BURIAL OF AN EARLY AMERICAN MAGICIAN

JOHN C. McGREGOR

Archaeologist and Curator of Dendro-Chronology, Museum of Northern Arizona

INTRODUCTION

During the excavation of the Ridge Ruin, a small masonry house of Pueblo III age, located about 20 miles east of Flagstaff, Arizona, a most remarkable and unusual burial was found. The burial offerings, accompanying the remains of a man, numbered over 600 articles, many of which were of such fine workmanship and unique execution that it is our belief that this is the richest burial ever reported in the Southwest. While the beauty of some of the objects suffered from their long inhumation, enough of their original character has been retained so that reconstruction reveals how really remarkable the whole collection was. For such a multitude of beautiful objects to be buried with a southwestern Indian is most extraordinary in itself, and makes us wonder where they came from and why they were buried in this way.

Shortly after the burial was excavated and the objects were cleaned and repaired, Miss Eleanor Bareiss, of Philadelphia, came to the Museum as a volunteer assistant. She undertook to make reconstruction drawings of the burial offerings, under the author’s direction, and achieved the splendid results which illustrate this report. Our sincere thanks and deep appreciation are due Miss Bareiss for these fine drawings.

THE SITE

The Ridge Ruin 1 is a masonry pueblo of some 20 or 25 rooms which crowns a small eminence on the edge of a large cinder-covered valley. Many of the rooms were of two stories, and many of the walls were exceptionally thick in order to support the upper story. In some cases the walls had been later thickened by additions to one side, and in every case the earlier masonry was a very fine sandstone block type, while later additions were made mostly, if not entirely, of basalt boulders.

The room in which the burial was found lay just to the north of the main mass of the pueblo proper. It was at least half below ground, with the walls constructed of basalt boulders, except for the ventilator which was constructed of and lined with sandstone slabs (fig. 1). There is still some uncertainty as to whether this room was ceremonial (a kiva) or a dwelling room of earlier date than the pueblo.

The body of the man was placed in a pit some three feet deep, which had been dug in the middle of the floor (figs. 1, 2, 3) (McGregor, 1941: 144, and fig. 51). All of the offerings were placed with the body in the pit, which was roofed with poles at about the level of the floor and covered with earth. It is an interesting fact that there is no evidence of occupation of the room after the burial was made in it, but rather that it was quickly filled with refuse from the pueblo above it. From all of this, and by a careful examination of the ceramic complex shown by the 25 pieces of pottery represented, it is possible to suggest a date for the time of the burial as about the first quarter of the twelfth century.

PROBLEMS

The finding of so much material buried with one man in such a small and relatively insignificant site immediately raised several problems, answers to which will be attempted after the artifacts have been described. The only other burial which may be considered in any way equal to this one in the wealth of material found, may be assigned to a very closely related culture and comes from a cave in the Verde Valley. It unfortunately has not as yet been reported. 2 Had the burial at

1 Excavation of this site was undertaken with the cooperation of the U. S. Works Projects Administration. We received much help from both state and local WPA officials: Mr. W. J. Jamieson, Mrs. Agnes Hunt Parke, Mr. Lloyd Adams, and Mr. Roy Lassiter. Special credit is due to Mr. Milton A. Wetherill, who acted as foreman of the excavation and later assisted in working up the results. We are indebted to our special WPA laboratory assistants, Mrs. Virginia Perry and Mr. Grover C. Sullivan, for the pottery restoration and other technical work. See McGregor (1941: 148, fig. 52A. Site N. A. 1785).

2 This burial was found in a dry cave, and, though it contained many fine textiles and other highly perishable materials, it was relatively poor as compared with the
objects found with it would have been correspondingly larger.

So much fine material found with one man led to the immediate question of just what sort of man this individual must have been in life to have been deemed worthy of these rich offerings. It is now quite contradictory to general Pueblo concepts to encourage the acquisition of personal wealth. Certainly many of the things found with the burial were ceremonial, and, of course, a great deal of interest was expressed in the possibility of identifying the ceremony to which they belonged, and thus of identifying the ceremonial affiliations of the man. Associated with these problems was that of finding so many extraordinarily fine things in such a small site, when much more imposing sites of the same general culture in the same area failed to produce such objects or such an elaborate burial. This led to the question of whether or not they were made locally or traded to the Ridge Ruin from other sections. Even a preliminary examination of the objects suggested that they were made by unusual or new techniques, and if they were new, what were they? Another obvious question was what the man looked like in life and how he had been dressed at the time of burial.

The Artifacts

Although no highly perishable objects, such as cloth fabrics, were found with this open-site burial, a total of 613 catalogue numbers were assigned to as many separate objects. This considerable collection is of value not only because of the large number of objects, but more especially because they were obviously all in use at one time, at one place, and by one people. However, the fact that they were all found at one time and in one place does not prove beyond question that they were actual components of the culture of the people who placed them there, for they certainly might have been derived from far away through trade or by some other means.

Pottery

Twenty-five whole or completely restorable pottery vessels were found with this burial. The styles of design and vessel shapes are shown in figure 4. Of these only two types, Sunset Red, represented by two plain jars, and the Turkey Hill Red bowl, are known to have been made by people of this culture. The other types were derived from geographically close cultures (Colton and
FIG. 3.
(For description, see opposite page.)
Hargrave, 1937; Colton, 1941). The ceramic complex represented indicates that both late Pueblo II and early Pueblo III pottery types were in use at this time, suggesting a date of the first quarter of the twelfth century.

A list of pottery types is as follows:

Little Colorado White Ware
Holbrook Black-on-white—two bowls
Walnut Black-on-white—nine bowls

Tusayan White Ware
   Kayenta Series
      Black Mesa (Deadmans) Black-on-white—one bowl
      Dogoszhi Black-on-white—one jar
   Wupatki Series
      Flagstaff Black-on-white—six, three bowls and three seed-jars

* Black Mesa (Deadmans) Black-on-white is a Pueblo II type, and Flagstaff Black-on-white is a Pueblo III type.

For further characterization of this pottery, see table 1.

_Baskets_

One of the most interesting collections of basketry ever to come from a single Southwestern burial is the group of eight fragmentary baskets found here. For convenience in discussion, they may be divided into three broad classes: (1) basketry not in any way ornamented by additions to the surface, (2) basketry which was coated on the

---

_Baskets_

One of the most interesting collections of basketry ever to come from a single Southwestern burial is the group of eight fragmentary baskets found here. For convenience in discussion, they may be divided into three broad classes: (1) basketry not in any way ornamented by additions to the surface, (2) basketry which was coated on the
TABLE 1
POTTERY COMPARED BY SIZES AND DESIGNS.* For illustration see figure 4.

<table>
<thead>
<tr>
<th>Type</th>
<th>No.</th>
<th>Outside diameter in cm.</th>
<th>Height in cm.</th>
<th>Inside diameter of neck in cm.</th>
<th>Wall thickness in cm.</th>
<th>Design layout</th>
<th>Design elements</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holbrook</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black-on-white</td>
<td>74</td>
<td>15.1</td>
<td>8.7</td>
<td>0.5</td>
<td>Band—I</td>
<td>Triangle—7</td>
<td>Block—3, Corner—3</td>
<td>Bowl</td>
</tr>
<tr>
<td></td>
<td>81</td>
<td>24.0</td>
<td>13.5</td>
<td>0.5</td>
<td>Rectangular Quadrant—VIII</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walnut</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black-on-white</td>
<td>64</td>
<td>17.7</td>
<td>9.9</td>
<td>0.5</td>
<td>Band—I</td>
<td>Meander—6</td>
<td></td>
<td>Bowl</td>
</tr>
<tr>
<td></td>
<td>69</td>
<td>19.8</td>
<td>12.0</td>
<td>0.5</td>
<td>Band—I</td>
<td>Triangle—12, Block—6</td>
<td>Bowl</td>
<td></td>
</tr>
<tr>
<td></td>
<td>73</td>
<td>26.4</td>
<td>14.8</td>
<td>0.58</td>
<td>Quadrant—III</td>
<td>Quadrant—5, Corner—2</td>
<td>Bowl</td>
<td></td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>18.7</td>
<td>8.3</td>
<td>0.48</td>
<td>Band—I</td>
<td>Meander—1, Triangle—1, Triangle—7</td>
<td>Bowl</td>
<td></td>
</tr>
<tr>
<td></td>
<td>76</td>
<td>25.0</td>
<td>13.0</td>
<td>0.55</td>
<td>Band—I</td>
<td>Block—4</td>
<td></td>
<td>Bowl</td>
</tr>
<tr>
<td></td>
<td>546</td>
<td>12.8</td>
<td>12.7</td>
<td>0.55</td>
<td>Band—I</td>
<td>Triangle—13</td>
<td></td>
<td>Bowl</td>
</tr>
<tr>
<td></td>
<td>548</td>
<td>20.7</td>
<td>12.3</td>
<td>0.4</td>
<td>Rectangular Quadrant—VIII</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>549</td>
<td>23.3</td>
<td>13.8</td>
<td>0.55</td>
<td>Tripart—VI</td>
<td>Block—6</td>
<td></td>
<td>Bowl</td>
</tr>
<tr>
<td></td>
<td>552</td>
<td>24.4</td>
<td>14.6</td>
<td>0.6</td>
<td>Band—I</td>
<td>Block—5</td>
<td></td>
<td>Bowl</td>
</tr>
<tr>
<td>Black Mesa (Deadmans)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Quadrant—IV</td>
<td>Block—1, Block—4</td>
</tr>
<tr>
<td>Black-on-white</td>
<td>550</td>
<td>13.5</td>
<td>13.3</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dogoszhi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Band—I</td>
<td>Meander—4, Corner—7</td>
</tr>
<tr>
<td>Black-on-white</td>
<td>80</td>
<td>27.4</td>
<td>25.1</td>
<td>19.8</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flagstaff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black-on-white</td>
<td>65</td>
<td>12.0</td>
<td>6.8</td>
<td>5.2</td>
<td>0.5</td>
<td>Band—I</td>
<td>Block—6</td>
<td>Seed Jar</td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>11.6</td>
<td>7.1</td>
<td>4.9</td>
<td>0.5</td>
<td>Band—I</td>
<td>Block—6</td>
<td>Seed Jar</td>
</tr>
<tr>
<td></td>
<td>67</td>
<td>13.0</td>
<td>8.0</td>
<td>5.9</td>
<td>0.5</td>
<td>Band—I</td>
<td>Block—5</td>
<td>Seed Jar</td>
</tr>
<tr>
<td></td>
<td>77</td>
<td>18.0</td>
<td>11.0</td>
<td>0.55</td>
<td>Rectangular Quadrant—VIII</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>547</td>
<td>12.9</td>
<td>12.2</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>551</td>
<td>16.9</td>
<td>9.5</td>
<td>0.55</td>
<td>Rectangular Quadrant—VIII</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citadel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polychrome</td>
<td>70</td>
<td>22.9</td>
<td>14.0</td>
<td>0.5</td>
<td>Quadrant—IV</td>
<td>Block—8</td>
<td></td>
<td>Bowl</td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>25.3</td>
<td>12.8</td>
<td>0.55</td>
<td>Irregular—IX</td>
<td>Block—8</td>
<td></td>
<td>Bowl</td>
</tr>
<tr>
<td>Tusayan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polychrome</td>
<td>78</td>
<td>11.0</td>
<td>10.8</td>
<td>4.3</td>
<td>0.45</td>
<td>Band—I</td>
<td>Lines—1, Corner—4</td>
<td>Pitcher</td>
</tr>
<tr>
<td>Sunset Red</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>68</td>
<td>19.1</td>
<td>17.5</td>
<td>8.0</td>
<td>0.5</td>
<td></td>
<td></td>
<td>Pitcher</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>15.0</td>
<td>13.7</td>
<td>8.5</td>
<td>0.4</td>
<td></td>
<td></td>
<td>Jar</td>
</tr>
<tr>
<td>Turkey Hill Red</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>79</td>
<td>14.9</td>
<td>9.9</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
<td>Bowl</td>
</tr>
</tbody>
</table>

