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ADDITIONAL DESIGNS ON PREHISTORIC
MIMBRES POTTERY

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INTRODUCTION

In former papers¹ the author has tried to show, from archeological studies, that the prehistoric aborigines of the Mimbres Valley, New Mexico, developed a culture area differing from any other in the Southwest. The characters which more than any other distinguish this culture from others are the adornment of food bowls with realistic, sometimes composite, figures of men and animals, and the artistic character of the designs. Previously to the year 1914, few prehistoric Mimbres picture bowls had been published, but since that date, as shown in part by the literature,¹ many of these have been brought to light, and there are now several collections of size from this valley, which have characteristic realistic figures. Of late years there has been considerable activity in collecting prehistoric pottery in this area, and in May and June, 1923, the author revisited the Mimbres Valley to procure some of this new material for the U. S. National Museum, and the following paper is mainly devoted to descriptions of specimens purchased at that time from Mr. E. D. Osborn, who first called his attention to the pottery of the Mimbres Valley.

There are also considered in this article copies of photographs and drawings of other designs and specimens which could not be purchased for the U. S. National Museum.

The collections of Mimbres pottery that have been examined in the preparation of this article are: about 100 specimens from the Osborn collection, which were purchased; the collection owned by Mr. R. E. Eisele, of Fort Bayard, New Mexico; the collection made by Mrs. Watson, of Pinos Altos; and that of Mrs. Hulbert of the same city. Mr. and Mrs. Cosgrove allowed the author to inspect a fine collection carefully made by them at Treasure Hill (Whisky Creek) near Silver

¹ Archaeology of the Lower Mimbres Valley, New Mexico, Smithsonian Misc. Coll., Vol. 63, No. 10, 1914. Designs on Prehistoric Pottery from the Mimbres Valley, New Mexico, *ibid.*, Vol. 74, No. 6, 1923. Vide, *idem*, Vol. 65, No. 6, 1915; also Amer. Anth. (N. S.), Vol. XVIII, pp. 535-545, 1915.

City. This collection is particularly valuable as it was obtained from one ruin. The author also examined a few small collections, as that of Dr. Swope, previously considered, and a few specimens belonging to Mr. Thompson, of Deming.¹

Although this article is limited to designs on pottery, which are by far the most distinguishing feature, the Mimbres culture may also be characterized by other artifacts which will be considered in a final report on Mimbres prehistory.

Mimbres pictures are painted on the interiors of food bowls and the exteriors of vases. These objects are mortuary and found under the floors of the rooms, the walls of which nowhere rise above the surface of the ground, but are readily observed as small piles of rock called Indian graves. The grave yards are situated along both banks of the Mimbres River and are almost in sight of each other. In its course after it emerges from the hills the Mimbres River sinks underground but flows onward, reappearing at times when the clay bed of the river rises to the surface. The ruins do not always follow the subterranean course but occur scattered over the plain.

Although the geographical extension or horizon of the Mimbres area, as indicated by its peculiar pottery, has not been carefully worked out it is practically limited to the Mimbres Valley, but not necessarily to the terraces along the river. There are sites with picture pottery on the eastern side of Cook's Peak, a prominent mountain belonging to the range that incloses the Mimbres basin on the east. Northward Mimbres pottery has been found over the continental divide in ruins on Sapillo Creek and tributaries of the Upper Gila. The western extension of the Mimbres pottery area is not known, but the ceramics rapidly change in character in this direction, merging into Gila Valley types.

While the designs figured and described in this paper enlarge our knowledge of the ancient Mimbresños they do not materially change conclusions already published. Before we can attempt any very extensive interpretations we sorely need more material; but with the information here published we may venture a few suggestions regarding the culture of the ancient Mimbres people. This knowledge, being wholly derived from archeological data, must from the nature of its source be tentative. We have no other way of revealing the manners and customs of this prehistoric race, as historical accounts are very

¹ The author takes this opportunity to thank all those who have aided him on his visits to the Mimbres, especially Mrs. Watson, Mrs. Hulbert, and Mr. Eisele, who have allowed him to photograph and publish specimens in their collections.

meager and no one has identified the survivors of these people. Archeology contributes knowledge of their life by means of objective material and for that material we must search among wrecks of their houses and the mortuary and other objects which are found in them or in their graves and refuse heaps.

