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The 1928 Archaeological Expedition of the State Historical Society of Colorado

By Paul S. Martin

As this article constitutes not only a formal report to the government, covering the season's campaign, but is also intended for general reading and the dissemination of information concerning the archaeological work of the State Historical Society of Colorado, it may be well to define or to explain some of the terms and expressions as used in the article itself.

"Unit type ruins" are ruins of small houses, standing in the open, which show a definite and characteristic grouping and association of the pueblo or dwelling, the kiva and the burial mound. The unit type houses which we excavated, always had the long axis running almost east and west, and round towers with underground passages located at the southeast corner of the unit, and seemed to represent a psychological grouping, in that each unit was sufficient unto itself. A multiple-unit type ruin is composed of several smaller unit type ruins, loosely amalgamated.

A "pueblo" merely means a series of dwelling rooms, of one story (i. e. in a unit type site) strung together and generally above ground. These were in all instances not over fifteen feet from the kivas and fifty feet from the burial mounds.

"Proto-Mesa Verde" pottery is a type of pottery, so named by Kidder and others, which preceded true Mesa Verde ware. It is pottery, for the most part of black designs on white, corrugated ware and a sprinkling of red ware. The designs are generally crudely applied and represent patterns similar to true Mesa Verde ware and others of earlier types. Pottery which has a "slip" merely means a pottery which has had a thin wash of clay applied to it, to give pleasing color tones.

A "kiva" (a Hopi Indian word) is generally (in more ancient times, at any rate) a round, special chamber built for ceremonial purposes, placed underground and specially constructed. The floor is hard adobe, well-smoothed, containing a fireplace and sometimes a *sipapu*. The *sipapu* is a small round excavation in the floor of the kiva and is supposed to symbolize the origin and the final place of departure of the pueblo peoples and the medium of communica-

tion with the beings of the underworld. Just to the south of the fireplace is a deflector, made, sometimes of a single slab of stone, planted upright, of wicker work or of small stones, mortised together. The function of the deflector is to prevent the cold air current, which enters the kiva at the floor level through the ventilator tunnel, from spreading the fire, and to cause to circulate this current of fresh air, all over the whole structure. Around the circumference of the kiva, about three feet above the floor, runs a bench or banquette eighteen inches wide. It may possibly have served as a bench for the spectators. On it rest six pilasters or pillars, upon which were laid the roof beams in such a fashion as to form a cribbed roofing. The roof of the kiva was probably never over six or seven feet high. In the present day kivas, and in some of the prehistoric ones, we find a hatchway or opening in the center of the kiva roof. This probably served for an entrance to the users of the chamber and as an exit for the smoke.

The 1928 archaeological expedition of the State Historical Society of Colorado chose for its field of work that region thirty-two miles north and west of Cortez, Colorado. To be specific, this area is contained in townships thirty-eight and thirty-nine north, ranges eighteen and nineteen west, Montezuma County, Colorado. Ackmen, situated on U. S. Highway No. 450, was the nearest postoffice to the scene of operations.

Under the Acts of Congress, the Department of the Interior and the Department of Agriculture of the United States are authorized to issue archaeological research permits covering land within their respective jurisdictions, and such permits were issued to the Society by the secretaries of these departments. The work was carried on during the entire months of July and August, with a field force of eight men.

This region is made up of many canyon-scored mesas, covered with sagebrush, pinions and cedars, and is very arid. Dry farming is practiced successfully on a fairly large scale. Water, or rather the lack of it, is a problem to the farmers of that locality and most of them are forced to haul it sometimes as much as four miles. It is my opinion that the people who formerly inhabited the region had much the same problems to meet as do the farmers today, i. e., as far as crops and water are concerned.

I

RECONNAISSANCE WORK

Ruins abound in this area, for they may be found upon the mesas, and in the shadow of cliffs, as well as in the canyon bottoms. It was felt that this season presented an excellent opportunity for

exploration as well as excavation, for this immediate area has never been properly studied. Dr. Fewkes has done something along this line, but his research did not cover this area, except casually, and needs supplementing.¹ As a result of this idea, a large new ruin was discovered, and a great many lesser sites were plotted. (See reconnaissance map, plate I.) Herewith, I shall give a brief description of the largest and most interesting sites which we mapped.

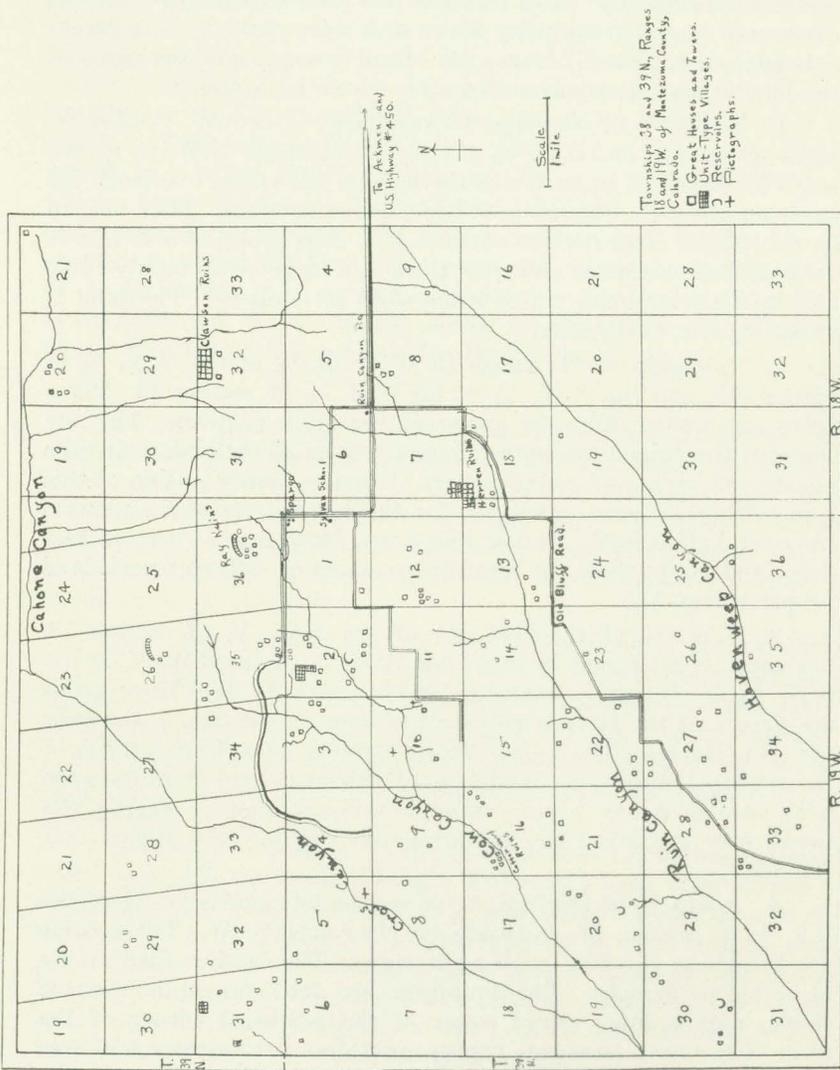
1. Township 39 N., range 18 west, S.W. $\frac{1}{4}$ of S.W. $\frac{1}{4}$ of N.W. $\frac{1}{4}$ of section 20; and N.E. $\frac{1}{4}$ of the S.E. $\frac{1}{4}$ of the N.W. $\frac{1}{4}$ of section 20. This site, upon which are located the ruins, overlooks the junction of Little Cahone and Big Cahone canyons. They are up on a mesa and comprise the outlines of a large group of slab houses (twenty-five or more), and near them is a large circle eighty-three feet in diameter made up of stone slabs set endwise. The land is owned by Dr. C. E. May.

2. Township 39 N., range 18 W., N.E. $\frac{1}{4}$ of the N.W. $\frac{1}{4}$ of section 32; and the N.W. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of section 32. These ruins are named after the owner of the land, Clawson. The site contains the ruined evidences of long strings of multiple-unit type houses and kivas and round towers. It is the largest pueblo of this type within the area surveyed, for the houses run east and west for over half a mile. Refuse heaps are from four to twelve feet deep, and might show the stratified remains of different periods if properly trenched.

3. N.W. $\frac{1}{4}$ of the N.W. $\frac{1}{4}$ of the N.W. $\frac{1}{4}$ of section 18, township 38 N., range 18 west; and S.W. $\frac{1}{4}$ of the S.W. $\frac{1}{4}$ of the S.W. $\frac{1}{4}$ of section 7, township 38 N., range 18 W. These ruins are known as the Herren ruins, since they are on land entered by Mr. Ed. Herren. The ruins consist of those of a large pueblo of the multiple unit type, made up of thirteen distinct units, each with secular rooms, kivas, round towers, and refuse heaps. Six weeks were employed in excavating this group. (See report that follows.)

4. South $\frac{1}{2}$ of the N.E. $\frac{1}{4}$ of section 36; and N.W. $\frac{1}{4}$ of the S.E. $\frac{1}{4}$ of section 36, township 39 N., range 19 W. These ruins are known as the Ray or Wright ruins. The land is filed on by Miss Helen Wright. The buildings are laid out in a crescent shape, with a huge round tower at the southeast corner of the unit. The tower measures twenty-eight feet in diameter and was entirely excavated by us. We called it Charnel House Tower. The ruins are probably of the unit type but present many puzzling features. (See report for details as to excavations in Charnel House Tower.)

