled off from the masonry, while beneath it was mostly in place. Upon this floor were three grooved axes, parts of two skinning knives, two manos, an awl, two bone spatulas, a bone tube, four pottery vessels, worked and unworked potsherds (Field Nos. 5097-5115) and two incomplete axes. Under the film of adobe was a stratum of wall debris $2\frac{1}{2}$ feet thick containing a small amount of refuse. Among it were parts of two yellow skinning knives (Field Nos. 5100-5101) and two broken axes. Beneath this deposit was a hard-packed floor nearly black from long use. Burials Nos. 106-109,³ inclusive, were in the pits below it, one in each corner. Over the pits the floor was as hard and black as elsewhere, showing that the chamber had been occupied after the interments were made.

¹This volume, 187, 188.

²This volume, 186, 188, 189.

³This volume, 200-204.

There was a nearly circular fireplace, 1 foot 11 inches by 1 foot 8 inches by 1 foot deep, 4 feet 7 inches from the west wall and 5 feet 7 inches from the south wall to center. It was lined with thin sandstones. At the east and west sides, respectively, two stones were set up like dogs, $4\frac{1}{2}$ inches apart, and rising 2 inches above the floor. They were brick-shaped pieces of sandstone with edges against the lining of the pit. South of the fireplace, separated from it by 5 inches of roughly laid stone was a pit walled on the east and west sides with building stones set up like slabs. It was 1 foot 1 inch north and south and 10 inches deep. The length was not determined. The sides did not appear to have been burned, but the hole was filled with ashes among which were some burned sandstones. Extending across the south side of the pit was a sandstone wall 2 feet 4 inches long and 1 foot thick, with a maximum height of 8 inches. It was parallel to the south wall, $2\frac{1}{2}$ feet distant therefrom, its east end being 3 feet 8 inches from the east wall. Behind the center of this masonry element there was a tunnel, 1 foot 3 inches square, with sill $2\frac{1}{2}$ inches above the floor, which continued through the south wall and connected with a shaft rising to the surface of the mound. The shaft was 1 foot 3 inches east and west by 10 inches in the opposite direction. In the tunnel were four stone axes (Field Nos. 5091-5094).

There was a pit in the northeast corner parallel to the north wall, 2 feet 4 inches long, 2 feet 1 inch wide, and 2 feet 10 inches deep. The south side was walled with roughly laid sandstones, while the west one was the earth bank of the excavation. On the bottom were four good axes (Field Nos. 5086-5089), a mano (Field No. 5090), the side of a Mesa Verde bowl fashioned into a scoop, and part of another Mesa Verde bowl. At least three of the axes had been hafted when laid away. A plaited rush mat had been spread over the objects. The pit was filled with ashy refuse in which Burial No. 107¹ had been made.

In the east wall, beginning 4 feet 2 inches from the south end, was a recess 2 feet 1 inch wide, 2 feet high, and 2 feet 8 inches deep, its sill being 1 foot 10 inches above the floor. Judging from the pole lintels, this may once have been part of a doorway, but if so, thence downward the jamb stones had been torn out and the hole patched so that it could not be detected. A small niche began $7\frac{1}{2}$ inches north of the one just described. It was $5\frac{1}{2}$ inches wide, 4 inches high, and 7 inches deep, with sill $1\frac{1}{2}$ feet from the floor. The bottom was half of a broad, flat mano. In the west wall, beginning 4 feet 5 inches from its northern end was a similar niche with dimensions as follows: width, 6 inches; depth, 6 inches; height, 4

¹This volume, 200.

inches; sill height, 5 inches. It was floored with a smooth sandstone slab $\frac{1}{2}$ inch thick.

In the same wall, beginning 2 feet 5 inches from the north end and 5 inches from the floor was an irregular hole 10 inches high, 11 inches wide, and 1 foot 8 inches deep. On the bottom of it, beneath the fill of drift sand, were two large disk-shaped rubbing stones, a small white quartz pecking stone, and one half of a sandstone mano.

Between three and four feet below the middle floor was another which showed few traces of use. Only a portion of the fill between these two was dug over. The material moved was wall material and earth containing a small proportion of refuse. The few potsherds among it were of Chaco wares.

Conditions as observed in this room reveal the following sequence of events: The fill between the lower and middle floor contained wares made and used by the builders of the ruin. After their disappearance from the locality, the bearers of Mesa Verde culture remodeled the chamber, apparently making of it a rectangular kiva. At least they gave it three of the most essential features of this sort of chamber; a central fireplace, a deflector, and a ventilator at the south side. While the room thus equipped was in use, burials were made in the corners. After a second abandonment during which $2\frac{1}{2}$ feet of debris accumulated in it, it was again re-floored and re-occupied, seemingly for a brief period. Judging from the number and nature of the objects scattered upon the ultimate floor, the final abandonment came at the close of inhabitation of the ruin as a whole.