* The classification of designs used here, in which the design layouts and the design motifs are considered by types, is taken directly from Bulletin 18, Museum of Northern Arizona, p. 32 and fig. 5 and following.
surface and sometimes painted, and (3) basketry coated with turquoise and other mosaic fragments.

As may be seen from the accompanying table (table 2), four of the baskets belong to the first class. They are of particular interest only in that three are made of a weave not apparently noted elsewhere, in which two rods and a split rod form the filler. The other basket is of the one-rod-and-bundle type.

Three of the baskets are of the second class, since they were coated on the surface with an unidentified filling material. One was coated on the outside only and was not painted; the other two were coated on both the outside and the inside and were painted.

One of the painted baskets was completely rotted away, except for the coating material on the inside and the outside, but the second was sufficiently well preserved so that weaves and other features might be determined. The inside of this latter basket was decorated in geometric designs of red and green; the outside was covered with a heavy green pigment over which red was painted.

As may be seen by reference to table 2, this group of basketry was exceptionally well made. The rods, the sewing elements, and the basket thickness were all unusually small. The trait of covering the surface with a leveling agent and then painting is unique. None are like other painted baskets, in which the design is painted directly on the basket without filling.

Two other remarkable painted baskets made by this same technique were presented to the Museum by Mr. J. R. Babbitt, of Flagstaff. He secured them in this same general area, and both are even superior to those found with the burial. An example of the finest of these, which was so nearly whole that it could be reconstructed, is shown in figure 5. The flat bottom and sloping sides constitute a shape common to most of the baskets found with the burial.

This particular basket had been coated on the outside and the inside but not along the rim. The inside was then painted over with a uniform green, while the outside was covered with a light blue. On this background lines were drawn with a slightly darker blue pigment, and they were so heavy that they stood up in well-marked relief. This technique is somewhat suggestive of the enamel painting done in Mexico (Ekholm, 1940). Further designs were added in a bright red, and these were outlined in a golden yellow color. The very remarkable result is shown in the illustration.

The third type of basket, that ornamented with a mosaic, is illustrated by only one example. It was probably a tube, open at both ends, and

---

**Table 2**

The Three Classes of Baskets, Indicating the Fine Workmanship by Notation of the Weaving Measurements*

<table>
<thead>
<tr>
<th>Basketry Type</th>
<th>Rod diameter in mm.</th>
<th>Width of sewing element</th>
<th>Thickness in mm.</th>
<th>Coil width</th>
<th>Split stitches</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Surface Additions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One rod and split bundle</td>
<td>2.0</td>
<td>1.6</td>
<td>3.2</td>
<td>4.5</td>
<td>No</td>
<td>Inside finished</td>
</tr>
<tr>
<td>Two rod and split rod</td>
<td>2.5</td>
<td>1.5</td>
<td>5.0</td>
<td>4.5</td>
<td>No</td>
<td>Clockwise weave, outside finish</td>
</tr>
<tr>
<td>Two rod and split rod</td>
<td>1.5</td>
<td>1.5</td>
<td>4.5</td>
<td>2.5</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Two rod and split rod</td>
<td>2.0</td>
<td>2.5</td>
<td>6.0</td>
<td>4.0</td>
<td>Rare</td>
<td></td>
</tr>
<tr>
<td>Surface Coated and Painted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three rod</td>
<td>2.0</td>
<td>2.0</td>
<td>5.0</td>
<td>4.5</td>
<td>Many</td>
<td>Outside coated, no painting; base 17 cm. diameter, height 9 cm., coating 0.3 mm. thick</td>
</tr>
<tr>
<td>Basket weave all rotted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coated and painted inside and outside; coating 0.3 mm. thick</td>
</tr>
<tr>
<td>Two rod and fibre bundle</td>
<td>1.0</td>
<td>2.0</td>
<td>2.5</td>
<td>2.6</td>
<td>No</td>
<td>Coated and painted inside and outside; coating 0.3 mm. thick</td>
</tr>
<tr>
<td>Surface Coated and Covered with</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turquoise Mosaic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One rod</td>
<td>2.0</td>
<td>0.9</td>
<td>3.1</td>
<td>6.0</td>
<td>No</td>
<td>Coated outside 0.7 mm. thick; mosaic on outside</td>
</tr>
</tbody>
</table>

* McGregor (1941: 235 ff.). A further discussion of these basket types.
FIG. 4.
(For description, see opposite page.)
Fig. 5. A painted basket characteristic of this culture, but which was not found with the burial. In this case the outside and the inside have been coated with a filler to level the surface. The inside was then painted green, and the outside was coated with a light blue. The darker blue design on the outside is slightly raised, as is the interlocking red and gold. The white in this illustration is golden yellow, the darkest shade interlocking with it is red, and the somewhat lighter tone is dark blue. Though the rim was painted blue, it was not coated with filler. The shape, with a flat bottom and flaring sides, is very characteristic. This is a restoration from the original somewhat warped and broken fragments.

Fig. 4. The twenty-five vessels found with the burial represent nine different types. For dimensions of each vessel, see table 1. Reading from left to right:

Top row: A. Citadel Polychrome—no. 20.
B. Sunset Red—no. 68.
C. Turkey Hill Red—no. 79.
B. Sunset Red—no. 72.
A. Citadel Polychrome—no. 71.

2nd row: D. Black Mesa (Deadmans) Black-on-white—no. 550.
E. Tusayan Polychrome—no. 78.
F. Dogoszhi Black-on-white—no. 80.
G. Flagstaff Black-on-white—no. 67.
G. Flagstaff Black-on-white—no. 77.

3rd row: G. Flagstaff Black-on-white—no. 549.
G. Flagstaff Black-on-white—no. 65.
H. Holbrook Black-on-white—no. 81.
G. Flagstaff Black-on-white—no. 74.
G. Flagstaff Black-on-white—no. 77.

4th row: I. Walnut Black-on-white—no. 546.
I. Walnut Black-on-white—no. 551.
I. Walnut Black-on-white—no. 73.
H. Holbrook Black-on-white—no. 74.

5th row: I. Walnut Black-on-white—no. 545.
I. Walnut Black-on-white—no. 75.
I. Walnut Black-on-white—no. 69.
I. Walnut Black-on-white—no. 64.
I. Walnut Black-on-white—no. 552.
measuring about 8.5 cm. in diameter by 12 cm. in height. Although it was found badly broken and partly decayed, it was possible to fit the pieces together and to determine gross measurements and the pattern of the design. The outside of the basket was coated with the same adhesive and filling material with which the painted baskets were coated. Arranged upon this, and adhering to it, were a total of about 1,500 pieces of carefully cut and fitted turquoise mosaics, as well as rows of rodent teeth, square red argillite inlays, and elongated black stone inlays. For the complete restoration see plate 1, figure 1.

This is certainly the most outstanding decorative basket that has ever been found in the Southwest. Not only are all the pieces of turquoise very carefully cut and fitted, but they are also matrix-free stones of a bright blue color, suggesting some of the best of the New Mexico turquoise. The rodent teeth were prepared for use by grinding them down on the back until they were flat, leaving the curve only on the front side. Originally they were a bright orange color, having been taken from either young porcupines or some other rodents, perhaps muskrats. They were arranged in a T-shaped pattern. These two colors in combination with the red and black already mentioned resulted in a most picturesque effect.

Other somewhat similar baskets have been found in the Southwest. One such bottomless basket, or band, is from Waco Cave, near El Paso, Texas, and is now in Gila Pueblo at Globe, Arizona (Alves, 1930, plate 19a, fig. 2). Though it is larger in diameter than the one found here, it is very much narrower, only about an inch and a half high, and much more strongly suggests an arm band. The pieces of turquoise which are stuck to it are very large and are irregularly smoothed chunks. On the whole it is only slightly suggestive of the basket mosaic found at the Ridge Ruin.

A very much better example was found at Pueblo Bonito and is reported and pictured by Pepper (1920: 164). It is smaller in diameter and longer than the Winona example, being about 7.5 cm. in diameter by about 15 cm. in height. It had a total of 1214 turquoise mosaics, but apparently no other mosaic material than turquoise was used. From the illustrations and descriptions Pepper has given, it would appear that these mosaic pieces were not so carefully shaped or fitted as those on the Winona basket.