¹Fewkes, J. W.—*Prehistoric villages, castles and towers of southwestern Colorado*. Bulletin 70, Bureau of American Ethnology. Washington, 1919.



ARCHAEOLOGICAL RECONNAISSANCE MAP OF TOWNSHIPS 38 AND 39 NORTH, RANGES 18 AND 19 WEST, MONTEZUMA COUNTY, COLORADO

5. N.W. $\frac{1}{4}$ of the S.W. $\frac{1}{4}$ of section 12, and the S.W. $\frac{1}{4}$ of the N.W. $\frac{1}{4}$ of section 12. Here are located two large unit type ruins about one-eighth of a mile apart. The northern one runs for about 210 feet east and west, and the southern one about 150 feet. There are evidences of two kivas and between them there are arms that run out to the south, forming plazas or enclosures. At the east end of each unit are towers, which are probably of a similar type to those dug up and described. The land belongs to George Winkleplack.

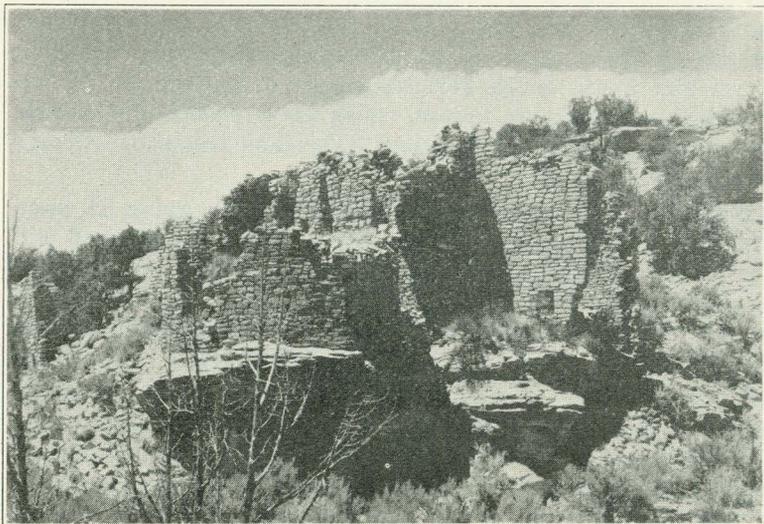
6. S.W. $\frac{1}{4}$ of section 13, township 38 north, range 19 west. Here are located, under the cliffs of Ruin Canyon, some small cliff houses of the regulation type. They may be plainly seen from the "old Bluff Road." In addition to those under the cliff proper, there are also small mounds of stones down in the very bottom of the canyon proper. These may also have been houses.

7. N.W. corner of the S.E. $\frac{1}{4}$ of the S.W. $\frac{1}{4}$ of section 2; and N.E. corner of the S.W. $\frac{1}{4}$ of the S.W. $\frac{1}{4}$ of section 2, township 38 N., range 19 W. These ruins are on the east and west sides, respectively, of Little Cow Canyon, and are on the Pigg estate. They are perched right on the rim of the canyon itself and the rear walls seem to have been higher than those on the rim side. There seems to have been two rows of rooms, divided by a thick center wall, while below, some twenty feet, on a large wide ledge are depressions that are probably kivas. Potsherds picked up in the vicinity are of the Proto-Mesa Verde type.

8. In the S.E. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of the S.W. $\frac{1}{4}$ of section 2, township 38 N., range 19 W. is a large prehistoric dam. It is crescent-shaped and still does effectively the work that its makers intended it to do in impounding surface waters. Its base is formed of stones, irregularly placed, while the superior portion is composed of adobe. It measures six feet from base to top, and two hundred twenty-five feet from one end to the other. It has been known to cover as much as one-half acre with water. At one end of it grows a cedar that may be from three hundred to four hundred years old. The property belongs to the Pigg estate.

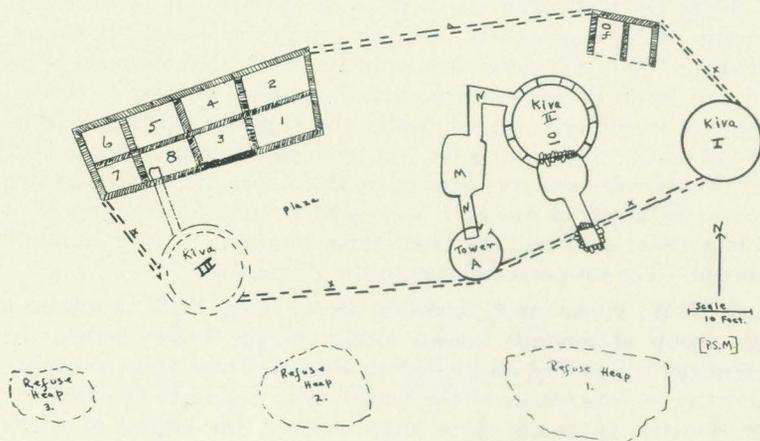
9. N.W. $\frac{1}{4}$ section 2, township 38 N., range 19 W., contains a large group of mounds known locally as the Lowry ruins. At present the site is filed on by Jasper Foster. These ruins resemble, externally at least, some of the larger ruins found to the south in New Mexico. There are three large mounds, the largest of which rises about thirty-five feet above the natural level. These probably represent a two or three-story pueblo, not dissimilar to that at Pueblo Bonito in Chaco Canyon, New Mexico. Excavation would probably reveal the fact that the under-rooms are well preserved, just as was found at Aztec, New Mexico. To the south, about fifty

PLATE II



A

LOOKING NORTH TOWARDS MAIN BUILDING, GROUP II, CUTTHROAT CASTLE, LOCATED IN CUTTHROAT GULCH, COLORADO



B

GROUND PLAN OF UNIT I, HERREN FARM. F FIREPLACE. M UNDERGROUND ROOM. N SUBTERRANEAN PASSAGE. X LOW WALLS

feet away, is a large circular depression, which measures from outside to outside, eighty feet. Superficially it has all the appearances of a large kiva. Small unit type ruins abound everywhere in the immediate vicinity. The refuse heaps are many in number and are very large. I am told that more red, polychrome pottery, which is unusual in southwestern Colorado, has been taken from these refuse heaps than from anywhere else in the region. These ruins are on a mesa, near the main branch of Cow Canyon. This site is probably one of the most interesting in that area, for, on account of its size, it is utterly different from any other nearby. Moreover, if excavated, it might give us some of the steps in the sequence of pueblo architecture, for which we are seeking.

10. In the S.W. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of section 22, township 38 N., range 19 W., underneath a huge boulder which creates a cave which is about fifteen feet above the arroyo of Ruin Canyon, there stand the remnants of a ruin, which has been locally called "Fire Shrine House," because of its resemblance to a similar one at Mesa Verde. It consists of a plaza thirty-nine feet long and twelve feet wide, flanked at either end by two small rooms, one story in height. The front of this cave opens to the southeast, and although no sign of a retaining wall appears at present, excavations might reveal one. Along the rear of the plaza runs a low bench or banquette, two feet high, and eighteen feet long, in the middle of which there stands what appears to be a pilaster, exactly like those of a kiva, which measures two feet square and two feet high. In the base of this banquette are two openings, which resemble the niches found in kivas. The walls and roof of the cave are somewhat smoke stained.

At the west end of the cave is a small room, approximately four feet by three feet. In the walls are the stub-ends of wooden pegs, mortised with adobe; and near the entrance is a small niche. The floor is provided by the natural rock and is several inches higher than that of the plaza.

At the east end of the same cave is a room, that had been divided, apparently, in subsequent time, into two chambers. They are also built on the natural rock which is one and one-half feet above the plaza level. Entrance is effected by means of three well-made stone steps. What these rooms were used for is by no means easy to state; but the whole structure seems to have been planned more for ceremonial than secular use.

This building is completely hidden from above, as well as from below; and unless one were across the arroyo and on the identical level as the ruin itself, one would never dream that it is there. It is on public domain.

11. In the N.W. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of section 2, township 38

N., Range 19 W. are more ruins in the immediate vicinity of "Fire Shrine House." They consist of great mounds of cut and uncut stones. Upon close examination, one can make out the outlines of rooms, which were built upon the very edge of the canyon rim. The rear walls were probably higher than the front ones. Upon ledges below the canyon rim, as well as clear down in the arroyo itself, are many depressions, which probably represent kivas.

12. In the N.E. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of the S.E. $\frac{1}{4}$ of section 10, township 38 N., range 19 W. at the head of a "draw" of Little Cow Canyon, are some ruins upon the rim rock, as well as under the cliffs. We called them "Turkey House Ruins," because of the number of pictographs of turkeys and men wearing what appeared to be turkey masks. The buildings are in such a state of decay, that it is impossible to state anything concerning their shape, use, or size. The land is public domain.

13. On public domain, in the S.W. $\frac{1}{4}$ of the N.W. $\frac{1}{4}$ of section 16, Township 38 N., range 18 W. are ruins known as the "Cottonwood Ruins," deriving their name from a large clump of cottonwood trees. The buildings are down in Cow Canyon proper, about twenty feet above the stream bed. The pueblo measures one hundred seventy-six feet, north and south, and seventy feet east and west, and probably consisted of three or four stories, for many of the heavy floor beams of the third story, are still *in situ*. It was impossible to determine anything concerning the size or shape of any of the rooms. Ordinarily there is water in the arroyo bed, immediately below the ruins. The canyon, at this point, has very steep walls, and is about four hundred feet deep.