Room 188

The floor of Room 188 was hard and black from use. The fill to a height of 6 feet at the east side and 4 feet at the west was of Chaco refuse which seemed never to have contained an appreciable quantity of vegetable matter. Much of it was light colored sand with only a small admixture of ashes and charcoal. The many potsherds and small objects from this layer (Field No. 5421) have not been sorted and systematically catalogued. Some restorable vessels will be found among them. Mere chance directed attention to a portion of an archaic bowl (Field No. 3791), most of which was found beneath the latest floor in Room 145.

Above the Chaco refuse was a 6-inch to 1-foot stratum of clean sand and then Mesa Verde refuse to the surface at the west side, and to within 3 feet of it at the east. The top of the refuse was nearly level, probably having been smoothed off, in preparation for the superimposed structure.

to be described later. The original north wall had been torn out to a point below the floor at which excavations ceased, which is, however, considerably above natural soil. The existing one was built with its south face $2\frac{1}{2}$ feet north of the corresponding part of the original.

Beginning 4 feet from the northwest corner and extending to within $1\frac{1}{2}$ feet of the floor was the ventilator shaft of the rectangular kiva into which Room 183 had been remodeled. A pit had been dug to permit the construction of this shaft, of which the north wall of the room served as one side.

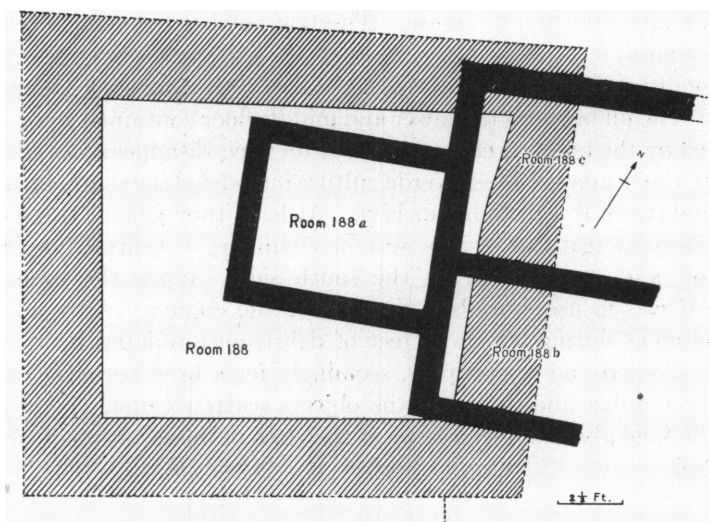


Fig. 25. Late Rooms above Room 188, West Wing.

ROOMS 188A, B, AND C

Above Room 188 and extending eastward over a part of the next room had been a late dwelling of which three chambers had not been eroded beyond recognition. As shown by the plan in Fig. 25, Room 188a lay above the northeast center of Room 188 at the level of the top of the east wall of the latter. The distance between the floors was 10 feet 8 inches. Room 188a was 7 feet east and west by 6 feet north and south. The floor was of tramped adobe. In the center was a circular fireplace 1 foot 9 inches across and 7 inches deep. Buried in the southwest corner was a corrugated jar (Field No. 5421). Strewn over the floor were three cobblestone metates, five manos of the same material, and numer-

ous fragments of worked sandstone slabs. The walls had been plastered with adobe.

To judge from the relation shown by the plan, Room 188*a* was built on after Rooms 188*b* and 188*c* were constructed. Room 188*b* was 5 feet