Speculation as to the use to which these baskets were put is of some interest, for it is difficult to imagine how such basket tubes could have been employed. Certainly their delicate nature would have precluded any strenuous utilitarian or practical use. They therefore seem to have been primarily ornaments, and the suggestion that they served as arm bands is most likely.

**Matting**

Badly disintegrated fragments of a burial mat were found below and above the body. Careful comparisons failed to indicate any distinction between the fragments, suggesting they were all from one exceptionally large mat woven of beargrass, which had been split into more or less uniform sizes of about 3.5 mm. The weave is twilled, over two under two, and the acute angle, where measured, was about 75 degrees. Other similar mats which were found in this same culture and measured, all had a somewhat similar acute angle. Unfortunately, no portions of the edge were preserved to indicate the method of edge-finishing or selvage.

**Heavy Blades**

Three heavy blades, which may have been knife blades, were found stacked one upon another. They are all of simple triangular form, with convex sides, a more or less straight base, and no notches for hafting (fig. 6) (McGregor, 1941: 190 and fig. 65). The largest of these blades, made of chalcedony, is not the best, but is well chipped and shaped. The medium-sized blade, of jasper, is the best flaked and most carefully shaped. The smallest, of obsidian, is very poorly made indeed. For further information see table 3.

| TABLE 3 |
|-----------------|-----------------|-----------------|
| **Materials and Measurements of Heavy Blades** |
| Material used | Maximum length in mm. | Maximum width in mm. | Maximum thickness in mm. |
| Chalcedony | 119 | 60 | 8 |
| Jasper | 87 | 67 | 6 |
| Obsidian | 76 | 47 | 9 |

**Projectile Points**

A total of 420 arrow points were found, of which 3 are bone copies of the common stone points. Figure 6 illustrates a typical group.

---

4 Identification of materials made by Volney Jones, University of Michigan (McGregor, 1941: 244).
Fig. 1. Coiled one-rod basket tube which was coated on the outside with a carefully fitted mosaic of some 1,500 turquoise pieces, orange-colored rodent teeth ground down to fit, red argillite rectangles, and a few narrow black stone inlays. Of the three mosaic-incrusted tubes known from the Southwest, this is by far the best made. They may have been used as ornamental arm bands.

Fig. 2. A wooden cup painted in red and blue was made of cottonwood root, as are modern Hopi Indian kachina dolls. The geometric design is somewhat suggestive of both ceramic and cloth fabric designs of about the same period.
Fig. 6. The points shown above A are a representative collection from the more than 400 which were included with the burial. Those shown above B are bone points of the same form as the typical stone points. At C are four simple triangular points which still have the lac that bound them to the foreshaft. The several larger points and blades are shown at D in the bottom row.
Upon first examination this large collection appears exceedingly varied, but more deliberate study reveals that it is limited to only a few actual varieties, though the points do vary considerably in color and size. They may be characterized best as long, straight-sided, triangular points with lateral notches (McGregor, 1941: 183 and fig. 64). The various classes are separable on the basis of whether the base is straight or concave, whether the notches are low or high on the side above the base, and whether the sides are smooth or serrated.

There are a few examples made of flint in gray, many are of chert in white and yellow, and several are of red jasper. Less commonly black obsidian was used in their manufacture, and there is only one case of white obsidian being used. The three bone points are copies of the most common long, slender type (fig. 6). Seven of the stone points still show traces of lac, a plastic sometimes used by these people to attach the head to the shaft of the arrow. In every case they were simple triangular points with flat bases and without notches.

On the whole, all 420 arrow points are exceptionally well made. They are extraordinarily thin for Southwestern points, very symmetrical, and of clean-cut outline. Even variations in color indicate deliberate selection of the material from which they were made.

### Stone Ornaments

One of the most characteristic features of the culture of which this burial is a part is the prevalence of a great variety of small stone ornaments. Many were made of red argillite, brought to the Ridge Ruin from only a short distance (Bartlett, 1939). In this particular assemblage an outstanding number of ornaments were made partially or wholly of turquoise, much of it of such excellent blue quality as to suggest the Los Cerrillos mines in New Mexico as a possible source.

Undoubtedly the most interesting personal ornament actually found on the body is the very large nose plug, which was resting just at the base of the nose on the upper margin of the teeth. Originally two round buttonlike turquoise ornaments were attached with lac to the ends of the red argillite body of the plug, but they had become detached, and one had moved or rolled down the side of the face. The lac was found still preserved on the ends of the central portion, so that the buttons could readily be attached to it once more. This combination of stone and lac resulted in a most extraordinarily pleasing ornament, as may be seen in plate II, figure 4. Since this plug is made of stone and is 38 mm. (1½ in.) long, it is apparent that to wear such an ornament fixed in the septum of the nose would have resulted in some distortion of that member. For further characterization see table 4.

Until this nose plug was found on the face of the individual, several others that were turned up during the course of work in other sites of this same culture could only tentatively be identified as actual nose plugs. Since this find, another plug, though of wood, has been found in place in the nose of a mummy excavated by a University of Arizona expedition working in Ventana Cave in southern Arizona.

One other unfinished curved argillite nose plug of this same general type was found while screening the trash from the burial hole. It is not considered a component of this burial, for it was most likely included with the trash that filled the room above the prepared cist. With the collapse of the pole roof, it fell into the burial hole, and so became associated with other actual burial artifacts.

Two pairs of turquoise pendants, as well as a pair of shell ear pendants, were found. One pair of the turquoise earrings was beside the head of the individual, one on each side, very nearly in the

### Table 4

<table>
<thead>
<tr>
<th>Object</th>
<th>Shape</th>
<th>Material</th>
<th>Length in mm.</th>
<th>Width in mm.</th>
<th>Thickness in mm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite ear pendants, pair</td>
<td>Disk</td>
<td>turquoise shell and lac</td>
<td>18.2</td>
<td>18.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Pendant</td>
<td>Wedge</td>
<td>turquoise</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pendant</td>
<td>Rectangular</td>
<td>calcite</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pendants, pair</td>
<td>Rectangular</td>
<td>turquoise</td>
<td>40</td>
<td>37</td>
<td>2</td>
</tr>
<tr>
<td>73 turquoise beads of bracelet</td>
<td>Disk</td>
<td>turquoise</td>
<td>6.2</td>
<td></td>
<td>2.1</td>
</tr>
<tr>
<td>107 turquoise beads</td>
<td>Disk</td>
<td>turquoise</td>
<td>2.3</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>3600 stone beads</td>
<td>Disk</td>
<td>gray stone</td>
<td>2.0</td>
<td></td>
<td>1.3</td>
</tr>
<tr>
<td>Button</td>
<td>Disk</td>
<td>lignite</td>
<td>61</td>
<td></td>
<td>9 to 3.5</td>
</tr>
</tbody>
</table>
Composite Ornaments, the Parts of Which Were Bound Together with Lac.

Figs. 1 and 3. Two of the most expertly made mosaic jewelry pieces included as grave offerings with the burial. Both have a backing of modeled lac, and both are made of exceedingly small turquoise mosaic inlays.

Fig. 2. The two ear pendants of turquoise and shell found on the man.

Fig. 4. Two views of the red argillite nose plug with turquoise ends.

Fig. 5. The most elaborate of the ornamented sticks, the head modeled of a plastic to which the mosaic pieces adhere.

Figs. 6 and 9. Two views of a somewhat similar stick ornament, which is also made of a plastic and is hollow. Detail of the upper and lower surface of the arms is shown in figure 6.

Figs. 7 and 8. Various views of a bird-shaped ornament of modeled lac which was found still attached to a shell bracelet fragment. Shell and turquoise formed most of the mosaic, but iron pyrite crystals were used in the head.
original position in which they were worn. They were made of flat, circular disks of turquoise, with small shell disks, possibly attached with lac, in the center of one side (pl. II, fig. 2). Two other turquoise ear pendants were included with the burial but were not on the individual. They were also exceptionally bright blue, and, like the rest of the turquoise, suggested Los Cerrillos much more than any other known source. One is rectangular, and the other is triangular, but both have slightly rounded corners.

There was another pair of stone pendants; one was broken; the other is illustrated in figure 7. They are flat squares of calcite, with a hole drilled in the center and near the edge of each. Most interesting is the fact that they were painted on one side with a blue-green pigment.

Quantities of stone beads were included with the burial materials, some associated with the body, others apparently additional jewelry included as a reserve supply. Many were made of the same fine blue turquoise, without matrix, that was used for all of the other turquoise objects. A series of 73 large beads were found as a bracelet around the right wrist of the individual. Several other similar large turquoise beads were found in the course of the screening operations, and there was another string of 107 small turquoise beads. There were also two most unusual turquoise beads, somewhat suggesting scarabs in gross contours, which have already been described elsewhere (McGregor, 1941: 199 and fig. 67).

A cap, much like a skullcap, but made of beads, was found resting upon the skull. Part of the beads were shell, but part were very small stone beads, many of which had holes too small to permit the passage of the smallest commercial needle, and all of which when strung averaged about 21 to the inch. They were made of a very fine-grained dark gray or nearly black rock. They numbered more than 3600. In the cap they were arranged so that the dark stone and white shell beads alternated (fig. 8).

Near the left wrist were two of the most interesting composite objects found with this burial, the charms of an aboriginal "charm bracelet." They had undoubtedly been supported by a cord bracelet, which was now completely disintegrated. Each is almost an exact copy of the other, and both are very skillfully made. The composite consists of nine pieces, one of which, the nose, is a plastic, and another, forming the back of the head and core of the neck, is a black stone. They are definitely animal heads and very strongly suggest grasshopper heads. One character of the culture to which this individual belongs is the manufacture of extremely lifelike animal forms in small pieces of jewelry; another character is the very skillful, profuse, and exact use of mosaics. Both features are well represented in these samples.

One other interesting object is a circular disk button of lignite. Such buttons are known most abundantly from the San Juan drainage, some being square and some round, though all are expertly made and beautifully finished. This one is a disk with the center of the back raised into a ridge which had been drilled from each side to make suspension by a cord possible. Although this button does not have any inlays or other ornamentation, it is expertly made and exceptionally well finished.