14. In the S.W. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of section 30 (as nearly as can be determined), township 37 N., range 19 W. are located the largest ruins found this past season, as well as the most important find, for never before, to my knowledge, has this site been described in scientific or other literature. In fact, it compares favorably with "Hovenweep Castle" in Montezuma County, which has been described in other literature. We called it "Cutthroat Castle," because it is located in Cutthroat Gulch. It is impossible to find it without a guide. Mr. Courtney Dow, who first told me of the site, was hard put to it to find the "Castle" the day we went to see it. Its location is so peculiar that unless one gains a certain vantage point, one cannot see it at all, nor would he dream that there were any ruins within miles. In fact, after gaining this vantage point, one cannot see the ruin itself, but sees, rather, a tall cottonwood tree, which is the identifying landmark. The region is a desolate one; even the birds and omnipresent rabbits shunned the heat and aridity.

Cutthroat Castle may be divided into three groups, namely, group I, or those buildings farthest west; group II, or the middle

buildings; and group III, or the easternmost buildings. These divisions are not chronological, but merely aid in the description of the site.

Group I consists of a round tower, eleven feet in diameter, which forms the northwest corner of a building twenty-five feet square. The tower was probably never more than two stories in height. To the southeast of this group are at least two kivas. One very curious feature about the square structure that abuts the round tower is that on the southwest corner there is a series of stones tenoned into the wall. What these stones might have been used for is a puzzle to me. They could hardly have been used as steps.

The principal buildings of Cutthroat Castle are within group II (plate II, a). The largest building is an "L" shaped affair, with two later additions attached to it. Windows are entirely absent, but the doorways are still in good condition. Over each doorway are both wooden and stone lintels *in situ*. The stone lintels are of unusual size and are well cut. The ceilings were about nine feet high, judging from the floor beams that are still in place. Whether this large building was broken up into smaller rooms is impossible to say, although it is more than likely. The highest standing exterior wall at the present time is twenty-seven feet. Near this large building is a "D" shaped tower. This tower was probably at least two stories high, if not three. The masonry is excellent.

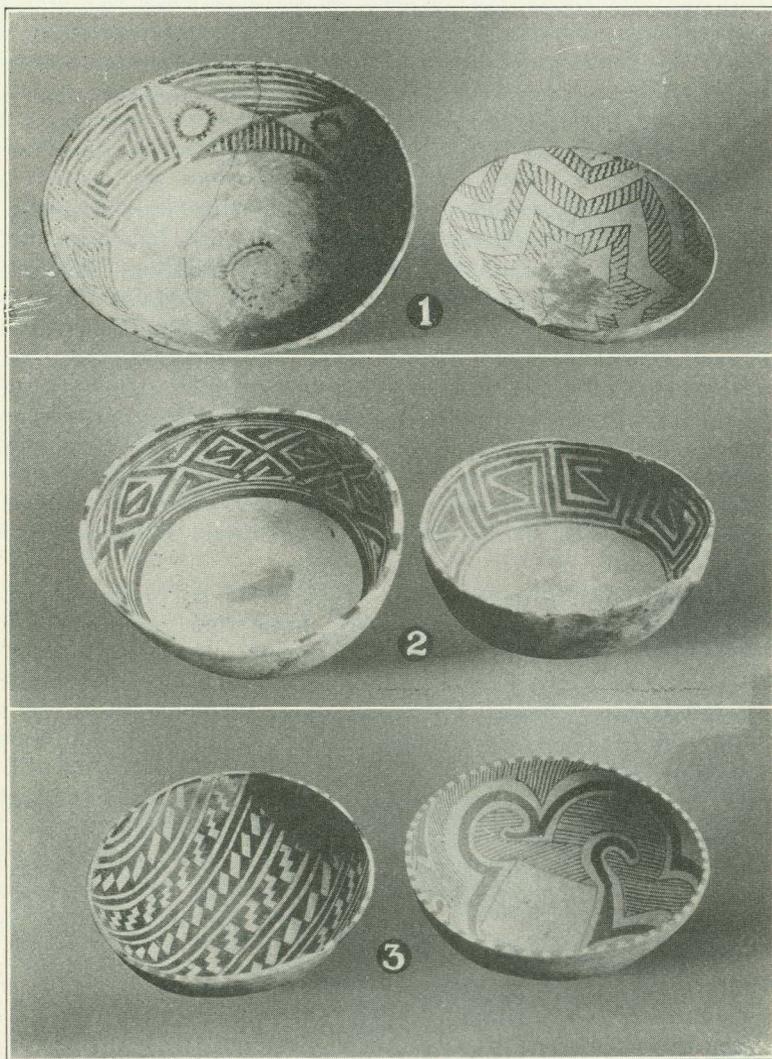
Underneath the ledge, on which rests the main building of group II, is a small room ten feet high, four feet wide and five feet long. One can gain entrance from this lower room to the upper building by using a small crevice in the rock. However, whether this was done in past times is not known. The basement was probably used for storage purposes. In front of the main building are four or five kivas.

Group III is composed of two towers, a round one and a square one. The round tower is twelve feet in diameter. Many floor beams are still resting on specially-built ledges and indicate that there was a space of about nine feet between floors. The doorways are small, although not "T" shaped, and are two feet above the actual floor level.

Thirty feet to the south, is a square tower, very much destroyed by time. Between it and the round tower, mentioned just above, are two smaller ruins, mere heaps of stones. Just to the south of the square tower, is a circular depression that may have been a kiva.

Of course one wonders what all these towers may have been for. I feel quite sure that they were never used as watch towers, for they are in such a position that they would have been useless

PLATE III



FOOD BOWLS FOUND IN UNIT-TYPE SITES, MONTEZUMA COUNTY, COLORADO

as such, situated as they are, down in the canyon bottom. It is possible, however, that they were somehow connected with the kivas. On the basis of this past season's work, I am of the opinion that these towers are connected to the kivas, which in every case are in close proximity, by secret, underground passages. Just what function these subterranean entrances or exits performed is impossible at this time to state, but it is more than likely that the tower and its subterranean passages are modifications or outgrowths from an earlier house-type. I shall explain later in this paper, what I mean by this.

By consulting the accompanying map (plate I) one can readily see that there are many more ruins noted thereon, than are presented herein. These, however, are small ruins which were examined by us.

II

EXCAVATIONS

The excavations done by the State Historical Society in 1928 were confined entirely to ruins in the open and upon the mesas. No work was done in caves nor under cliffs. As was stated above, the region in which the actual excavations were carried on is that portion of southwestern Colorado, north and west of Cortez.

After examining many sites, it was decided to concentrate our efforts on ruins located on the Ed. Herren farm¹ described under No. 3 in part I. These were easily accessible and were not so large as to preclude detailed work.

The site was surveyed before any excavation started. It was found that the ruins fell easily into units—quite distinct one from the other, and that superficially each unit looked alike. By unit, I mean a pueblo or series of connected rooms.

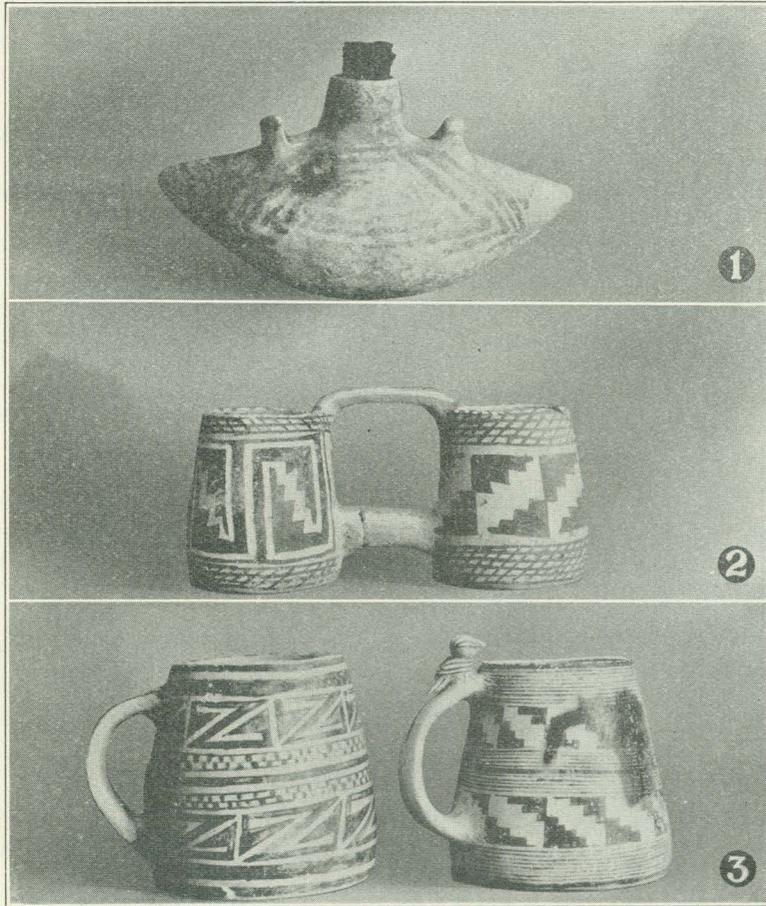
Unit I

Work was commenced on Unit I, because it was fairly small, and because it was thought it might yield much information in a short time. We were not wrong in thinking this, but we soon came on phenomena that we had not anticipated.

Several men started trenching the largest refuse heap belonging to Unit I, while others started digging around and within tower A (plate II, b). Very quickly it became apparent that this structure was round, ten feet in diameter, with walls one foot six inches thick and of poor masonry; but curiously enough, the debris within the walls yielded nothing but fallen stones. As we pro-

¹I wish to acknowledge, with thanks, Mr. Herren's cordial co-operation and aid in excavating the ruins located on his farm.