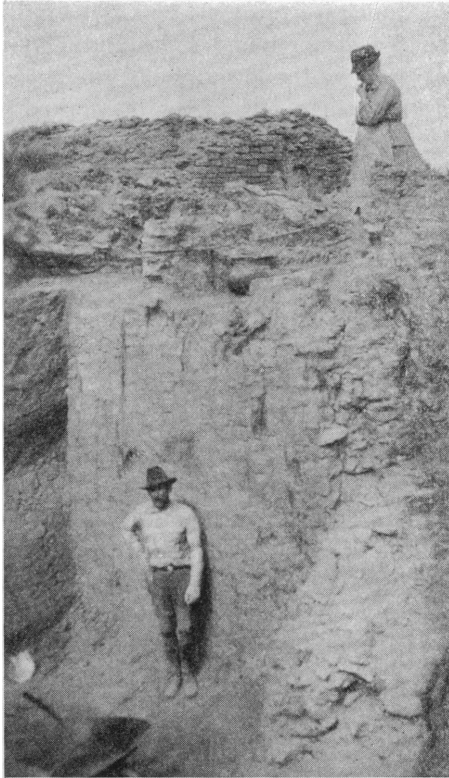


Fig. 26. A Ruin upon a Ruin. The wheelbarrow at the lower left is standing on the floor of Room 188, West Wing. Just above the center may be seen the original floor and the north wall of Room 188*b*. The corrugated jar had been buried beneath a secondary floor in the latter chamber.

7 inches north and south and of undetermined length, 6 feet of the south and 8 feet of the north wall remaining. The lowest floor was on a level with that of Room 188*a*. It was of plain adobe. On top of it was a 1 foot 2 inch fill of clean earth, then another floor which had been tinted

red, as had the walls thence upward. Adjacent to the north wall, 4 feet from its west end was a large corrugated storage jar covered with a slab, the top of which came flush with the upper floor (Fig. 26). There was a small amount of refuse covering the fireplace, 1 foot 6 inches in diameter and 5 inches deep, situated at the transverse center of the room, $4\frac{1}{2}$ feet from the west end. Among it were Field Nos. 5423-5426, inclusive.

Room 188c was $6\frac{1}{2}$ feet north and south and more than 8 feet long. The floor was 4 inches above the lower one of Room 188b. It was relatively clean and aside from a few pieces of worked sandstone slabs, there were no artifacts on it.

The walls of this group of chambers were poorly built of re-used sandstones, varying in thickness from 9 inches to 1 foot. When uncovered they ranged in height from a single course to 3 feet. The house of which this was a part was of late Mesa Verde construction and probably was occupied at the same time as the Annex and Kivas N and O to the northward.

Room 175

The floor of Room 175 was on the same level as that of Room 151, adjacent to the southward; that is, 1 foot 4 inches above the floor of Room 188. It had been long used as evidenced by hardness and stain. About 1 foot west of the center was a nearly circular fireplace, 1 foot 9 inches in diameter and 7 inches deep, lined with sandstones set on edge so that they reached 2 to 3 inches above the floor. Refuse, with here and there a few wall stones, completely filled the chamber, with the exception of a surface layer, $1\frac{1}{2}$ feet thick at the northeast corner, composed of material fallen from the walls of Rooms 188a and 188b.

Burials Nos. 84 to 87¹ inclusive were in the refuse and from it came parts of eleven pottery vessels, ten mammal bone awls, thirty-two bird bone awls, fifteen bird bone tubes, four pieces of worked stone, pieces of iron ore, a piece of turquoise, a chipped knife blade, sixteen arrow points, two stone and two shell beads, and a lump of potter's clay (Field Nos. 4775-4862), as well as three broken arrow points, eleven grooved axes, more than fifty pecking stones, and a spherical ball of green sandstone with a shallow hole pecked in one end. The potsherds are predominantly of Mesa Verde type, but contain a small admixture of Chaco ware.

The original north wall had fallen or been torn down to within 4 feet of its west end and finally re-built with much more carelessly laid masonry. No doorways are observable either in this room or in Room 188.

¹This volume, 195.

Room 184

In clearing away the disintegrated top portion of the east wall of Room 183, Burial No. 110¹ was found immediately against the east face of it, and a brief search brought to light Burial No. 111.² No further digging of consequence has been undertaken in Room 184.

Room 185

Upon the floor of Room 185 were approximately 2 feet of clean, light-colored earth among which were a few building stones. This mass was very hard and compact. Only part of it has been dug over. Where the floor beneath it was reached, the level showed practically no signs of use. A few Chaco sherds came from the clean earth. In a pit dug to within a few inches of natural soil in the northeast corner were Burials Nos. 126 and 127.³ The surface of the clean earth was rough and bumpy and seemed not to have been used as a floor. Thence upward there was a layer of Mesa Verde refuse varying from 3½ to 4 feet thick, containing many cedar splinters and a good deal of other vegetable matter. In it were Burials Nos. 119 to 125,⁴ inclusive, and in addition to the specimens with the bodies Numbers 5427 to 5461, inclusive. Above the refuse there was practically 1 foot of rats' nests and accumulations, upon which rested the partly fallen ceiling. Its supports had been two pine logs running north and south, but not equally spaced, the western one being 1½ feet nearer the corresponding wall than the eastern. The poles were singly spaced in the lateral sections, but overlapped in the central one, those inserted in the east wall extending to the west log, and vice versa, to form a solid layer. The supports had broken first at the center and finally where they entered the walls.