Shell Ornaments

Several kinds of shell ornaments and other shell objects were found. To facilitate discussion, they may be divided into a few simple categories: beads, pendants (other than cut-out work), cut-out objects, inlays, and complete shells, either modified or very slightly modified, as for suspension.

The only shell beads found actually on the man were those which formed a part of the cap. These, several hundred in all, were interspersed with the stone beads in a definite pattern (fig. 8). They are made of the very common marine shell Dentalium, of southern California, which is a long tubular needlelike shell. The shells had been broken into small sections and ground down on their ends to make elongated, tubular beads. Almost all were of the six-sided type, Dentalium neohexagonum, and some were Dentalium semipolitum.8

Very few large shell beads may be definitely associated with the burial. Although several were found, they came wholly from screening, or other cleaning work, and in such small quantities that they were probably only a part of the later trash fill of the room. All of the several large beads were of the disk type, with the exception of one tubular bead and two exotic beads, and they varied considerably in size and thickness. The odd beads were oval in outline, flat on the bottom, but rounded on top, and with holes through them laterally. In general form they are almost identical with the two previously mentioned turquoise

---

8 Identified by Dr. Howard R. Hill, of the Los Angeles Museum.
Fig. 7.
(For description, see opposite page.)
beads. One other type of bead, found also in very small quantities, and probably also included in the fallen trash, was the olivella bead, mostly the shorter ground-down type (McGregor, 1941: 219 and fig. 72).

Pendants are of two types, those shaped very simply or only drilled for suspension and those cut out to some unusual form. All of the pendants found were carved, several being cut out inside to form an open pattern. The most interesting are two carved ear pendants which were made in such a way that each had an arm left projecting beyond the circle formed by cutting out the center disk (fig. 9). These are similar to shell fishhook blanks produced in California, and they were quite probably derived directly from that source (Colton, 1941).

Another pair of similar circular shell pendants were found together, and obviously matched. These two were drilled for suspension and had circular holes in the center but no projecting arms. Two pendants, suggesting lizards with long pointed tails, short lateral legs, expanded bodies, and square heads with holes drilled through them for suspension, were found (fig. 7). These seem to have been characteristic and more or less consistent ornaments of this culture (McGregor, 1941, fig. 73C).

The most outstanding and completely cut-out ornaments of this sort were not found with this burial; they came from other sites of the same culture in this same area (McGregor, 1941, fig. 73d). One is obviously a buck deer with horns, within a circle of shell, and is made of abalone shell; the other is some sort of a stocky animal with a plumed tail, also encircled in shell. Both are exceptionally well made, designed, and balanced works of art, and for that reason are once more mentioned here.

One other pendant, composed of both shell and turquoise, should be discussed because of the unusual combination of the two types of material. The main body of the pendant was shaped from shell into a rectangular portion with pointed ends, and was drilled in the center of one edge. A large piece of half-round turquoise was then attached to one side of the shell, with lac, by a sort of riveting process, and forms the most obvious portion of the ornament. In general shape and arrangement the turquoise strongly suggests the ornamental end of one of the complex nose plugs.

Although not truly pendants, in that they were not suspended alone, there were numbers of conus shell tinklers. A short loop of these tinklers was at the right hand in the vicinity of the fingers, as though they were held in the hand of the man. There were two similar short strings extending down the outside of the legs of the individual. It is quite possible that these strings were sewed to leggings, or formed the margin of a kilt, or some covering of the extremities. Fewkes (1898: 335), in discussing material found associated with burials at Chaves Pass Ruin, makes the following observation: “They had rattles of sea shells and wore fringes of shells on the margins of their garments.” Thus, in that site of somewhat later date but of almost identical culture, the same custom is indicated as was found at the Ridge Ruin. Each of the tinklers was drilled, with a hole at the smaller end of the spire, to make suspension possible (fig. 7).

Several other fragments of what were obviously pendants were found, and some of them had been carved, but none were complete. Quite likely they were only a part of the trash fill of the room. Shell inlays were often a part of the mosaics
on plastic ornaments, or were found as scattered fragments throughout the fill, and scattered about the objects. All had been ground with beveled edges. Three other small shell pieces, which might possibly be inlays, were in the form of life-like objects. Two were identical small units with rectangular bodies and two protruding lobes on one end. The other was the head of a snake (McGregor, 1941, fig. 73D). Similar small shell pieces found by Haury at Snaketown have been considered mosaic inlays in that report (Gladwin, Haury, Sayles, and Gladwin, 1937, plate CXIX).

Although no examples of painted shell were actually with this burial, such a shell was presented to the Museum of Northern Arizona by Mr. J. R. Babbitt, of Flagstaff. It was in a burial in company with other offerings which definitely place it as of this culture, and so comparable to the material found with this burial. It is a Galeodea which had been only slightly shaped before it was painted. The designs are geometric, in triangles and straight lines with bars. The colors used are red, blue, green, and a pink or buff color which contrasts with the red. One piece of painted shell was found at Snaketown village (Gladwin, Haury, Sayles, and Gladwin, 1937: 147 and plate CXXIII).

Several specimens of complete shells were found. One cluster of turritellinas formed a definite group, and, since they were perforated in the lower margin of the orifice, were probably strung together. There were also five complete Cardium shells, three of which were nested together in one group (fig. 10). None had been altered in any perceptible manner, either through use or in preparation for use. Possibly the most interesting single complete shell was an abalone. It has been modified only in that six of the seven holes were filled with a very black plastic material, which appears to be asphalt. The seventh was filled with a reddish plastic, probably lac, and a smoothed notch was cut in one edge of the shell. One large fragment of the rim of another abalone was found, but the main portion of the shell had either been weathered away or the rim had been broken off and only that portion saved. There were also several other fragments of abalone shells which contained prepared pigments, but these gave every appearance of having been only broken fragments.

**Bone Objects**

Four classes of bone objects were found with the burial or in the associated trash. Perhaps the most interesting are several bone arrowheads; the other three types are a bone tube fragment, spatulas, and a variety of awls. Some of the awls are most extraordinary.

The arrowheads are of particular interest, because they are of the same shape as the predominant stone arrow-point included with the burial (fig. 6). This is the long, narrow point with high lateral notches and a markedly concave base (McGregor, 1941: 187, fig. 64, and table 5). Since they are very thin, they could not have been of use in hunting, so they must have been made for some other purpose, perhaps ceremonial and not practical. On none of the three found were there any indications of attachment or other clues to actual use.

Only one fragment of an exceedingly large bone tube was found. From the arc represented, it would have probably been an inch and a half or more in diameter. The ends have been cut off at right angles to the long axis of the bone and very carefully smoothed and polished. Other similar, though smaller, bone tubes have been reported from this section and culture, as well as from elsewhere in the Southwest (McGregor, 1941: 230 and fig. 75).

Spatulas, or objects of bone which are chisel-shaped on at least one end, were found in some abundance in this burial. They may be divided into three types. The first is a flattened splinter of bone which is spatula-shaped on both ends. There were two of this type. The second type is one in which one end is spatula-shaped, and the other end is pointed so that it could have been used as an awl (McGregor, 1941, fig. 741). The third type of spatula is one in which the end of the splinter is spatula-shaped, and the other end is rounded though flattened. All are well finished by grinding and polishing.

It should probably be mentioned that, in all these spatulas, the more or less squared and flattened end which is spatula-shaped is not ground down to a sharp edge, but it is left slightly thick and blunted. The use to which such objects might have been put remains highly problematical.

The most abundant and varied objects of bone were, of course, awls. They could readily be divided into general types: those made from splinters of bone, and several varieties of awls made of bones in which the head was split but was only slightly modified or not modified at all.

Only one of the splinter type of bone awls was found with this burial. It was a small, irregu-
Fig. 10. Some of the bone awls and whole shells found with the burial. The two awls, one on each side, still show some mosaic ornamentation near the points and are made of very large bones. The smaller awls above are split metatarsals. The upper right shell was an ornament on a stick, the others were apparently used as containers. Note particularly the well-preserved abalone shell at the bottom.
larly shaped fragment, sharpened at only one end (McGregor, 1941, fig. 74H).

The split-head type of awl was by far the most common. In all cases the head of the bone had been ground down somewhat to smooth this portion (fig. 10). Two large awls had holes drilled through the ground-down end, as though for suspension (McGregor, 1941, fig. 74C). In one case the head had been ground on the edges, as well as both faces or sides. This form of awl may be considered a distinctive type of the Winona and Ridge Ruin sections in so far as it is known.

Of interest are two large bone awls decorated on the pointed end with a combination of plastic, probably lac, and what appears to have once been shell mosaics (fig. 10). The shell has now disappeared except for a trace of lime, but the lac or plastic is still about as applied. Obviously such awls as these could never have been primarily utilitarian; therefore, they must have been ceremonial rather than practical.

The types of bones used to make the awls are interesting. Three of the awls were of such large bones that they could not possibly have been from even the largest buck deer; they must have been made from the bones of a small elk or of some other animal of comparable size. Unfortunately, the heads of the bones have been so altered that absolute identification is now impossible. Of the smaller bones, those made from splinters are also impossible to identify, though they are all sufficiently small to have been either deer or antelope. Even a few of those examples, in which the head was only partially ground down, were not identifiable. Of the others, in which the head is more or less intact, both antelope and deer bones are represented.

Wood Objects

Wood objects found with this burial may be divided into several classes. These are: fragments of small bows (which were painted in colors), a number of arrows or parts of a screen made up of individual rods painted in bands, carved and ornamented sticks of various sorts, a wood cup (which was also painted), a hardwood arrow foreshaft, and one example of a wood back to a plastic mosaic.

The first objects found in uncovering the burial were fragments of the small painted bows. They were, in their thickest portions, only about 1.3 cm. in diameter, and, although all were broken, they were in every identifiable case tapered to the ends and slightly bowed. Fragments of a good many were found as though they were placed in the upper layers of the grave material in a considerable mass. Although they are in most cases very fragmentary, and in no case was one sufficiently preserved to make determination of the complete design possible, several colors were used. Blue, blue-green, and red, which tends to pink or terra cotta, are easily identifiable.