PLATE IV



1. CANTEEN FROM CHARNEL HOUSE TOWER. 2. DOUBLE MUG FROM BURIAL MOUND, HERREN FARM. 3. LEFT, MUG FROM VENTILATOR SHAFT OF KIVA 2, UNIT I, HERREN FARM. 3. RIGHT, MUG FROM BURIAL MOUND ON PIGG ESTATE

ceeded we discovered that the floor was over one foot below the natural surface of the ground. In the center, four inches above the floor, there was a quantity of ashes, although there was no fireplace to be found. If a layer of ash had been found at this level but spread evenly through the debris, it would be natural to assume that fire had consumed the roof or some other inflammable portion of the building. A quantity of ash, in one isolated spot, not connected with any fireplace, was difficult to explain.

When the floor proper was reached, it was found to be composed of smooth, hard adobe into which on the north side had been sunk a stone-lined pit or entrance to a subterranean passage.

I should say at this point that on the northeast side of the tower was a small doorway having a well-worn door-sill *in situ*. Therefore this subterranean passage which I am about to describe was not the only means of getting into nor out of the tower.

The floor of this underground passage was found to be two feet six inches below the tower floor, thus making it three feet six inches below the natural surface; the width of the passageway was two feet, and the sides were stone-lined with small pieces of lime and sandstone, faced and almost the size of small bricks. Upon digging further we found that it led almost due north, which was puzzling, for immediately north of the tower there was nothing visible.

However, further work brought to light the fact that eight feet from the beginning of this entrance there was a jog which later turned out to be a small, subterranean room, roughly rectangular in shape. Just within this room lay a metate, or stone on which meal was ground, and not much farther away a ladle.

This chamber, ten feet, north and south, by six feet was lined in part with stone slabs of considerable size and had had a timbered roof, which subsequently burned, as was evinced by a very even layer of charcoal and ashes all through the debris, just above the floor level. The floor was four feet below the natural surface and was rather rough and uneven. In the center, lying on two stone slabs was an excellent food bowl, one of the finest found (plate III, 3, left). Directly beside it rested a mano, or grinding stone, of sandstone. There was no fireplace.

In the north wall of this room appeared a doorway, which had apparently been sealed off in later times. This, when traced out, disclosed a passage which followed a northward, and slightly upward, course for four feet and then turned at right angles and entered kiva 2 (plate II, b), just above the banquette between pilasters Nos. four and five. It, however, was not stone-lined. Nevertheless, the task of tracing it was very easy, for the walls and floors had been plastered with wet adobe and then smoothed over.

This group, i. e., tower, subterranean passages, subterranean chamber and unique entrance to kiva, as described above, has not been previously recorded. Dr. Prudden¹, in his work on unit type ruins, does not mention such a phenomenon, although it is possible that it might have been found at the sites he excavated, had he chanced on it. It would be a simple and easy matter to overlook such occurrences. I did at first; but my later work caused me to reflect and to retrace some of my steps with the result that we have this curious arrangement just described above.

Kiva 2 is so closely linked to this tower arrangement, that I shall next deal with it. The only indication that kiva 2 existed was the fact that a saucer-like depression lay just to the east and north of tower A (plate II, b). That it was a kiva, I felt sure, but, of course, excavations were necessary in order that we might be positive. Therefore this ceremonial room was approached *via* the ventilator shaft, for it was that which we first struck. It was in this manner: A trench was laid down, running north and south and through the center of this saucer-like depression. In this way I hoped to strike the walls of the kiva, but I was doomed to disappointment. We did, however, chance on the vertical portion of the ventilator shaft; and, interestingly enough, it was larger than had been anticipated, being three feet by two, large enough for a man to work in. In fact, because of its size, I kept a man cleaning it out, while others continued to trench through the kiva proper. As the digging proceeded downward, the shaft widened out considerably.

At the end of the vertical portion of the ventilator shaft we came upon a very fine specimen (plate IV, 3, left), a mug of the beer-stein type, bearing a typical Mesa Verde black-on-white decoration. With it was a small cooking pot of coiled ware, in which were calcined corn cobs. The discovery of these specimens in that particular location was curious in that they were found in a ventilator shaft, which is unusual.

The horizontal portion of the ventilator shaft of this kiva measured two and one-half feet square, the sides of which were stone-lined. Four feet from the downward portion of the shaft the horizontal part opened into a larger space which was on the same level as the kiva floor², and which had been hewn out of a stratum of gypsum and plastered with adobe. This space is hardly large enough to be dignified by the term room; but it may have been intended as such, for it measured eight feet long by five feet

wide, the roof being at the highest point about three feet. It resembled a cave. No artifacts nor potsherds were found therein.

As we gradually removed the debris from the kiva, it became apparent that the walls above the banquettes did not consist of masonry, but were hewn from the natural dirt and plastered over with adobe. The masonry of which the banquettes were built was of a high order and well plastered with four coats of adobe.

Very curiously, however, the banquette, instead of continuing completely around the kiva, as was the case in all the others, was broken on the southern side, through which the ventilator tunnel generally opens. In its place had been built, of large stones, a wall four feet high. On the kiva side the stones were crudely cut and unfaced (plate V, 2), but on the side towards the ventilator shaft the same stones were smooth and well faced. This wall must have interfered somewhat with the functioning of the ventilator. It is possible that after the wall was thrown up, the kiva, as such, was not used, for in the immediate area of this wall, and overlying the charred remains of logs, which had once made up the roof, was found a large stratum of gypsum, which petered out as the distance increased from the "cave" towards the deflector. In other words after the kiva roof burned and fell in, this room and wall were completed, as shown by the fact that a quantity of gypsum was superimposed on the charred roof timbers.¹ The deflector of this kiva consisted of a single slab of red sandstone, twenty inches high and three feet across. On it was a large quantity of human hair. The pilasters (six in number) were in a very shattered condition, particularly the ones immediately adjacent to the ventilator side. The fireplace was eight inches in front of the deflector, was six inches deep, two feet and six inches across and full of ashes.

No *sipapu* was found, although the floor was cleaned meticulously. On the north wall of the banquette, were two niches, one high up, and the other, large, near the floor. These recesses contained nothing.

This kiva presents several unusual features, which I shall briefly sum up:

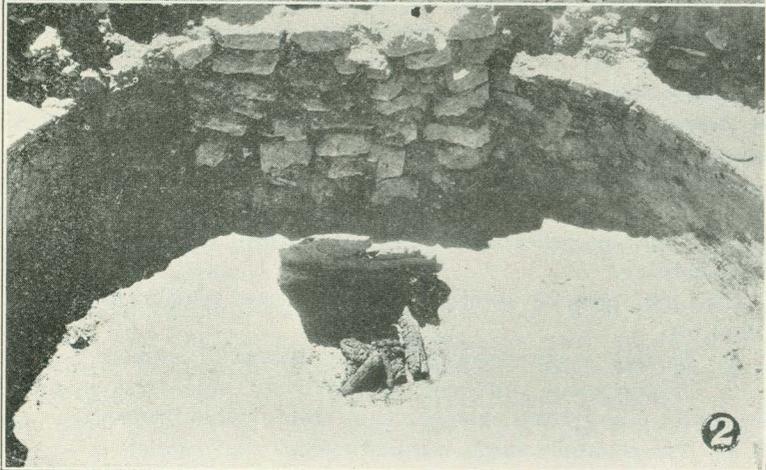
1. Earthen walls above banquette, instead of stone.
2. Subterranean entrance on northwest side from a round tower and underground chamber (not from pueblo proper).
3. Exceptionally large ventilator shaft and tunnel.
4. A grotto or cave-like room at the end of horizontal portion of ventilator shaft.
5. Banquette interrupted by large thick wall, the function of which is unknown.

¹Several portions of these burned timbers were shipped to Dr. A. E. Douglass of the University of Arizona, Tucson, who wrote me that the specimens were juniper, a type of wood which he cannot yet confidently date.

¹T. M. Prudden, "Circular Kivas in San Juan," *American Anthropologist*, N. S. Vol. 16, No. 1, 1914, and "A Study of Prehistoric Small House Ruins in San Juan Watershed," *Memoirs of American Anthropological Association*, Vol. 5, No. 1, 1918.

²This room on the ground plan seems to resemble a similar one in kiva 2, unit III, later described, but should not be confused with it.

PLATE V



1. TOWER A, UNIT III, HERREN FARM, SHOWING ENTRANCE TO SUBTERRANEAN PASSAGE. 2. KIVA 2, UNIT I, HERREN FARM, LOOKING SOUTH. NOTE DEFLECTOR AND FIREPLACE IN FOREGROUND, PORTION OF BANQUETTE AT SIDES, AND CRUDE WALL ON SOUTHERN OR UPPER SIDE

The Pueblo of Unit I

The pueblo, when excavated, proved to be forty feet long and fifteen feet wide externally and consisted of two rows of rooms, four rooms in each row. The walls nearest the kiva were barely discernible, even after excavation, for the greater part of them had been washed into the kiva, the outer wall of which was only ten feet distant. The highest standing portion of the walls was twenty inches, while the greatest thickness was thirteen inches. It is not surprising, however, that the walls stood no higher, when one learns that they were laid up of crude, untrimmed sandstone. Indeed, all the masonry, with the exception of the kivas, was primitive. We cleaned out entirely each room in this pueblo. From the amount of debris I feel sure that these rooms were never more than one story in height.