In earthy refuse above the middle of the second floor was Burial No. 128.⁵ Aside from the small amount of refuse in the vicinity of this burial, the fill thence upward was of drifted earth swept down from the higher part of the mound to the westward by the westerly winds which prevail in the Animas Valley.

The only doorway in this room is a T-shaped one at the middle of the east wall. The dimensions of the upper part are: height, 3 feet 3 inches; width, 4 feet 7 inches. The bottom part has been covered by earth which has caved in from the next room to the eastward.

¹This volume, 204.²This volume, 204.³This volume, 206, 209.⁴This volume, 205, 206.⁵This volume, 209.

ROOM 186

The floor of Room 186 was hard and black from use. Upon it were from 1 inch to 3 inches of refuse containing a few Mesa Verde sherds. The remainder of the fill was of fallen wall material, drifted earth, and decayed timbers from the ceiling. The latter had been constructed like the one in Room 185.

The door in the center of the west wall was 2½ feet wide and 4 feet 3 inches high, with a sill height of 1 foot 3 inches. The eastern one was of the same width and 4 feet high with a sill height of 1 foot 5 inches. Both had been sealed. Under the last-used floor there is 6 to 8 inches of clean sand, then an adobe floor, and beneath this adobe clods and sandstones to an undetermined depth.

ROOM 187

At the south center of the black hard-packed floor of Room 187 is a fireplace 1 foot 10 inches in diameter and 9 inches deep. Beginning 1 foot 3 inches south of the fireplace is a wall parallel to the south boundary of the room, 4 feet long, 6 inches thick, and 1½ feet high. It ends 2½ feet from the east wall. Behind it is a tunnel 1 foot wide and 1 foot 10 inches high extending through the south wall and presumably connecting with a shaft. The tunnel is off center, 1 foot nearer to the west than to the east wall. The deflector and the ventilator suggest that the room was put to secondary use as a kiva.

There were once doorways, one at the middle of the east, the other similarly placed in the west wall; both had been sealed. The exact dimensions are not obtainable.

There were a few Mesa Verde sherds on the floor. The fill was of fallen masonry and drift earth, containing ceiling timbers.

Beneath the floor at which systematic excavation ceased there are from 8 to 10 inches of clean sandy earth, then another adobe floor fairly well tramped. Extending beneath this floor, against the west center of the north wall is a slab-lined fire pit. Just west of the fire pit is what appears to be the basal course of a sandstone wall running south. Beside this a test pit was sunk 3 feet into mixed material consisting of adobe clods and sandstones, without reaching natural soil.

ROOM 190

Room 190 is an isolated chamber situated in the court southwest of Kiva E. Its floor is in the plane of the last-used court level. Only 1 to 1½ feet of the walls remained standing. For several years it was supposed

that the area bounded by the walls of this room was a platform because of the report of a workman detailed to dig into it, that placed masonry continued to the court level. However, subsequent investigation revealed within the flimsy 1 foot to 1 foot 3 inch walls, a coating of red plaster, and charcoal from the burned ceiling in the first few inches of the fill. The ceiling had been supported by one large centrally placed pine stringer running from north to south. The walls were fallen below the usual height for door sills; hence, there is no evidence in which sides entrances once existed.

ROOMS 197-201, INCLUSIVE

Rooms 197, 198, 199, 200, and 201 were cleaned out by Mr. George L. Boundey, Custodian of the Aztec Ruin National Monument, in the spring of 1927 for the purpose of preparing them for use as a local museum. Excepting Room 197, all are chambers with intact ceilings. They comprise the major portion of the group of open rooms tunnelled into, according to Mr. Sherman Howe, in 1882. These rooms, together with Rooms 141 and 142, (pp. 370, 375), beginning with Room 197, form a continuous row in the northern tier extending eastward from the northwest corner of the ruin.

For many years entrance to the underground rooms was through Room 197. The west half of the ceiling had collapsed (Room 177², p. 385) and débris from above had filled the chamber to the ceiling level at the west side, its surface sloping thence downward to a height of 3 to 4 feet against the east wall. Through a breach in the latter made by the first modern entrants, access to Room 198 was possible, and thereafter a series of such openings permitted one to make one's way through the succession of chambers to Room 201, thus passing laterally through rooms that originally were accessible only from the south, there being a doorway in the center of the south wall of each except Room 197. Mr. Boundey has remodeled the modern breaches into rectangular doorways through which one may pass without inconvenience.