In two of the largest fragments of the bows, a portion of the design could be made out. It consists in both examples of a series of parallel, chevron-like lines bordered by bands. These are almost exactly like designs found on bows in the upper Gila region and also like painted sticks and flutes reported there (Hough, 1914: 97-102, and figs. 339-348). The colors on the upper Gila specimens, red, green, black, and yellow, are similar to the colors on the bows found near Flagstaff. In fact, the apparent identity of the objects from these two regions is most amazing.

Scattered throughout the upper portion of the burial material, but below the zone which contained the miniature bows, a considerable number of painted reeds were found. These were, on the whole, badly decomposed; thus their original shape and use could not be definitely determined. Quite probably they were arrow shafts, although they might also have been a series of reeds joined together as a screen. In many cases the reeds were found placed side by side in the ground. They had been tied at intervals with threads or light cord, as though they were joined together to form a screen, for, though the threads are gone, the marks they made on the shaft are still visible.

The colors used in the decoration of the reeds are green, white, red or orange-red, blue, yellow, ground-up specular iron, and, of course, the natural color of the shaft. This gave a considerable variety to the decoration and led to the original supposition that they were a mat or a screen of some sort and not arrows. However, since the color bands extend completely around the shafts, if they formed a screen, they must have been painted before they were tied together. Modern Hopi and Navajo ceremonial screens with which the writer is familiar are not constructed in this manner, by wrapping around the reed, but they are made by drilling through sticks or reeds and binding them together with a cord through the holes.

Upon more mature examination, the case for their having been arrows is much better. The
Plate III

Carved Heads of Four of the Ceremonial Sticks

Fig. 1. A hand of intermediate size, not painted.
Figs. 2 and 3. Two views of a deer or antelope foot—the largest carved foot found. Only a portion of the shaft is shown, though it was complete.

Fig. 4. The largest carved hand found.
Fig. 5. An ornament badly disintegrated, but probably also attached to a stick.
colors in bands go completely around the shafts, covering the tying or wrapped zones in some cases. Thus the wrapping was done on the reeds before they were painted, which in turn could not have been done if they were already tied together in a screen. The wrapped or tied zones also suggest the wrapping and tying of the vanes of arrows. This is further substantiated by the discovery of what appear to have been the vanes of feathers on one of the examples found, which was impressed diagonally on the shaft. Since it is the butt end of the arrow that is painted for identification, and which also has the vane to assist in flight, those parts found do seem to suggest arrows.

The elaborate ornamentation and the profuse use of colors, especially the use of the specular iron as a decorative pigment, would appear to be much too involved for use on ordinary arrows, but it might be the sort of thing used on a screen, particularly a ceremonial screen. The abundance of beautifully chipped arrow points found scattered about this same zone may be the answer to the entire problem, for, if these are not arrow shafts, then, with the exception of one hardwood foreshaft, there is no evidence that the points were hafted. Hough (1914: 101) has described short ceremonial arrows which were used with the ceremonial bows of such groups as the Zuñi Indians. From all this, and though they are in every case exceedingly fragmentary, the writer is inclined to class these ornately decorated reeds as arrow shafts, perhaps ceremonial ones.

Several carved sticks were found in various positions in relation to the body, as illustrated in figure 3. All were made of some dark, dense wood; the weight of the material, the grain, and the color suggest mountain mahogany or some similar type. In all, twelve worked sticks, pointed on one end and ornamented on the other, were found. Three of these are carved in the form of deer feet, and two are carved into hands. (For illustration, see pl. III, figs. 1, 2, 3, 4.) One hand was found not on a stick, and one stick was found with plastic on one end but with no associated ornament. As there was also plastic on the wrist end of the hand, it may be assumed that it was originally placed on a stick. Six additional sticks were found, but they were so badly weathered that they could be identified only as tapered and artificially rounded sticks. None of these had carved or other ornamented heads attached (McGregor, 1941: 253 and fig. 78P).

In carefully checking and reexamining all of these carved sticks, it was noted that there were three of varying sizes with deer feet. The larger foot was painted green, but the intermediate size and the small one were not. This made a set of three of graded sizes. Next it was recalled that the largest hand, which was not found attached to a stick, was also painted green with a red trim, and that there were two other sticks with carved hands, one intermediate and one of small size. This made a comparable set of three sticks, like the feet but of hands; the largest was painted green and the other two were not. Two crescent-shaped or double-horn mosaic headpieces were also originally on sticks, but a search for a third such ornament was not rewarded with success. The total sticks found, both with and without heads, were then counted, and it was learned that there were twelve.

From this, it would appear that there were four sets of three sticks each. One of these sets was made with deer or antelope feet carved on one end. Another set had human hands carved on one end. A third set probably had mosaic horn-shaped heads attached to the sticks. A fourth set, though represented by the sticks, was not found with the heads attached. One extremely fragile, almost completely disintegrated, carved and painted wood ornament may actually be the type of object which was originally on these latter sticks. It was made of light wood, perhaps cottonwood root, in the form of a flat and elongated wedge with serrations on the edges. It was painted green, with the exception of two bands of red down the sides. For illustration see plate III, figure 5. As it was extremely fragile, only small fragments could be preserved, but careful observation and field measurements made the color drawing possible.

The shaft of each of the sticks had been carefully rounded and tapered to a fairly sharp point. The other end was either carved directly from the original mass or was built up by having the carved or modeled portion added to the end. The deer (or perhaps antelope) hooves were very carefully made, showing such features as dewclaws, separate toes, and other similar details (pl. III, figs. 2, 3). All of the hands are open and the fingers spread, as in the illustration. Slight curvature of the back of the hand and the hollow of the palm is indicated, but the fingers, though curved, are tapered directly. The outline of the individual fingers is somewhat exaggerated on the back of the hand.
Outstanding among all these sticks is one which was decorated with a complex modeled double-horn-like base covered with turquoise (pl. II, fig. 5). It was undoubtedly the most elaborate and most carefully made of any, but, at best, it must have been an exceedingly fragile ornamental object. As it and another similar mosaic piece are to be discussed immediately following, no more need be mentioned concerning it here.

None of the sticks are especially large, and, in fact, some similar sticks reported from other sites are quite small. For a comparison of the various sizes, see table 5.

One carved and painted wood cup, though badly disintegrated, was sufficiently preserved so that a complete reconstruction drawing was possible (pl. I, fig. 2). Measurements were not exact, but it was possible to suggest the approximate size. It was carefully made with thin walls and a thin base. Cottonwood root was used. This is the same material from which the Hopi Indians still carve kachina dolls, a most interesting long-time parallel in similar materials and methods of carving. The colors employed in the decoration of the cup are red and a blue-green, the red being used as a base coloring for the carved features, and the green was applied to it as a design.

Another wood object is of particular interest. It is a flat disk which was used as a back for the support of a plastic mosaic. Unfortunately, it is poorly preserved, except where it came in contact with the lac, and cannot be further characterized.

None of the plastic mosaic objects had such a wood backing.

An arrow foreshaft was also found. Though one portion appears to have been carved with a shoulder, it is now rotted to such an extent that this is not certain. The larger, forward end is slotted so that the arrowhead could be inserted, and it is bluntly pointed. The other end has a long taper to a sharp point. It is interesting, for it alone was found with the very great number of stone arrow-points. Perhaps the majority of these points were either not hafted or were not set into hardwood foreshafts that might have been preserved.

Mosaics

Probably the most outstanding craftsmanship found with this burial is that represented by several mosaic pieces. Some, particularly those in which turquoise was used, are so outstanding that they are almost unbelievable. In fact, they seem to be equaled only by some of the fine mosaic work from Middle America. The turquoise mosaic work on the basket or arm band has already been discussed, but the fact that each turquoise was carefully cut and fitted to place should be mentioned again. It is this sort of exacting craftsmanship that characterizes all such work found with this burial.

Apparently the most characteristic mosaic pieces were those which were made and mounted on modeled lac or some other plastic material. The

---

**TABLE 5**

Types of Objects Made of Wood, with Nature of Ornament, Decoration, and Measurements

<table>
<thead>
<tr>
<th>Type</th>
<th>Ornament</th>
<th>Decoration</th>
<th>Length in cm.</th>
<th>Diameter in cm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stick</td>
<td>double horn</td>
<td>turquoise and shell.mosaic</td>
<td>40</td>
<td>1.9</td>
</tr>
<tr>
<td>Stick</td>
<td>large hand 11.5 cm. long</td>
<td>red and green paint</td>
<td>48.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Stick</td>
<td>medium hand 5.4 cm. long</td>
<td>no paint</td>
<td>45.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Stick</td>
<td>small hand 3.8 cm. long</td>
<td>no paint</td>
<td>not complete</td>
<td>1.3</td>
</tr>
<tr>
<td>Stick</td>
<td>large hoof 6.1 cm. long</td>
<td>blue and green paint</td>
<td>31.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Stick</td>
<td>medium hoof 4.5 cm. long</td>
<td>no paint</td>
<td>26.4</td>
<td></td>
</tr>
<tr>
<td>Stick</td>
<td>small hoof 2.5 cm. long</td>
<td>no paint</td>
<td>34.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Stick</td>
<td>none present</td>
<td>no paint</td>
<td>31.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Stick</td>
<td>none present</td>
<td>none present</td>
<td>38</td>
<td>1.9</td>
</tr>
<tr>
<td>Stick</td>
<td>none present</td>
<td>none present</td>
<td>not complete</td>
<td>1.6</td>
</tr>
<tr>
<td>Stick</td>
<td>none present</td>
<td>none present</td>
<td>42.5</td>
<td></td>
</tr>
<tr>
<td>Stick</td>
<td>broken fragments</td>
<td>none</td>
<td>42.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Arrow foreshaft</td>
<td>none</td>
<td>none</td>
<td>43.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Cup</td>
<td>none</td>
<td>red and blue-green</td>
<td>15.2</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10.2</td>
<td>8.9</td>
</tr>
</tbody>
</table>
first such piece to be characterized here was shaped roughly like a human ear which had been severed from the head. The straight inner side was thin, while the curved outer edge was much thicker. Only sixteen turquoise mosaics are now adhering to the thick edge of the plastic, although impressions indicate that they once covered the entire lower “lobe” portion. Though some of the remaining turquoise pieces are rather small, the average was larger. Unfortunately, it now appears to have been warped from its original shape; so, unless it did once represent an ear, the form or the use cannot now be determined. This is the least well made of the several turquoise mosaics found. See table 6.