Herewith is given a list of the rooms and the information each yielded:

Rooms 1 and 2. Floor partially covered with thin limestone slabs; no artifacts, no pottery.

Room 3. Yielded one basalt ax, and two bone fleshers.

Room 4. Floor entirely covered with stone slabs; no artifacts.

Room 5. Contained two metates and five manos. In one corner a stone-lined cist, eight inches deep, thirty inches long, twelve inches wide. Bottom made of dirt, contained nothing.

Rooms 6 and 7. Floors partially covered with stone slabs.

Room 8. Contains manhole to kiva 3 (only excavated in part).

All the rooms bore mute witness to the fact that the pueblo had been fired, either accidentally or intentionally, for in every room were bits of charred roof beams, calcined corn, and adobe burned to the hardness of brick.

To the north and east of kiva 2 were two small isolated rooms, one of which contained a small fireplace. This instance of the use of fire within the pueblo was the only one found all season. This may imply a different use for these two rooms. The masonry was no better than that of the other rooms, and the debris contained not one shred of visible evidence which would help in the solution. Kiva 1 was not excavated.

Refuse Heaps or Burial Mounds of Unit I

The refuse heaps, as has been stated, lay immediately to the south of the three kivas and were three in number. Although presenting the appearance of low mounds, they were easily picked out because of the softness of the ground, the gray color of the soil, the innumerable potsherds and the difference in the vegetation. The

largest measured roughly thirty feet in diameter. We found that the best way of digging these mounds was to trench every square foot of them. In this way nothing was missed and we felt satisfied that nothing had escaped our attention. It should, perhaps, be mentioned here that with the exception of one building, no burials were found within the pueblos or kivas. Almost all the interments as well as the pottery were in the refuse heaps.

We found four different treatments for disposal of the dead:

1. Flexed (both on right and left sides).
2. Extended (on both sides and on back).
3. Slab burial (skeleton laid in prepared pit and the grave covered with stone slabs, which were supported by timbers).
4. Grave completely stone-lined (rare).

I could not detect any chronological differences represented by these four types of burials, nor could I find any evidences of stratification in the refuse heaps. For the most part they were shallow, being not over eighteen inches deep. Not a single case of cremation came to light. Orientation of the dead was apparently not intentional, for they lay in every direction. Pottery was sometimes at the feet, head or on the pelvis.

Refuse Heap No. 1 yielded nothing, except ashes, small potsherds and pieces of charcoal.

Refuse Heap No. 2 contained six burials:

1. Male, flexed on right side, age fifty to seventy years, and three pieces of whole pottery.
2. Female, flexed on left side, age forty to sixty years, and four pieces of pottery nested together.
3. Sex indeterminable, skull missing; nine pieces of pottery.
4. Sex indeterminable, almost all bones missing; four pieces of pottery.
5. An infant skeleton with one piece of pottery.
6. Female, extended, eighteen to twenty-five years, and one piece of pottery.

Refuse Heap No. 3:

1. Male, flexed on left side, age indeterminable; one piece of pottery.

The bones of all the skeletons were in a fragile condition. Rodents and "pot hunters" had done a good bit of damage, although the latter had sometimes missed pottery by not over three or four inches. In many cases the good, i. e., whole, pieces of pottery, had been covered with large broken pieces, apparently with the idea of protecting the unbroken specimens and of keeping the

earth away from the food offerings which the pots contained. Coiled pottery was found less frequently than one would expect. A few broken pieces turned up now and then and only two whole ones, and those very small. Food bowls, mugs of the beer-stein variety, ollas, canteens, and ladles were the types most frequently found. The designs painted in black-on-white on these shapes represent what Kidder calls the Proto-Mesa Verde ware and the true Mesa Verde ware, although the former predominate (plates III, IV and VI).

Summary of Unit I

This study shows that in a ruin of this type there are three fundamental features:

1. The pueblo, the axis running almost due east and west, containing a double row of rooms of one story, the floors being on the same level as the natural surface, and often covered with slabs of limestone.
2. The round tower, subterranean passages and chambers and kivas lying to the south, and all forming, as it were, a psychological unit, and undoubtedly representing some stage in the growth of kivas from living quarters; the kiva possessing six pilasters, recesses, ventilator shaft, fireplace, deflectors and niches.
3. The refuse heap being to the south of the pueblo and kivas, and containing, besides refuse material, burials and mortuary offerings of pottery vessels of various shapes and sizes.

Unit III

Kivas and Towers

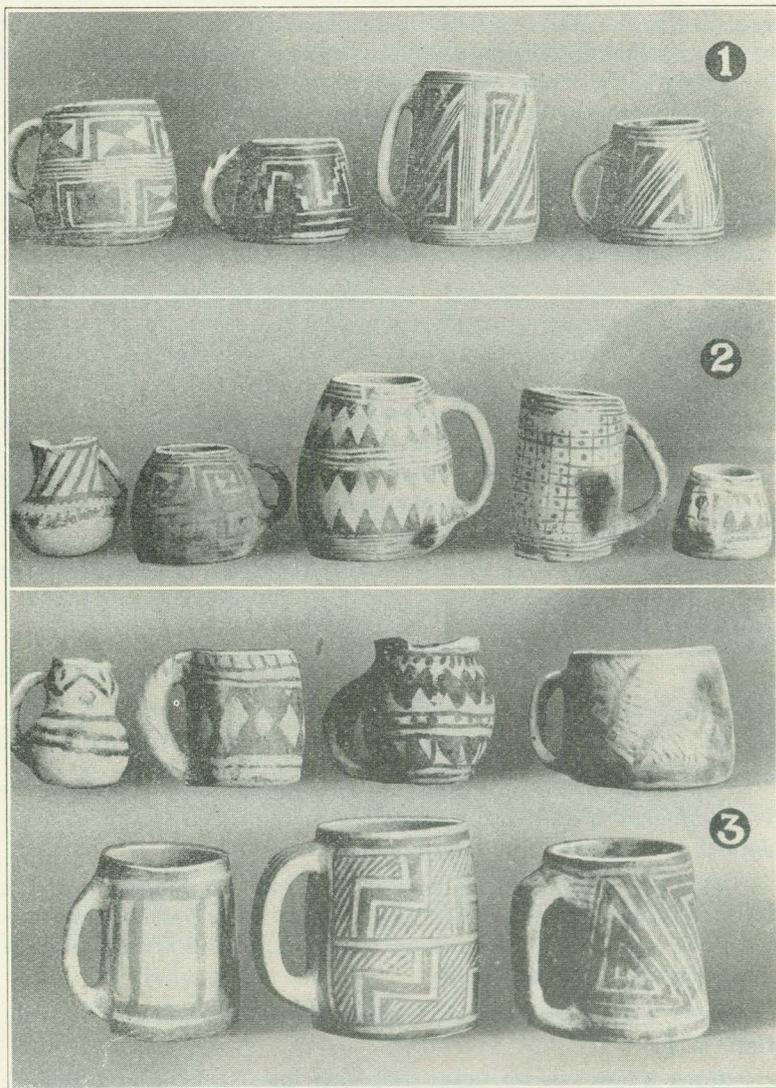
The scene of our activities was now moved some three hundred feet to the south and west to a ruin that appeared somewhat better defined than Unit I, and also somewhat different.

This site presented the same topographical appearance as Unit I, i. e., a heap of stones, which represented the pueblo, four kivas and three burial mounds, and low walls connecting kivas and houses and forming courts or plazas.

Kiva 1, the farthest east, was not excavated (see ground plan, plate VII).

Kiva 2, the largest excavated, was very interesting. Prudden (*op. cit.*) found in all the kivas he excavated a deep southern recess, or altar. Kiva 2 was the only one in which we found this occurrence. However, there was an architectural feature of which I shall speak, which either escaped Prudden's attention or did not obtain in the sites which he worked; and that was an entrance to

PLATE VI



MUGS FROM BURIAL MOUNDS OF UNIT-TYPE HOUSES, MONTEZUMA COUNTY, COLORADO

the kiva *via* a round tower and subterranean passage which opened directly into the deep southern recess (plate VII, tower A and kiva 2). The kiva, the floor of which was ten feet below the surface, measured fourteen feet in diameter. The six pilasters and recesses, the banquette, fireplace and deflector and niches ran strictly true to type.

Tower A (plate VII), from which proceeded the subterranean passage, was the same as the one in Unit I, i. e., twelve feet in diameter, a doorway in the tower wall to the outside; no fire place, artifacts, nor potsherds; and an entrance to a subterranean passage let in the wall about three feet below the ground level (plate V, 1). However, the entrance to the subterranean passage just mentioned, instead of being on the north side of the tower as in the case of Unit I, was on the northeast side, and the subterranean passage itself ran due northeast for about eleven feet before it entered the deep southern recess. In subsequent times, a barrier of faced stone had been thrown across this passage, effectually preventing any ingress or egress. The passage measured 18 inches wide and 27 inches high, the sides being faced with stone (plate VIII, 1). Crawling through this passage from the tower in order to gain entrance to the kiva, one was obliged to step down fourteen inches to the floor level of the southern recess. This deep southern recess, or altar, for want of a better name, measured six feet (north and south) by five feet, and was elevated three feet above the kiva floor. The ventilator tunnel was built directly under and through it.

It was interesting to note that the upper courses of the pilasters, on which the weight of the heaviest timbers rested, had all fallen, as a result of poor masonry, and the drag created when the roof fell in. Only the first course of masonry of pilaster 3 remained.