To Mr. Boundey the writer is indebted for the information embodied in the following description of the nature of the fill and the notation and localization of the objects found in the rooms in question.

Room 197 as built was not provided with a doorway, entrance apparently having been gained through a hatchway which must have existed in the fallen west half of the ceiling. However, a small secondary vent is present near the east end of the south wall. In size and in the carelessness of the workmanship displayed it is typical of the doorways

made by the Mesa Verde people during their residence in the west side of the pueblo.

In the northwest corner, above a mass of ceiling splints were fourteen pine boards, some with edges perforated. These had come down from the second story. On the floor in the same corner was a conical-bottomed wicker basket of about one bushel capacity, the first of its shape or technique to be found in the Aztec Ruin. Forward of it were two small coiled baskets of bowl shape. In the southwest corner lay a digging-stick and in the southeast two polishing stones. In a line between these and the center of the rooms were two corrugated pots, crushed down. On edge against the center of the east wall stood a metate with two manos beside it. With its decayed tip bent upward against the masonry in the northeast corner, a rung ladder which evidently once stood beneath the postulated hatchway, extended toward the center of the room.

There was very little fill in Rooms 198 and 199, such as there was consisting of dust and débris from the tunnels driven through the walls.

In Room 201 there was $2\frac{1}{2}$ to 3 feet of ashy refuse containing some perishable material, but relatively lean of artifacts. The potsherds therefrom are almost entirely of Chaco wares. The majority of the perishable specimens are of the usual run; sandals, both twined woven and plaited, pot rests, string, etc. In marked contrast to these is the only complete bow in good condition that the ruin has yielded to date. It is 4 feet $7\frac{1}{4}$ inches long, $1\frac{1}{16}$ inches wide at center, and 1 inch thick. In cross-section, it is irregularly oval, the concave side being more nearly a plane than the outer surface. The center is sinew-wrapped for a distance of $4\frac{1}{2}$ inches. Superficial examination does not reveal the variety of wood from which it is made.

With head to the north, parallel to and a short distance from the central portion of the west wall, lay Burial No. 145, that of a young adult female, sprawled out on the right side. There had been an inner wrapping of feather cloth and an outer one of plaited rush matting. By the right knee was a corrugated pot, in front of the breast a Mesa Verde bowl, headward of this a small cylindrical coiled basket, badly decayed; by the crown of the head a bowl-shaped coiled basket 10 inches in diameter, footward of this a pot ring, and back of the right knee a shallow coiled basket, $16\frac{1}{4}$ inches in diameter. Obviously, this Mesa Verde burial was intrusive in a deposit of Chaco age, as indicated by the sherds therefrom, and by the presence of twined woven sandals, which ceased to be made before the Mesa Verde period.

The skulls of two children were also found among the rubbish.

DÉBRIS AGAINST THE OUTER WALLS OF THE PUEBLO

At three points the exterior slope of the ruin mound has been removed; at the south end of both the east and west wings, and at the east end of the north. As might be expected, the débris in question consisted of wall detritus and drifted earth, the former being the principal component. The excavation at the south end of the east wing was done at the beginning of the first season's explorations. Doubtless had a search been made for it, the last level of occupation might readily have been identified and used as a base plane. Instead the level followed was that of the field to the eastward. Since excavation of adjoining areas might be expected to establish the point overlooked, the lack of foresight is not essentially serious.

From its east end to the west side of Room 113 the north wall of the pueblo has been laid bare down to the last tramped level. The latter is in practically the same plane as the field to the northward, but 3 to 4 feet above the floors of the rooms in the northernmost tier. This fill, which obviously accumulated after the ruin was built, has not been trenched and examined as it should be. In post holes dug into this deposit while the ruin was being fenced, occasional sandstone building blocks were encountered. Beneath the fallen masonry the last-used level was covered with a layer of charcoal and burned clay extending some 10 feet away from the walls. The presence of the charcoal would seem to indicate that there was an exterior balcony at the second or third story, or perhaps at both, since it is difficult to imagine how considerable quantities of wood, even from the roof, could have fallen outside the wall previous to the collapse of the top thereof. As stated, the charcoal lay directly upon the last tramped level with no wall detritus beneath. The possibility of the existence of a balcony is heightened by the fact that in the lesser pueblo to the east, the ceiling supports protrude more than a yard along the standing portion of the north wall.