Probably the best-made mosaic is a round medallionlike object (pl. II, fig. 3), the original diameter of which was slightly over 51 mm. The plastic was built up against a wood disk, also circular, as indicated by the structure shown on the back, though no wood remains. In this piece, many of the mosaic fragments have been lost, and the disk is warped and somewhat irregular, but enough is left so that the general pattern and form may be determined with considerable accuracy, and the reconstruction drawing is felt to be authentic. All mosaic pieces were cut to fit accurately so that almost none of the plastic could be visible on the surface. Both shell and turquoise were used, in a simple, circular pattern. All of the individual turquoise mosaic pieces are quite small; some are absolutely microscopic. It is a remarkably well-made ornament, but the pattern is not unusually pleasing.

Another very well made ornament is illustrated in plate II, figure 1. It is modeled in the form of a bird with outstretched wings. The center portion undoubtedly consisted originally of a cut-out or shaped shell piece, with a border of plastic, upon which were set a series of minute turquoise mosaics. Though all traces of the actual shell are now gone, the impression it originally filled is still quite distinct. This is very similar to a bird-shaped ornament found at Casa Grande in southern Arizona. All of the individual turquoise mosaic pieces forming the rim of the object are exceptionally small; several of them are less than 1 mm. in one measurement, and all of them are only slightly larger than 1 mm. in any measurement.

A somewhat similarly modeled, pure lac bird is even more interesting, for it was found attached to a broken shell bracelet (pl. II, figs. 7–8). The bracelet had been prepared to receive the lac by grinding through the beak of the bivalve, to form a hole, and then by grinding down the rest of the shell, leaving this perforated beak portion as an oval. Some of the lac was then forced into and partly through the hole, like a rivet, to hold the ornament to the bracelet. Other fragments of similarly shaped bracelets were found, but their significance was not realized until this particular one was studied. Because of this find, it had previously been suggested that some small Glycymeris shells were ground through on one side to receive a mosaic held in place with lac (McGregor, 1941: 221 and fig. 67K). The turquoise pieces making up the mosaic, though they are as carefully shaped and fitted as the previously described pieces, are on the whole larger. Fragments of shell were used in a peculiar angular arrangement, as indicated in the illustration. Of special interest is the large, more or less globular head of the bird, into which were set, as inlays, at least three pieces of iron pyrite.

Several other relatively small and more simple objects embodied what appears to have been pure lac, both as an adhesive and as a modeling agent.
One of these is a small button-shaped object previously described.

Another broochlike ornament, which was in the form of a long oval, was of lac on a wood base. The lac was used to attach the central shell portion and the six turquoise mosaics to the wood. All are shaped and well fitted, but it is not so elaborate as other similar mosaics. Because the shell is gone and the wood backing is disintegrating, only a general idea of the original form may be had.

Two other objects are of extreme interest. They are two double-horn-shaped objects made for heads for the pointed wood sticks already described. One was covered with carefully cut and fitted turquoise mosaics, while the other was decorated with triangular shell fragments and red and blue paint. The first one was found with the stick upon which it was attached (pl. II, fig. 5). The horn, as well as the mosaic-incrusted button head in the middle, are modeled of a light plastic material and are hollow throughout. Excellent turquoise, well cut and fitted, forms the main body of the object, but a shell button was originally attached to the end of each arm, and triangular shell inlays were set into the top and base of the knob. As will be pointed out later, this ornament was fastened to the stick with a pin which extended down into the stick and up into the head.

The second object was not found directly associated with a stick, but it was so similar that it must have been used in the same way. It was made of a plastic so like the one just described, in texture and general appearance, that it may be considered the same, but it was not analyzed. The arms of this ornament are also hollow. It was modeled in three parts, the two arms and the central ball, and later stuck together. Triangular bits of shell inlay were set into the horns and the ball, thus forming a design as indicated in plate II, figures 6 and 9. Between these triangular shell inlays, on both the ball and the crescent-shaped lower portion, the plastic was painted blue. The ends of the horn-shaped arms were capped with shell buttons similar in shape to the larger turquoise buttons used on the ends of the nose plug. On the upper and lower surface of each horn-shaped arm, and filling the space left between the two lines or triangular shell inlays, there is a wide line of bright red paint. At intervals this is crossed by fine white lines. Certainly this was a most impressively colorful head to one of the sticks, and, although the head described above, made completely of turquoise mosaic, surpassed it in craftsmanship, this was probably originally the more colorful of the two.

Minerals

Quite a large collection of minerals was found with the burial; in fact, both diffuse minerals and crystals were utilized in various sorts of ornamentation. Several small fragments or partly shaped balls of pure kaolin probably came from somewhere in the Painted Desert region of the northern part of the state. One large ball of yellow ochre was also found, but this is relatively widespread and occurs in many deposits. There were also several irregular pieces of hematite of varying compositions and textures. It is not the kind of red paint which the Hopi Indians secure from the Havasupai Indians today, but it is of a type which Hopi informants suggest might have come from the Red Butte south of the Grand Canyon.

There were two large masses of copper ore. One consisted of broken fragments of green-colored malachite (copper carbonate), aggregating several pounds. It was probably the proximity of this mineral to various fragile objects that helped to preserve them. Azurite of an exceedingly beautiful blue color (also copper carbonate) was found stored in reeds and in gourds. It had been carefully prepared by being ground and sorted before it was placed in the containers. A bundle of 20 of these filled reed tubes, making a bunch 6 inches in diameter and about 10 inches in length, was found in one place. Two gourd containers filled with the same material were found in another. Both of these beautiful pigments undoubtedly came from the Verde Valley.

Of the crystals, most were either unmodified or very slightly modified. Several quartz crystals were found, but these had not been modified and may possibly have served as part of a ceremonial kit.

Probably the most interesting pigments were a series of cinnabar-filled sacks, which were found in two locations. Only the tops of the small skin bags, where they had been tied with sinew, were left, but quantities of the tiny cinnabar crystals, which they once contained, indicate their total capacity. Eight or more bags filled with raw cinnabar crystals were originally placed in the burial. Several balls and irregular masses of prepared red cinnabar were also found. In this case the crystals had been finely ground and mixed with clay or
some other material to form the pigment. This is the red paint which was used to make the red and brown designs on the painted baskets and the modeled ornaments. The possible source of the cinnabar is of considerable interest, for the padres and early Spaniards were attempting to find such mines in northern Arizona. In so far as the writer is now aware, there are no sources of this material here, but it does occur in the mountain section of Arizona in the Mazatzal Mountains west of Roosevelt, near Prescott, and throughout southern Arizona, and it also occurs in some abundance from Santa Barbara north in the coast ranges of California and in northern Nevada (Galbraith, 1941: 17).

Two other interesting crystals were used more or less directly. The first of these is apparently specular iron, which has already been mentioned as having been used as a means of decoration on the painted reeds. A skin sack full of this bright material was found. It was mixed with some adhesive agent and is a more or less solid mass, now preserved in the form of the sack, although the skin is completely gone. As this mass of finely ground crystals is attached to the end of a stick which protruded from the mouth of the sack, it is probable that they were originally bound together with some plastic, such as lac. In fact, it has already been suggested that lac was used as a binder to attach the crystals to the reeds. Iron pyrite crystals were also used to form the eyes of the bird-shaped objects modeled of lac. These crystals could have been secured locally, although they are not commonly known here, but they more likely came from the Verde Valley, to the south, or from as far away as northern Mexico (Galbraith, 1941). Specular iron, on the other hand, is relatively abundant over a wide area.

Odd Objects

Several other objects, which do not readily fall into any of the classes already described, still remain to be discussed. One of the most interesting is a large series of spider nests and perhaps some cocoons, which were used as rattles (fig. 7). The nests are those of trapdoor spiders, with the lids still attached and containing a tiny pebble which rattles when they are shaken. Each is perforated through both sides, just below the door, so that they can be suspended on a light cord. They are very suggestive indeed of Papago cocoon rattles observed by the writer in use in ceremonial dances. Enough rattles were found to make a good-sized string several inches long. Though some were, of course, fragmentary, more than seventy may be accounted for in this group. Possibly they were tied around the ankles or lower limbs in dancing.

Two other small stone objects should be mentioned. One is a rectangular block of volcanic tuff. It is of coarse, exceedingly light, and easily carved material. Down one side, near the middle of its length, there is a narrow groove extending from one face to the other. On the upper surface this groove was extended toward the center of the face to meet a more or less conical depression. In every respect it suggests the base block of a fire-making apparatus, but such things are usually made of wood, not stone. It is possible that this soft and porous rock would shred the fibers of the stick and make friction even better than the usual wood base. There is, however, no indication of charring. See table 7.

<table>
<thead>
<tr>
<th>OBJECT</th>
<th>MATERIAL</th>
<th>LENGTH IN MM.</th>
<th>WIDTH IN MM.</th>
<th>THICKNESS IN MM.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangular block</td>
<td>tufa calcite</td>
<td>38</td>
<td>64</td>
<td>16</td>
</tr>
<tr>
<td>Round rod</td>
<td>tufa calcite</td>
<td>19</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

The other stone object is a piece of carefully shaped calcite, which was smoothed and polished all over. It is rod-shaped and somewhat pointed toward the ends. Several other odd-shaped pebbles, and even a few concretions, were also found, but, since they are more or less characterless and certainly defy identification as regards use, they will not be described in detail. Although they were not found together, but scattered through and among other things, they do suggest objects found in medicine kits or bags.

A set of what appears to have been ornaments was made by painting and drilling the claws and canine teeth of a mountain lion. Two sets of four claws were prepared by removing and cleaning away the tissue and then painting green. These could have been suspended by the base of the claw. The two canine teeth were of an adult individual of medium to large size. Concerning them E. Raymond Hall says (in litt., December 9, 1940):

We have, to our satisfaction, identified the claws and two canine teeth referred to in your letter. . . . They prove to be from the mountain lion (Felis con-
color). I noticed that one had been drilled for use as an ornament of some kind. I can imagine that it was a remarkable feat for an American Indian to have killed the Mountain Lion with the relatively crude weapons available.