This kiva, as distinguished from the other, was walled above the banquette with faced stones.¹ Between pilasters 5 and 6 there had existed an older doorway, sealed up in later times. Lack of time prevented us from tracing it further. The masonry as a whole, was finer than in any other building that we excavated.

The fireplace was in the exact center of the kiva and contained a foot of ashes. The deflector had consisted of two slabs of stone, but these had fallen and disintegrated. No *sipapu* was found. There were two niches in the north side of the banquette as well as two in the altar, one on the east and one on the west side. It was evident that this kiva had been permitted slowly to decay, for there were, next to the floor, many extremely fragile pieces of, what

¹This was true except between pilasters 3 and 4, where, very cleverly, the builders had utilized a stratum of gypsum, that happened to exist at that level.

had probably been, roof timbers. At any rate no charcoal nor charred bits of wood came to light.¹

Kiva 3 was similar to the kind of kivas which Prudden excavated (*op. cit.*), i. e., the diameter twelve feet six inches, six pilasters (most of which were in a poor state of preservation), a ventilator shaft, although deep southern recess was absent, a deflector, a fireplace, and a passageway connecting the pueblo and kiva, and walled up in later times. The floor was in good condition, and showed no evidences of ladder marks. All the plaster on the banquette was completely weathered away. No artifacts were found except a few turkey bone awls. The debris within the kiva, however, was literally filled with turkey bones, which had, in all probability been washed from the houses nearby. Above the banquette the walls were earthen.

Kiva 4 was only partly excavated; merely enough to satisfy us that the depression was a kiva, and to trace out a subterranean passage from tower B (plate VII).

Pueblo of Unit III

The pueblo itself was very interesting and presented a few variations. East and west it measured ninety-five feet and consisted of a single row of various sized rooms, with two right-angled wings reaching to the south. These southward extensions and low walls, shown in the diagram (plate VII), helped to make courts or plazas, but were probably built later, as evinced by the joining of the masonry. One item, which I believe has never before been noticed in unit types, was a round tower (plate VII, tower B), which was incorporated in the pueblo itself. It was very similar to tower A, of this same unit, except that the doorway to the outside was in the southeast side and the passage from the tower ran southeast also.

There was a total of seventeen rooms, one story in height, the smallest of which was one and one-half feet wide by six feet long and the largest, ten feet long by six feet wide. Generally speaking, nothing of importance in the way of artifacts came from the debris. It is impossible to state whether room 3 was used as a kitchen, a work room, sleeping quarters, or used for all of these purposes. In other words the rooms, after excavation, were nondescript, with the possible exceptions of 7 and 9. I give herewith a list of the rooms and a description thereof:

Room 1. Slab floor. Walls eighteen inches high.

¹Whenever excavations were carried on in chambers, the roofs of which had burned, we found digging easy; but, as in the case of Kiva 2, Unit III, where the roof had not burned, we found the debris and dirt packed so hard that even the strongest workmen panted and had to rest after only two or three minutes of picking.

Room 2. Contains manhole entrance to subterranean passage to kiva 3.

Rooms 3 to 6. Nondescript; masonry very poor.

Room 6. Floor deeper than other rooms; walls three feet high and floor two feet below surface.

Room 7. Very small, storage room.

Room 8. Very small, with bin in northeast corner.

Room 9. Bin in center of room and metate nearby.

Rooms 10 to 13. Nondescript; walls crude and low.

Tower B. Ten feet six inches in diameter, outer doorway to southeast, and manhole to kiva.

Rooms 13 to 15. Nondescript.

Room 15. Slab floor.

Room 16. Slab floor.

Room 17. Nondescript.

Not a scrap of evidence was obtained from the pueblo that would aid us in determining where the doorways were, nor their size, nor shape, nor whether there were any doorways. Entrance was probably through the roof. The roofs were probably composed of timber and fine branches and then plastered over with adobe, for we found a great many chunks of adobe, bearing the marks of branches, timbers, and even finger prints! Some of these specimens with finger prints are now in the Colorado State Museum.

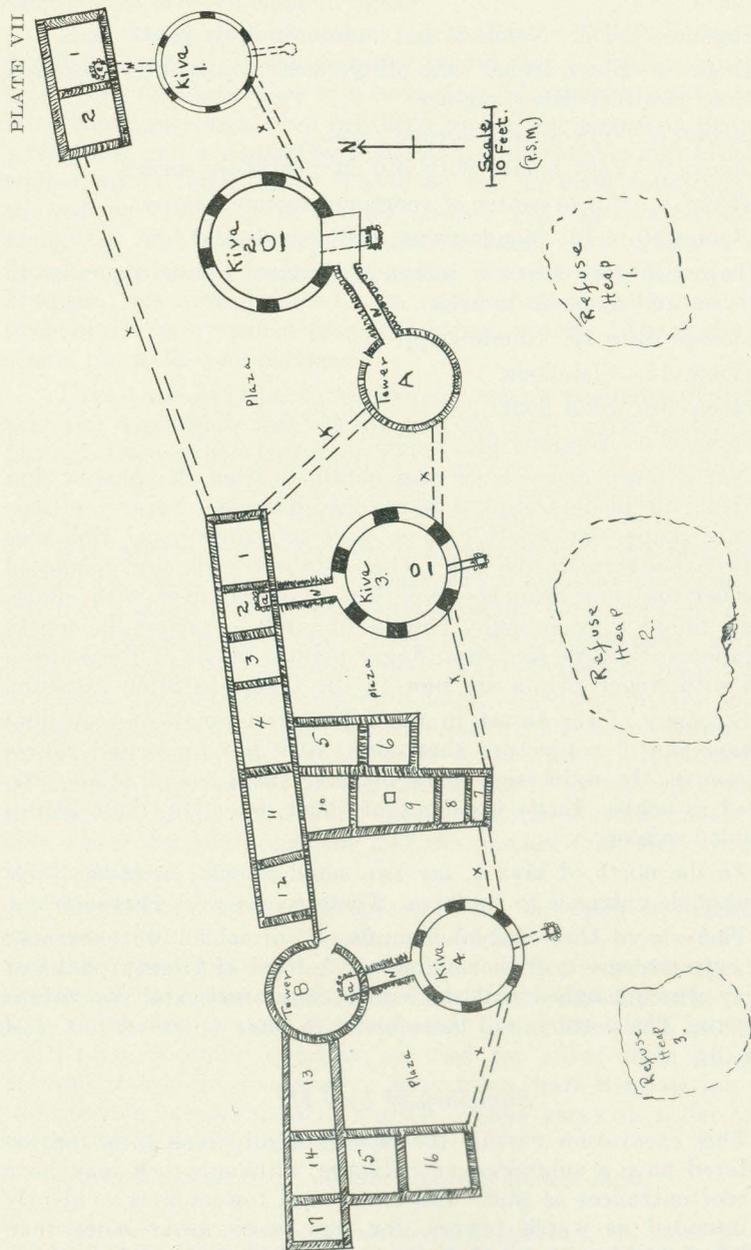
So many of the stones in the debris were small and unequal in shape that I conjecture that, above the first or second course of masonry, the walls were made of these small, rough stones, imbedded in adobe. Little wonder that, after desertion, these houses crumbled so soon.

To the north of kiva 1, lay two small rooms. In room 1 was the manhole entrance to the kiva. These rooms were characterless.

There were three burial mounds, all of which we excavated with extreme care and thoroughness. A total of twenty pieces of pottery was unearthed and six female, eight male and two infant skeletons. The pottery will be referred to later (plates VI, 1, and IX, 1, 3).

Summary of Unit III

This excavation reveals the fact that all kivas thus far encountered have a subterranean entrance, although they may have had roof entrances as well. The two round towers were evidently not intended as watch towers, for they were never more than seven feet high, and would have commanded a view of nothing; nor were they necessarily secular in function. Kiva 2 has all that



GROUND PLAN OF UNIT III, HERREN FARM, MONTEZUMA COUNTY, COLORADO. A MANHOLE ENTRANCE TO SUBTERRANEAN PASSAGE. UNDERGROUND PASSAGE. X LOW WALLS

Prudden describes (*op. cit.*) plus an underground entrance coming into it from the southwest. The pueblo probably grew by accretions, as evinced by the manner in which the two wings were joined to the main building.

Other Round Towers

My interest in round towers was stimulated to such an extent that we excavated three more. In Unit II there was a round tower, situated to the southeast of the pueblo and externally like the others; but we were due for another surprise. Excavations herein revealed that this tower was in some ways similar to others, being ten feet in diameter and probably never rising more than six to nine feet in height; but in this particular instance the doorway to the underground passage was on the east side and the passage itself ran almost due east, ending in a kiva. But underneath the tower was an earlier square structure, the walls of which originated about two feet below the base of the tower walls.

The original function of this square underground chamber is hard to guess, but we did find it filled almost entirely with ashes, and other refuse material. In one corner there were a few human bones, much disturbed by rodents, and with them a mug and a food bowl.

That the builders of the later round tower must have known of the existence of the earlier structure, is almost positive, for in constructing their underground passage to the kiva to the east, they had encountered and had torn out the walls of the earlier building. No evidence came to light which tended to make one think there was much difference chronologically between the two structures. The masonry was of the same sort, and the pottery, too, was Proto-Mesa Verde, very similar to other specimens that we found. I hope in the season to come, to be able to examine these two structures more closely.

Another round tower in Unit II incorporated in the pueblo was hurriedly trenched and proved to be the counterpart of tower B, of Unit III, described above.