At the southwest corner of the pueblo there was no charcoal on the last yard level. In the weathering down of the walls, the detritus formed a gradual slope which covered more deeply than would otherwise have been the case, the adjacent portions of the annex.

THE REFUSE MOUNDS

There are three definite refuse mounds outside the pueblo, here mentioned in diminishing order of volume; one at the southeast, one at the southwest, and one at the northeast corner. In addition to these, a shallow blanket of refuse tails off across the field lying between the southeast and southwest mounds.

The peak of the southeastern one, sectioned by N. C. Nelson in 1916 lies some 70 feet from the corner of the pueblo. The depth was about 7 feet: From the conical crest, the surface sloped rapidly downward in all directions, with a noticeable but low ridge extending to the eastward, which ridge merged with the level of the fields 75 feet farther on. However, this appearance is deceptive. An ancient arroya channel once crossed between these points. Rubbish was dumped into it until it was completely filled and hidden. A pit sunk just within the fence bordering the ruin property showed a depth of $7\frac{1}{2}$ feet, and the sandy bed of the wash was still dipping downward toward the east. Beyond, the refuse disappears beneath the surface earth of cultivated fields and continues for an unknown distance.

In composition, the southeast mound is in sharp contrast to the Bonito heaps, being composed almost entirely of sweepings, ashes, animal bones, sherds, etc., without the voluminous quantities of adobe and waste stone from dismantled buildings so conspicuous at Pueblo Bonito.

The dimensions of the southwest mound were less vague than those of the major deposit. It was about 125 feet from north to south and 55 feet wide with a maximum depth of 7 to 8 feet. Building waste has not been observed in it, but there are noticeable distinct layers of coarse charcoal and occasional rock-walled fire pits of large size.

The northeast mound is not over 30 feet in diameter and $2\frac{1}{2}$ feet deep. It has, as a major component, small stones obviously carted away from some spot where walls were being constructed.

Sherds from all of these heaps are of the earlier, or Chaco complex, with practically no Mesa Verde adulteration. The same is true of the pottery fragments plowed up in the field southward of the ruin. As stated in the section on burials, interments are extremely rare in the refuse heaps (this volume, 225). The late Captain Knowlton, who resided for many years on the Abrams ranch, mentioned the finding of scattered graves when the field above referred to was first plowed. It may be safely inferred that these graves date from the Mesa Verde period of occupation.

RETAINING WALL SOUTH OF THE PUEBLO

A retaining wall crosses the entire southern exposure of the ruin. It consists of two parts, one original, the other secondary. A line drawn as a continuation of the eastern bounding wall of the pueblo, if extended for a distance of 70 feet would touch the eastern end of the original wall. Thence the latter runs westward for 390 feet, crossing the line of the west wall 63 feet from the southwest corner, and 14 feet beyond, it turns at nearly a right angle to the north. Presumably were it followed out, it would be found to terminate against the west wall.

Were the longitudinal axes of the east and the west wings sufficiently projected each would pass near a buttress of masonry built against the south side of the retaining wall. The eastern one is 9 feet 8 inches east and west by 5 feet 2 inches wide; the western, 10 feet long and 5 feet wide. It may be suggested that these were once surfaced with steps, thus functioning as stairways leading up from the general country level to the terrace behind the wall. Whatever their use, their position practically in line with the east and west wings, respectively, must have had some significance. The height of the buttresses is at no point more than 2 feet, which is slightly less than the altitude of the contiguous portions of the retaining wall. A modern irrigation ditch once paralleled the south side of the latter. Its construction and the plowing of the border of the adjacent field have so disturbed the surface that the original height of the buttresses and the manner in which they were surfaced cannot be determined. Since there is no appreciable quantity of fallen masonry in their vicinity, it is doubtful if they ever extended much above their present level.

The original retaining wall is $2\frac{1}{2}$ feet thick, and stands at its highest point, $4\frac{1}{2}$ feet above the foundation. The latter, made of cobblestones, was sunk about 1 foot below the surface existent at the time of its construction. The face or south side of the wall is of sandstone blocks, while the backing is entirely of cobblestones. Both face and hearting of the buttresses are of sandstone. In this case there seems not to have been a cobblestone foundation. In 1917 a trench was cut through the wall 156 feet from its east end, and continued for a distance on either side. The section revealed is given in Fig. 27.

From the east center the stubs of two sandstone walls were traced for a distance southward from the retaining wall. There was nothing to indicate of what sort of structure they had been intended to be a part.