Unusual Techniques

Lac and its uses

In the course of laboratory examination of all this material, several masses and lumps of what appeared to be organic matter were noted. These were later referred to Dr. Volney Jones of the Ethnobotanical Laboratory, University of Michigan, for examination and comment. His decision concerning them proved to be most startling, for they were lac, the exudation of the lac insect—the basis of such materials as shellac and sealing wax. As this was the first evidence of such material being used prehistorically in America, a further careful search was made through this and other collections for additional samples of lac as a modeling and binding material.

The first identified lac consisted of the raw lac as gathered from the plant and also as a lump attached to a stick. Later, objects modeled of the lac were noted, both as pure lac and as a mixture with some other material. It was also used as an adhesive in such operations as fastening arrowheads to foreshafts and attaching mosaic fragments to bases.

The hosts which lac insects of the Southwest inhabit are the creosote bush, Larrea mexicana, and the shrub Coursetia glandulosa. Both the hosts, and therefore the insects, are confined to the desert portions of the Southwest; thus the lac was traded to northern Arizona and was not derived locally. Concerning the matter of distribution, Volney Jones writes (in litt., March 1, 1940): “This produce would not be available on the Plateau proper, but it could be obtained in the deeper canyons and river valleys where tongues of lower Sonoran flora dissect the Plateau.” Such a river valley is the upper portion of the Verde Valley, and a considerable search has been made there in an effort to locate lac, but it has been unsuccessful. Extensive, though not particularly intensive, search has been made in other sections with the result that individual infected plants have been found over a wide area, but no real supply, except in certain restricted localities, is known. One such area of relatively abundant infected plants was found just north of Phoenix, in a canyon west of Camelback Mountain, and another was found some 6 or 7 miles west of Kingman, in northern Arizona. Of the two, the Phoenix area is the closest and is on an established trade route which existed at that time. It is quite possibly the source of the lac found here.

Organic Material Other than Lac

Besides lac, another material which might be considered under the heading of techniques is an organic plastic of unknown composition. So far as is now known, this was only used in connection with basketry, but it might equally well have been employed for other things. It was used in two similar, though slightly different, manners, as a leveling and adhesive material for the attachment of turquoise and other mosaics to the basketry and as a leveling agent to smooth the surface of the basket in preparation for painting (fig. 5).

Woodworking

One other technique as regards the woodworking shown in the carved sticks is of sufficient interest to warrant further comment. By careful examination it was found that the stick with the turquoise mosaic head had a wood projection in the large end. This was a pointed pin which was set into a hollow in the end of the stick with lac. As the pin was pointed on the upper end, and probably also pointed on the lower, it seems to be the answer to the question of how the hands and other carved objects were attached to the sticks. The method is almost exactly that of our own use of a dowel pin set in glue. Hopi workmen today, in the manufacture of such wood objects as kachinas, use the same technique for fastening two pieces together.

Conclusion

Restoration of the Man

In summarizing and evaluating the material which has just been discussed, a reconstruction of the individual as he appeared in real life may be attempted. Determination of the physical type seems to shed some light on the several problems raised early in the work of excavating this burial and also on those mentioned at the beginning of this report (fig. 11).

Probably the most immediately noticeable character of the head was the marked posterior defor-

---

6 Survey made by Dr. H. S. Colton, Museum of Northern Arizona, assisted by the staff members.
Fig. 11. Restoration of the head of the man modeled on the skull, showing his approximate appearance in life, with his cap, nose plug, and ear pendants in place. Most striking features are the long, narrow nose, accentuated by the use of the nose plug, the long, flat face, and the skull flattened in the back. Modeled by Virgil Hubert.
mation (McGregor, 1941; Bartlett, 1939: 300-305). The back of the skull, as found, was extremely flattened, so much, in fact, that it was submitted for examination and comment to Dr. W. M. Krogman, of the Department of Anthropology, University of Chicago. His summary observations follow:

I would conclude, therefore, that the occipital flatness has arisen from two causes: first, from a cradle board, and second, through post-mortem distortion. I would reaffirm my position that the first cause would account for about twenty-five percent, and the second cause would account for about seventy-five percent of the condition at present observed.

Such deformation of the back of the skull is typical of Pueblo Indians, though, even with only one-fourth of the present flattening due to a cradle board, this skull was probably more flattened than the average.

The next most prominent character was undoubtedly the long, slender nose, long for any American Indian and markedly so for any Southwestern Indian. The root of the nose was narrow as well, and the bridge was high, so that with the addition of a nose plug the impression of an exceedingly long nose was inescapable in life.

To match the narrow nose, the face was rather long, a feature which was accentuated by the fact that the cheek bones, the malars, were not prominent but were unusually flat. In fact, in this respect, the face suggests some European types. However, the lips protruded, as a result of alveolar prognathism. This feature is not lacking in many Indian crania. The last marked facial character was a broad, rather heavy, square jaw. The angle where the body meets the ascending arm directly below the ear was very square. This feature is found in many Indian men today.

From a consideration of the man in general, it has been estimated that he was about 35 or 40 years old at the time of his death. From careful measurements of the long bones, it has been possible to determine that he was of more than average height, about 5 feet 8 inches. Other adult males from the same area and culture, which have been computed, varied from 5 feet to 5 feet 6 inches. The only other feature of interest was that his right radius had been fractured and had later knitted. Physically he was probably different to a noticeable extent from his fellow men, but he did not show any radical departure from the general type. Figure 11 shows a restoration of the man modeled from the skull.

Dress

At the time he was buried he was dressed, at least in part, in his best jewelry and clothing, some of which was certainly ceremonial. On his head was a cap, like a skullcap, made of beads of both shell and stone, which covered the entire top of his head to about the upper tip of his ears (figs. 7, 8). If the descriptions of similar caps worn by Hopi Indians, within the memory of living men, may be relied upon, the center of the top should have had a raised point into which was set a red feather or feathers (fig. 11). It is an interesting fact that a single brilliant red feather was found in a basket of elaborately painted design in another site of the same culture in this immediate area.

Two pendants of turquoise, which were disk-shaped and onto which two smaller disks of shell were stuck with lac, were in his ears (pl. II, fig. 2). He wore a nose plug of exceptional size and unusual workmanship. It consisted of a curved central portion of red argillite to which two half-round buttons of pure bright blue turquoise were stuck with wedges of lac (pl. II, fig. 4). Surprisingly enough, no indication of a necklace or pendant hung from the neck was found with this burial. About his right wrist was a bracelet of exceptionally pure, bright blue turquoise disk beads, while suspended from his left wrist, probably by a cord, were the two compound animal heads made of black stone, turquoise, and lac. In the right hand he apparently held a string of conus shell tinklers. Unfortunately, there is no absolute proof of clothing of any kind, for it was all too fragile to have been preserved. He must, however, have had on at least some sort of kilt or leggings, for down each leg, along the outside of the limb, was a string of conus shell tinklers. Two bands were also found, one encircling each knee (fig. 3). Before interment, the body was either placed between two woven mats or was wrapped in one very large one.

Burial Objects

With or about the man were all of the various objects for which he might have had any use in a subsequent existence. Many were jewelry pieces, but others were purely utilitarian. Some of the jewelry is of exceptional workmanship, and a few pieces show a technique of modeling in lac which has not heretofore been noted in prehistoric America. Several pendants, some of cut-out shell, oth-
ers of stone, and brooches of lac and stone mosaics were found scattered about or in bowls or baskets. Ceremonal paraphernalia were also placed near the man; in several cases they were resting directly on his body (fig. 3). These were such things as carved, painted, and inlaid sticks, awls, small bows, arrows, and other objects. Of a more useful nature were the abundant baskets, several shells which were used as containers, and many pottery vessels.

Several of the baskets were truly remarkable, for they are definitely of a technique not previously described. They were leveled over the entire surface inside and out with a filler material; then they were painted over this surface in a variety of unusual colors (fig. 5). This resulted in a most remarkably pleasing effect. One basket, apparently open at both ends, so perhaps an arm band, was completely covered on the outer surface with a mosaic composed of more than 1500 cut and fitted turquoise fragments, shaped and fitted rodent teeth, and black and red stones (see pl. I, fig. 1). Although other somewhat similar objects have been found in the Southwest, this is unquestionably the best known example of work of this sort.

The shells are interesting, largely because they indicate trade from the coast. Unfortunately, no particularly informative techniques are demonstrated in the shells, although the holes in one abalone shell had been filled with what looks like pitch, except for one. From this the filling had evidently come loose, been lost, and then replaced with lac.

Neither are any of the pots of exceptional design or workmanship but, because of the quantity and variety of types, they are impressive. Twenty-five complete pots were found with the burial, which is certainly most unusual and gives indisputable evidence of types which were in use at one time and place, a fact which is of extreme importance in determining cultural relationships. Several pieces of pottery contained what appears to be the remnants of some sort of food, perhaps corn meal. In one there was a small quantity of raw lac, as collected. In another there was a mass of hair that appears to be that of bear or some other coarse, straight hair. In a third there were rinds of gourd or squash. In still another there were some very minute black seeds, while in the last there was a quantity of twisted fibrous material, perhaps a hank of yarn, and a mass of badly disintegrated vegetable matter, which shows structure but cannot be definitely identified. All this obviously formed a reserve supply of food and materials to be taken to some other life.

It is uncertain in just what category the arrow points and painted reeds should be placed. They are so numerous that they might have been put in the open grave as a sort of offering to the spirit of the man. It is, of course, possible that they, and the large knife blades, might have been actually used in hunting and other operations; therefore, they were probably included with the body for the same purpose as the food, bowls, and ornaments.

**Interpretation**

From the evidence at hand, it is possible to make certain definite interpretations concerning the actual status of the man himself. Of primary interest is, of course, his ceremonial status, for the paraphernalia with him obviously represent some ceremony. Hopi Indian informants were shown portions of the material recovered from this burial soon after it was taken from the ground, and before any particular interpretation was undertaken, to see what reaction they would have toward it. All of them agreed without hesitation that many of the objects were definitely ceremonial. After some discussion, each in turn further decided that they could definitely identify the ceremony represented by the objects. Questioned individually, they all agreed that it was the same ceremony, although they often called it by different names. This latter fact is not necessarily conflicting, for each mesa, and often each village, has a slightly different name, even a different formula, for the same ceremony.