Some four hundred yards to the north and east of Unit I, another tower was cleaned out. Here also we had an underground passage leading northward to a kiva.

Charnel House Tower

The scene of our work was then transferred several miles to the north and west of the sites just described; to be exact, the S.W. $\frac{1}{4}$ of the S.E. $\frac{1}{4}$ of the N.E. $\frac{1}{4}$ of section 36, township 39 N., range 19 W., Montezuma County, Colorado. In this immediate

area lies a large group of ruins, probably of the multiple unit type, although appearing somewhat different superficially. A ground plan would show these ruins to be in a crescent shape (plate I), with a large round tower at the extreme southeast edge of the pueblo. This tower, lying in the identical position as all the others herein noted, was of unusual size and seemed to merit a thorough excavation. Work was started and the results were quite satisfactory.

The tower measured twenty-eight feet in diameter, with yet-standing walls, twelve feet in height. Across the east and west diameter, a dividing wall, two feet thick, had been built, in the middle of which was set a fine T-shaped doorway (plate VIII, 2).

The north half of this immense structure contained two doorways to the outside, which were placed opposite one another, one on the east side and one on the west.

There was also a subterranean passage, entered from the west side of the north half of the tower which ran out under the wall and towards a kiva. Time did not permit us to excavate it completely. The debris from the north half yielded nothing of great moment. For the most part it consisted of great masses of charcoal, and some potsherds of the Proto-Mesa Verde type.

The south half was the more interesting. There were no doorways to the outside, nor any underground passages having their beginning therein. There was a deposit of stones, dirt and charcoal four feet thick. Underneath that stratum lay the finds. I shall describe them as we discovered them. In the northeast corner we came upon a veritable mass of bones, which covered an area greater than six square feet. These bones represented individuals who had probably been killed or who had all died at the same time from other causes. However that may be, the bones were literally flung into this corner, one skeleton lying across another, in great confusion. One skull, to our great surprise, was covered with hair, which to all appearances, was thickly matted with blood. No other bones could be found for this skull nor for two others. There were in all eleven adults, three of which were females, and three infants. Mixed with these bones was much charcoal, although the bones themselves were not at all calcined. Due to a high wind and excessive dust, a good photograph was not obtainable.

Directly under this mass burial (which suggested the name Charnel House) were three more burials. These last, however, were undoubtedly placed before the tragedy, for they were carefully flexed. With them were a seed bowl, in which were some infant teeth, three mugs, and a canteen or submarine shaped vessel (plate IV, 1) filled with pumpkin seeds and corked with a burned corn cob stopper. It is quite remarkable that these pumpkin

seeds (var. *cucurbita moschata*¹) were so well preserved. They would not germinate, however, if planted!

Three feet below the burials just described, was an infant interment, which was of exceeding interest. The child had been about seven to ten years of age. With it were fragments of matting (probably made of yucca), a large food bowl, part of the cradle board, and turkey egg shells. At the side of the infant was a large, oval, well polished stone, resembling a kiva-niche stone and under it were more fragments of matting. The matting, egg shells, and the cradle board we were able to preserve and are now in the Colorado State Museum.

Under the T-shaped doorway, were two infant skulls, but no other bones nor artifacts.

In all there were twenty-three burials, in this one room. What a tale these walls might tell, could they but talk!

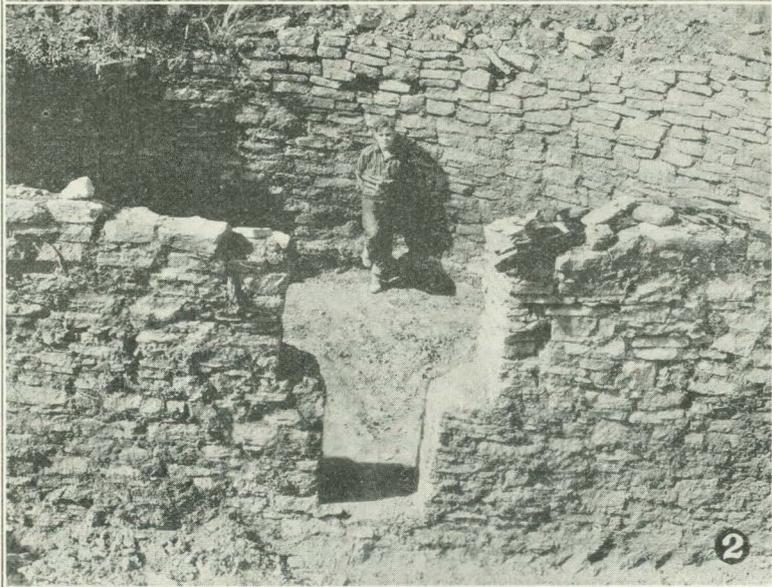
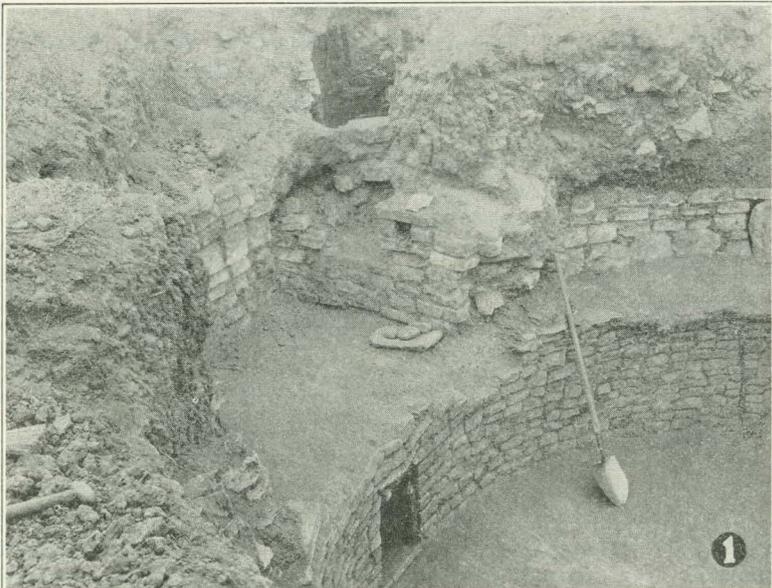
After reaching the floor level, and cleaning off the walls, we found in the southeast and southwest walls of the tower, "loop" holes, running completely through the three-foot wall. It was at first suggested that these might have been used for defense or ventilation. It also occurred to me that they may have served astronomical ends; i. e., when the sun shone through a certain hole in a certain way, it might indicate to the observers a solstice, equinox, a planting day, or some important calendrical event. This is, however, nothing more or less than a guess.

It is a little difficult to reconstruct the history of Charnel House Tower, for the evidence obtained is scanty. Briefly, however, it would seem that the tower was originally built possibly for astronomical purposes, or as a special ceremonial entrance to a kiva or for defensive purposes (although the latter is very doubtful), or for all these reasons and others. That cannot be divined. After it was built, it became a common practice to bury within its walls, the only instance of such a custom found the whole season. In later times, there may have been a massacre, at which time the fourteen people, found as a mass burial, were flung into the tower. Later the tower was fired, and with it possibly the whole village.

Pottery and Artifacts

Aside from all the other information which we obtained, we were fortunate in finding a great many specimens; fifty-six whole, perfect pieces of pottery were excavated and eight others in pieces, all of which we recovered.

¹Identified by Dr. A. T. Erwin, chief of Vegetable Crops Section, Iowa State College of Agriculture, Ames, Iowa, who chanced to see them.



1. VIEW LOOKING SOUTHWEST IN KIVA 2, UNIT III, HERREN FARM. IN FOREGROUND ARE VENTILATOR SHAFT AND DEEP SOUTHERN RECESS, WHILE IN UPPER CENTER IS THE SUBTERRANEAN PASSAGE FROM TOWER A

2. LOOKING NORTH IN CHARNEL HOUSE TOWER, SHOWING "T" SHAPED DOORWAY IN CENTER WALL

For the most part the designs (plate X) on this black-on-white pottery are, quite clearly, what Dr. Kidder¹ calls Proto-Mesa Verde. They have the feeling and appearance of Mesa Verde designs, but yet are not true to type. On the other hand there are four pieces which are true Mesa Verde ware.

Many of the designs (plates III, IV, VI, IX and X) consist of "stairways" in all possible shapes and sizes; of hour-glass motifs, applied horizontally and vertically; of straight lines; of crude, fine, wavy lines and of rows of dots placed in squares, very much like checkers on a checker board. The paste for the most part is good and is fine tempered. With a few exceptions the vessels are slipped both on the outside and inside. In many cases, the decoration has been applied with great care and skill while others show haste and carelessness. As was said above, corrugated ware was absent to a surprising degree, and only a few red potsherds were picked up.

Almost all shapes were encountered. There are food bowls, some with steep sides and others without, bowl and handle ladles, mugs, ollas with down-raking handles, and special shapes. Few food bowls are decorated on the outside.

One of the most interesting pieces which would fall under "special shapes" is a double mug (plate IV, 2). It is the third of the kind known, I believe, one having been found at Mesa Verde, and one on the La Plata by Morris. It consists of two mugs, decorated in black-on-white, but with different designs on each half, connected at the top by a solid handle and near the bottom, by a hollow tube. The tube is so constructed that a liquid poured in one cup would flow over to the other cup and thus a constant level would be maintained. This double mug was found buried between the heads of a female and a male. With it was also a ladle of a crude type (plate IX, 1, right).