The secondary retaining wall extends 46 feet eastward from the east end of the original. It is $1\frac{1}{2}$ feet thick and 2 feet high, and like the

other rests upon a two-course cobblestone foundation. The facing is of cobbles, each neatly broken to present a smooth surface, interspersed with an occasional sandstone block. This wall swings slightly northward

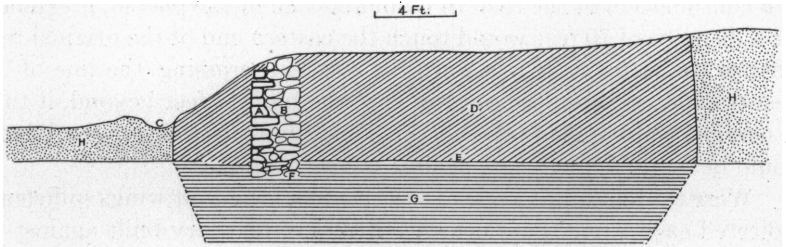


Fig. 27. North and South Cross-Section of Cut through Retaining Wall South of the Pueblo. A, Sandstone facing of retaining wall; B, Cobblestone backing of retaining wall; C, Modern irrigating ditch; E, Original country level; F, Cobblestone foundations; G, Trench; H, Unexcavated areas, refuse fill.

from the original, its further extremity being 1 foot 7 inches out of line. It was entirely surrounded and covered by the slope of the southeast refuse mound. In Morgan's map¹ both southeast and southwest refuse mounds are indicated as buildings connected by the retaining wall.

¹Morgan, Lewis H., "Houses and House Life of the American Aborigines" (*Contributions to North American Ethnology*, vol. 4, Washington, 1881).

SUMMARY

Somewhat less than three-fourths of the Aztéc Ruin has been explored completely or in part. Exclusive of the annex, there remain untouched from eighty to ninety-five rooms situated in the north, west, and south wings. A glance at the map gives an exaggerated impression of the amount of clearing away that has been done. The east wing and the north wing, to the transverse wall west of Kiva L, have been thoroughly freed of débris, but the shaded walls in the west end of the north wing and in the entire west wing indicate merely chambers that have been opened. Very little of the fill has been hauled away from this quarter. A number of rooms have only been dug over, their original contents, though turned, still remaining in them. The earth thrown out of the others is, for the most part, heaped up above undug chambers, or thrown down the slopes of the ruin. The complete story cannot be told until these unsightly mounds have been removed and the areas beneath them excavated. It is scarcely to be expected that discoveries would be made in the unexplored portions to controvert or materially to change conclusions that may be drawn from the evidence already in hand. Nevertheless, generalization upon the basis of incomplete data is a task that offers no marked appeal. It is as if one walked stumblingly in the twilight, apprehensive of pitfalls in the dimly seen terrain ahead.

The Aztec Ruin was long inhabited and at different times housed two culturally distinct groups of Pueblo people. The builders were closely akin to those who fashioned the enormous structures in Chaco Cañon. Whether or not they were immigrants is an open question, but it is by no means necessary to assume that they were. The distribution of early Chaco culture was not at all confined to the locality from which it was named. Pueblo Bonito is only exemplative of an accelerated process of specialization of that culture which in less intensified form existed over a wide and as yet unbounded scope of country. A comparison is not too far fetched between the group of Chaco pueblos and Shiprock with its cluster of lesser peaks. The latter comprises perhaps the most striking and beautiful topographic feature of its kind in all the Southwest. They are but the focalization of a colossal potentiality, existent but repressed by geological environment over a wide expanse, which forced upward the plastic material subject to its pressure to magnificent expression at the point where conditions best permitted. Also far and wide about the conspicuous center, the discerning eye finds lesser evidence of that same upheaval.

All along the Animas and San Juan valleys are many small ruins containing only Chaco pottery. The occupation of these small dwellings may have been previous to, contemporaneous with, or subsequent to that of the large community house. The latter is most difficult to believe, for it is entirely contrary to known Pueblo custom that the inhabitants of a large town should divide into many small groups and establish themselves independently as such in close proximity to their former communal home. Contemporaneous the small sites may have been, but it is more plausible to suppose that the integrating forces which operated elsewhere in the Pueblo area, coerced the dwellers in the small houses of the Aztec vicinity into the construction of a village fortress of sufficient size to shelter them all.

At any rate, once established therein, the builders and their descendants continued for some time in residence. This is indicated by the volume of the refuse which they distributed principally outside the village walls, and more forcibly by the raising of the surrounding terrace level during their presence. Nearly all of the yard or more of earth which accumulated on the adjacent fields after the pueblo was built was laid down before Mesa Verde pottery made its appearance.