Most impressive was the fact that when an informant was shown only part of the objects, he often described, sometimes quite accurately, other things that should have been found with them. This was the case of a Shungopovi man who indicated that there should have been a clublike object with serrated edges, a double-horn-like object, and a cap with a point on the top, when certain of the sticks were shown to him. These were later produced, much to his gratification. He further suggested that the fraternity was made up of individuals drawn from the Spider and Bluebird clans.

Edmund Nequatewa, a Mishongnovi man, said that the man and the ceremony might be called "Moochiwiimi" or "Nasot wiimi," meaning to swallow sticks. He felt that members were
largely chosen from the Skeleton and Coyote clans, though as time went on those making up the group might have been chosen from new or different clans in order to perpetuate the ceremony. He has described the paraphernalia in detail and says that the last time this ceremony was performed was about 50 years ago, or perhaps slightly later. All informants have agreed that it was a sort of witchcraft, practiced for the strengthening of the individual or the group, so the war leader in a foray was often chosen from this group. For the same reasons they were represented by strong animals, such as the bear and the lion.

A set of eight mountain lion claws and two canine teeth, which had been painted and drilled, were found with the man. Hopi Indians, when asked about these animals, not only insisted that the bear and mountain lion were animals of strength and power, but with equal insistence they maintained that men belonging to this witchcraft group could change themselves into the animals they considered themselves associated with. They could also call upon these animals for aid; in fact, they are supposed to have even had songs which, whenever sung, would call up the animals. This idea is very similar to the guardian spirit concept and might have been physically represented by such objects as these claws and teeth.

Jim Kewanwytewa, of Oraibi, says that the man could be called "Ka-leh-ta-ka" or the leader, since he was the leader on the warpath or in other activities. He, too, has described the objects used by participants in this ceremony, and he has characterized the ceremony as a sort of witchcraft in which sleight-of-hand was undertaken. Like all the other Hopi informants, he has agreed that the use to which the carved sticks were put was similar to the sword in a sword-swallowing act. The pointed end of the stick was forced down the throat so that just the ornamented end projected from the mouth.

Possibly the most interesting observation of any informant was that made by the man from Shungopovi, when he voluntarily asked if the find was not located somewhere near Canyon Diablo. When he was assured that it was from a small pueblo only some 18 or 20 miles west of Canyon Diablo, he was greatly impressed and insisted that people of this ceremony belonged to clans having the right to gather eagles from nests in the vicinity of the canyon. It is quite possible that such was the case, for certainly the Hopi Indians have very recently practiced this ceremony and still understand it quite fully. In many other characters this culture is suggestive of the Hopis; so it is felt that these people were ancestral to, and contributed to, the development of Hopi culture. It is, therefore, more gratifying than surprising that this ceremony could have been identified so completely by living Hopi Indians, and it gives what the writer believes is probably the longest history—800 years with relatively little or no change in so far as the objects used are concerned—of any one ceremony which is now known in the Southwest.

Speculation as to the wealth represented by the objects buried with this one man is interesting. Certainly those things buried with him, particularly the smaller jewelry types, were about the best of the class that were available. That they came from distant places, or at least that the materials of which they were constituted were taken from far and wide, must be admitted, and to secure objects of such excellence, traded from far away, must have required considerable purchasing power. When it is recalled that not only a few but altogether several hundred separate things, most of them of exceptional nature, were found in this one grave, some concept of the wealth represented may be had.

In the opinion of the writer, there can be no doubt that the man was a very well-to-do individual for his section and time; and he further possessed enough magical power to assure that a good number of these objects would accompany him in death. As his ceremony was one of witchcraft and magic, and as this ceremony is classed as one which could be and was used commonly for the accumulation of wealth, it is logical to assume that he used his knowledge of the ceremony most successfully in amassing a fortune.

There are, however, two other possibilities which must be considered as a source of the many objects. First, in the case of the death of a very important or prominent individual, it was the practice of friends to contribute objects of some worth to be buried with him. Or, secondly, in the case of the death of the last member of a society within a village, all of the objects which formed the ceremonial equipment of that society would be buried with him, for they no longer could be used by anyone in that village. Both of these attitudes and actions may readily have swelled the list of objects of his own ownership.

Any effort to determine the cultural source of the objects is much more difficult, but at least a suggestion of the possible derivation of some may
be undertaken. Since raw lac is confined to plants growing under 3,500 feet altitude, it could not have been found in this immediate vicinity; thus it must have been secured from the desert area. If such is the case, it is also possible that many lac objects were made by desert dwellers. The Hohokam people, occupants of the desert in prehistoric times, knew and made use of similar mosaics of turquoise and other materials at an even earlier date. One of the best mosaics was found in a ball court at Casa Grande Ruins. Therefore, it is quite possible, if not likely, that such things were most commonly made in the south.

Consideration of the basketry leads to more difficulty, for a variety of types are represented. The very fact that there are a variety of types lends strength to the feeling that they were secured from several sections. Unfortunately, there is no absolute proof of any one basket type having been made in any one section of culture. However, one-piece rod basketry is found as a type with the Hohokam people, as reported in Snaketown, and it is possible that this type also came from the south (Gladwin, Haury, Sayles, and Gladwin, 1937: 159). The use of a filler with the baskets and the painting of this surface are known only from this immediate region of the Plateau, the Verde Valley, and the Gila Valley. This southern occurrence may not be so significant, for the Salado Culture of the north, with which the burial may be affiliated, did reach the Gila and Salt sections at a relatively late date and might have carried this trait there.

Sticks with carved hoofed feet are reported from Wupatki Pueblo, and in the Museum of Northern Arizona collections there is a stick with a carved deer foot from a site in the Verde Valley. In the Southwest Museum there are two objects made of black slate, one with a hand carved on one end, and the other with a carved hoof on one end of it. Both came from Rattlesnake Hill, near Pine- dale, Arizona. They are essentially the same in form, size, and carving as the wood examples from the Ridge Ruin burial.

The more or less local distribution of associated objects is indicated by the presence of painted basketry of the type described here, a painted stone bowl, and other painted objects from Wupatki Pueblo, and painted basketry from the Verde Valley sites. In these latter there are also many pieces of jewelry made of turquoise mosaics in which the fragments were set into lac.

From present indications, lignite mirrors seem to have been a trait most commonly distributed to the north and the east of this site. They are found at Pueblo Bonito in northeastern New Mexico, at Betatakin in the Marsh Pass—Tsegi section, and in the intervening areas (McGregor, 1941: 195). As has been suggested before, it is possible that it is adapted from the pyrite mirror of Hohokam and Mexican cultures.

Of the several pottery types represented with this burial, only two, those vessels of Sunset Red and Turkey Hill Red, may be definitely considered a part of the culture to which this man belonged. One other type, Walnut Black-on-White, was made near by, by people of related culture. The rest were exotic, though derived from not far away and all belonged to a generalized Pueblo culture. The ceremony represented by the various carved wood objects has already been pointed out as now being associated with Hopi Indians to the north. Thus there is a good deal of indication that the cultural relationship of the things found with this man are more to the south than to any other section, except to the Pueblo cultures flourishing near by in the Plateau, especially to the north and the east.

The identification of the derivation of actual material objects and materials is a much more simple matter, for in most cases they may be specifically determined as to origin. The paints have already been characterized in some detail, with the suggestion that the malachite and azurite probably came from the Verde Valley. The cinnabar quite likely came from the Globe section to the south. The earths probably came from the Painted Desert section, the specular iron from south of Flagstaff, and the iron pyrite from southeastern Arizona or Mexico.

The origin of the shells has been determined by Dr. Howard R. Hill and reported in a previous publication (McGregor, 1941: 215). All of the types represented came either from the west coast or from the Gulf of California. The most interesting shaped shell objects are the two pendants in the form of a circle with a fist and armlike projection (see fig. 9). They were identified by Arthur Woodward as a West Coast type of blank from which fishhooks were made.

It has already been suggested that at least some of the very fine bright blue turquoise with this burial must have come from Los Cerrillos in New Mexico. It is of such exceptional quality that this is about the only place known to the writer from which it might have come. The red argil-
literate stone, used in the making of the nose plug worn by the man, certainly came from near Prescott (Bartlett, 1939), and the lignite probably came from somewhere on Black Mesa.

Lac and its various uses have already been discussed. Although the uses are unique to Southwestern archaeology, so far as is now known, the derivation of the material may be suggested. Certainly it could not have come from the higher altitudes, but it was probably gathered from creosote bushes in the Salt River Valley or from the west, near Kingman, if not from farther away.

From the distribution of the various objects, it is obvious that the contacts of the group to which this man belonged must have been very wide indeed to have made possible their collection. Certainly as much as anything else, the complex of objects represented in this one grave has tended to revise the concept long harbored by the writer that the horizons of Southwestern Indians were somewhat limited. When it is recalled that in the room above this burial the skeletons of two parrots were found, trade relations and contacts from as far away as Mexico must be included.

One other consideration of this material remains to be undertaken. This is the artistic evaluation of the objects, for certainly there can be little doubt that many of them are definitely objects of art. One of the most immediately apparent features of all these things is the eminently appropriate character of the design. This is true in every instance, indicating that it was both clearly conceived and skillfully executed. The second most obvious feature is the very pleasing and carefully chosen color combinations in which the designs were made. The third point is that all of the highly conventionalized life forms used are in more or less three dimensional media, such as plastics or shell.

In broad characterization, designs may all be said to be bold, even radical in their vital strength of conception, but in execution many are extraordinarily delicate. There is also a definite rhythm which may be seen in such heavily conventionalized objects as pottery, painted baskets, or even wood, but in no case does this rhythm persist to the point of monotony.

After all this review and summary, the writer cannot help but feel that the individual buried may perhaps best be characterized most simply as "a prominent old man of forty."

BIBLIOGRAPHY