A canteen mentioned above, was discovered in Charnel House Tower. It bears a decoration partly in black and partly in red, the result of over-firing. A curious ladle was also found in Charnel House Tower. It is a heavy piece, gray in appearance, the handle of which is open on the upper side and is divided into three bins or compartments (plate IX, 2, center).

One of the food bowls deserves mention, because it has, on the exterior surface, two representations of the design known as hunchbacked flute player. This is one of the few examples of exterior decorations on bowls.

One mug, decorated with a true Mesa Verde design, bears on its handle a perfectly modeled bird in miniature form (plate IV, 3, right). Another has, across the center, on the inside, a hollow tube,

¹A. V. Kidder, *Southwestern Archaeology* (Yale Press, 1924), P. 65.

filled with clay pellets, which rattle when the mug is drunk from or put down.

A number of smaller specimens were found, such as eight axes, six arrow heads, bone beads, bone awls, bone fleshers, and two abalone shell pendants.

III

SUMMARY AND CONCLUSION

Although Montezuma County has been explored many times, still Cutthroat Castle had been missed and probably would yet be unknown were it not for the zeal and alertness of Mr. Courtney Dow, of Ackmen, Colorado, who brought this important ruin and many others to my attention. It is my opinion that large structures like this one represent an outgrowth of the multiple unit type dwelling and that excavations would show that their towers, situated near the great houses and the kivas, would in all probability have underground passages connecting them with the kivas.

Furthermore, our work¹ shows that, while the kivas Prudden excavated had deep southern recesses, only one of the four which we excavated possessed this feature. This study also shows for the first time that wherever one encounters a tower in a unit type site, he may be almost certain to find that the tower will be connected to a kiva by a stone-lined underground passage (a fact which either escaped Prudden's careful work, or did not exist in the sites which he worked), and that every kiva thus far studied has an underground entrance of some nature, although they may have had hatch-ways in the roof as well. I cannot emphasize strongly enough the fact that more towers and kivas must be excavated before we know the whole story; but certainly the almost mathematical precision with which these towers occur, their identical location, and interior construction, indicates that here we may have a real clue in throwing light on the function of round towers.

The number of rooms of a pueblo in proportion to the number of kivas within a given unit is an interesting question. A great deal more excavating must be done before we can be sure that there is a numerical relationship. Excavations show that we had seventeen rooms to four kivas in one instance, ten rooms to three kivas in another and four rooms to one kiva in still another. That is roughly, four dwelling rooms to one kiva or ceremonial structure. Prudden's (*op. cit.*) study brought to light that the sites which he worked had, in two instances, six rooms to one kiva, nine rooms to two kivas and eight rooms to one kiva; which, roughly speaking,

¹We excavated 30 rooms, 4 kivas, 7 towers, 1 large tower, and over 12 refuse heaps.

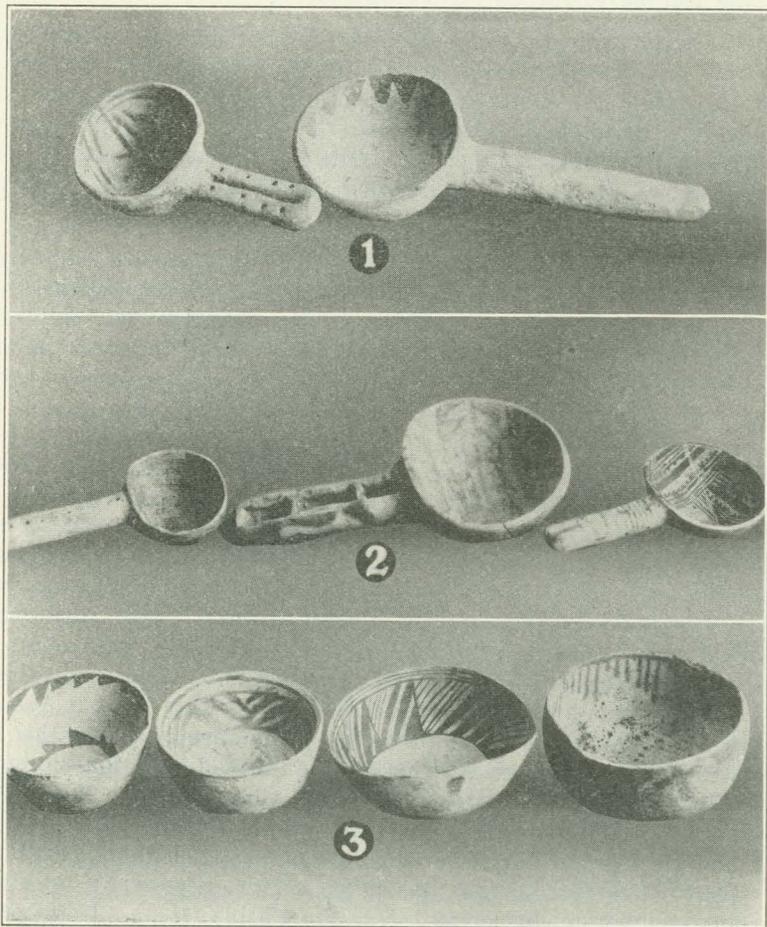
gives one kiva to every five or six rooms. This is a slightly higher number of rooms per kiva than our work revealed. Whether this indicates a clan for each kiva is impossible to state; but the regularity of kivas to a given number of secular rooms must probably indicate some social unit or at least some group or religious feeling leading to the use of separate kivas.

Without doubt, as Prudden and Kidder suggest, we have in the unit type the beginning of true pueblo architecture, for here we find a constant relationship in the position of the pueblo to the kiva, courtyards or plazas definitely laid out, kivas with six pilasters and recesses, fire-places, deflectors, ventilator shafts, and niches, all of which we see manifested in other San Juan kivas of subsequent periods.

We may, without too much liberty, picture the builders of these unit types as sedentary people, who were primarily interested in agriculture, pottery making, ceremonies, hunting and architecture; for no people, not so inclined, would take the pains to build permanent quarters. Their skill as masons was not always of a high order, although upon occasions, as in the case of kiva construction, it was exerted sufficiently to produce well planned and executed structures. Their houses, probably because they were of a later development than the kivas, and the construction of surface structures not yet thoroughly understood, were poorly built. In the pottery designs we can trace motifs that are reminiscent of older days as well as those which foreshadowed what were to be newer fashions and ideas in pottery making. They undoubtedly had some well-fixed ideas of religion and of life after death, for we never found a village without a kiva nor rarely did we find a burial without mortuary offerings. Houses were built in the open with little if any idea of protection from enemies. That this trust was rudely and tragically shattered is testified to by finding burned houses, kivas, and the mass burial of Charnel House Tower. Nor am I unwilling to guess that they traded with people, both near and far, for the artifacts and abalone shell pendants, made from material foreign to that immediate region, necessarily presuppose intercourse and barter as far as the Pacific Ocean. These people, I believe, laid the foundations and made possible the culture that finally ramified so that Mesa Verde, Aztec and perhaps Pueblo Bonito could develop.

This complex of round tower, underground passage and kiva has never before, to my knowledge, been noticed nor reported in scientific literature. There are, of course, Cedar Tree Tower and Far View Tower at Mesa Verde which possess some superficial similarities.

PLATE IX



LADLES AND BOWLS FOUND IN UNIT-TYPE SITES, MONTEZUMA COUNTY, COLORADO

Cedar Tree Tower at Mesa Verde is a group of buildings, located on the rim of a canyon, commands a view to the south, and consists of a round watch tower, kiva and underground room all connected by subterranean passages. There is no evidence of any door or window in the tower, although the walls are high enough, even on the south side, where they are lowest, to show the remains of such a doorway, had there been one. In all the towers we excavated there were always doorways. No *sipapu* nor fireplace, such as existed in Cedar Tree Tower group, was observed within the towers nor underground room that we studied. Neither were there dwelling rooms in the vicinity of the tower at Mesa Verde, as is the case in our unit houses. The Cedar Tree Tower itself, which is more elliptical than round, lies to the north of the kiva, which is the antithesis to what we found. In other words, this group is different in feeling, use, isolation, ground plan and architecture from what we found.

Far View Tower at Mesa Verde is the name given to a tower surrounded on three sides by small, rectangular rooms and to three kivas, which lie immediately to the south of the tower. The tower, ten feet in diameter, has a doorway or window on the south side two feet by two feet ten inches, but has no subterranean passage of any kind. The two kivas, nearest the tower, are connected by an underground passage, eighteen inches long. There is no entrance to the kivas from the tower nor from the pueblo. It will readily be seen that there is no similarity between the pueblos we excavated and Far View Tower group.

Mr. Earl Morris suggested to me that it was possible that the tower-underground-passage complex which we found is probably a local specialization, for he has never encountered it in the La Plata region nor anywhere else. Only more exploration and digging will answer this question; although at the present time I know that the area in which it exists embraces more than thirty square miles, and possibly runs clear over into Utah.

The function of the passage was in all probability ceremonial. It may have been used for some kind of magical appearance or disappearance of priests or shamans. We are concerned, however, more with origin and development, than with function. Mr. Morris feels that the tower represents the culmination of a movement from below to above ground. It might also be suggested at this point, that all the underground passages encountered, whether originating in the houses or towers, might be vestiges of earlier times, when a subterranean passage was the only entrance to semi-subterranean houses. It is quite generally felt that a custom, once established, is often tenaciously clung to, long after it has outlived its usefulness. Therefore, it may be possible that these underground passages were