The first occupants were skilled artisans in several different lines. As masons they were as good as the best the Southwest produced. From appearance alone, one would judge them to have been less skilful than their kinsmen who built, for instance, Pueblo Bonito and Pueblo Chetrokettle. The walls there certainly are, in general, more substantial and more pleasing to the eye. But as a test of skill these facts prove nothing. Chaco Cañon provides most excellent building stone, much of it occurring in tabular brick-like blocks which needed only selection and not shaping for the building of such handsomely faced walls as the eastern one of Pueblo Chetrokettle. In contrast, there is no satisfactory building stone within miles of Aztec. The rare strata which are so bedded and jointed that they break up into pieces of vaguely tabular form are of quartz-like hardness, and proportionately tough, with no distinct cleavage planes. To work this stone, even with steel tools, is very difficult. The softer varieties which are much more plentiful, are curly bedded so that they can be split with difficulty, and disintegrate rapidly upon exposure to the weather. There are no thin laminated deposits whatever. To have shaped material thus either refractory or poor into walls of the excellence of many of the Aztec Ruin would have necessitated craftsmanship equally as good as any displayed in the walls of the ruins of the Chaco.

Structurally, the earlier pottery is the better, being thinner, harder, and more durable than that of Mesa Verde time. In range of form it was more varied, but the relative excellence of its decoration is subject to debate. While occasionally a sherd with the fine hachured ornamentation so characteristic of Pueblo Bonito is found, in general, the Chaco potters of the Aztec region did not develop pottery making to so fine an art as those of the larger center.

The builders possessed many beads and articles of personal adornment, to judge from the number which found their way into the refuse; in fact, everything seems to indicate that these Chaco people were well provided with all things that bespeak material opulence. It is sincerely to be regretted that their burial places have not been found. The few skeletons unearthed by Pepper and by Judd in Pueblo Bonito reveal the wealth and beauty of the specimens which would reward such a discovery. And of more value than the material objects would be the knowledge of the method by which the builders of the great houses disposed of their dead.

It seems most probable that gradual abandonment of the region culminated in the final disappearance of the Chaco people from the Aztec Ruin. Neither therein nor elsewhere in the Animas Valley has the writer observed conditions to prove that a catastrophe of any sort overtook a Chaco settlement. Obviously, evidence of an event of this sort would be more difficult to recover in a place that was re-occupied, because most of the serviceable objects left behind would have been salvaged and put to use again. But surely, had the first people been conquered or wiped out under any circumstances whatsoever, some confirmation would have come to light in the chambers which became partially filled with débris before the re-occupation.

The pueblo must have remained vacant for a long time to have permitted the elements to have brought about the advanced degree of destruction in various places to be observed beneath the lowest levels at which the second pottery occurs.

When the re-occupation came, at least so far as the particular site in question is concerned, it would appear to have resulted from a definite migration. At any rate, thus far nothing has been found in the Aztec Ruin to confirm an overlapping of the two ceramic complexes, or a transition between them.

Turning again to the refuse, from the amount of it which they dumped into un-used chambers and scattered about indiscriminately, and from the degree to which they rehabilitated, built upon and adjacent

to the pueblo, the period of residence of the Mesa Verde group was not at all brief. At one period they also were in a thriving condition, if their more pretentious building enterprises and the lavishness of the offerings placed with the dead may be considered a criterion of prosperity. During this interval they were moderately good builders, and produced Mesa Verde pottery as excellent as any that has been taken from the ground. Moreover their beads and ornaments and their textiles show them to have been master craftsmen in those branches upon which their attention centered. But there came a time when they had become a dwindling remnant, huddled into filthy quarters, their women and children dying off rapidly, and being laid away in rooms beneath and beside those in which they dwelt, with few or no accompaniments. Architecture had become a dead art. Their last buildings were tawdry makeshifts, weak and flimsy to the limit of belief. The same condition held in the field of ceramics. There is recognizable at the close a distinct variant of the Mesa Verde pottery complex in which the paste is very frail and friable, the pigment impermanent and poorly handled, the decoration not crude but decadent, and grace of form almost entirely lost. Upon this condition of cultural senility or disease came the fire of intentional origin which for an interval transformed all but the western side of the pueblo into a veritable furnace. Whether the remainder of the Mesa Verde people evacuated the place and then fired it, or whether an enemy was the incendiary, may never be known, but the burning thereof marked the close of human occupation of the Aztec Ruin. During the centuries which followed, there labored within the great house only the effacing hand of time.