No one has yet carefully excavated their buildings sufficiently to determine the form of their rooms, although fragments of walls have been brought to light. There are two types of mounds, differing in size and contents. One of these types, situated at the Gonzales Ranch, is lenticular in form, made up of adobe containing few stones. These mounds appear as low elevations rising but a few feet above the surrounding surface. The other type, which seems to belong to a later settlement, is indicated superficially by piles of stones formerly laid in adobe in walls of rudest masonry. These walls formed rooms united in rows or even inclosing square courts. In some places there appear on the surface circles of stones,¹ generally of small diameter, bearing outward resemblances to the tops of the bounding walls of buried ceremonial rooms or kivas. Circular kivas have not been found, up to the present, as far south as the Mimbres but a knowledge of their existence and structure would be of value in comparative studies. Subterranean walls extending far below the surface have been laid bare, and several of these have a fine plastered surface.² Little is known of the structure of the roofs as wooden beams have not yet been found. The floors are composed of hardened adobe, sometimes overlaid with flat stones. The dead were buried in the corners of the rooms below the floors, some with limbs extended, others flexed. The bowls that accompany the dead are variously placed, some being at the side of the dead, but now and then they were placed over the head like a cap. Mortuary bowls were deposited with the dead by the ancient pueblos, whose cemeteries are situated outside the walls of their villages. These clusters of stone houses are locally called Indian grave yards, and are generally situated on natural terraces a few feet above the river bed to avoid inundation, but are not confined to the banks of the river, often appearing miles

¹ Possibly ceremonial rooms. "Architecturally the prehistoric habitations of the Mimbres Valley represent an old house form widely distributed in the Pueblo region or that antedating the pueblo or terraced-house type before the kiva had developed."—Arch. Mimbres Valley, p. 52.

² Mr. Cosgrove (El Palacio, July 16, 1923) identifies two rectangular rooms excavated by him at "Treasure Hill" as kivas, and refers to ventilation in them. The author is unable to accept this identification without more knowledge than is now available of their structure.

away from springs, suggesting the puzzling question, "Where did they get water?" One of the largest of the ruins, situated on Montezuma Hill, in sight of the highway not far from the village of Pinos Altos, covers a high hill and consists of many clusters of rooms. In no instance is there evidence that the rooms of Mimbres houses were several stores high or terraced as in the pueblo region. Neither has excavation revealed buildings surrounded by a wall resembling compounds like Casa Grande in the Gila. The mounds of ruins are low, seldom if ever having walls projecting above ground.

The most instructive of the large Mimbres ruins, and one that has yielded many specimens, is called Old Town. This site gives every evidence that it was once a populous settlement. It is situated at the point where the Mimbres river leaves the mountains and enters Antelope Valley. Old Town is a typical Mimbres ruin but has been pretty well ransacked by pot-hunters, yielding some of the most interesting specimens from this valley.

REALISTIC DESIGNS ON POTTERY

The designs on Mimbres pottery are mainly painted on the inside of food bowls and naturally fall into three groups: (1) Realistic; (2) conventional; (3) geometric. The large majority are realistic figures of animals. There are several realistic birds' figures where wings or tail have become more or less conventionalized. The geometric figures either form a marginal decoration or cover the whole interior of the bowl. They often adorn the bodies of animals.

There is one interesting group of realistic designs that is unique in pueblo decoration, viz., parts of two animals united, forming a composite representation of some mythological personage.¹ In one or two instances human bodies have animal heads supposed to be masks.

The different designs collected in 1923 are considered in the following pages. The most exceptional figures are those of composite animals, one of which is shown in figure 1, drawn from a photograph. This bowl, owned by Mr. Eisele, was found by him on the Gonzales ranch. The main figure was evidently intended to represent a human being crouched in a sitting posture, annexed to which is apparently the body of a bird, as shown by tail feathers. The face of the human being is well made and the body wears a kilt of checkerboard design. There are two curved pointed horns on its head. The face is crossed

¹ In this connection see Tello, *Las representaciones de los dioses en el arte antiguo peruano*. Inca, Vol. 1, No. 1, January-March, 1923.

by a white band; body and limbs are black. The author believes that here we have a composition of human figure and the tail of a bird, quite different from any figure on any other piece of pottery known to him.

One of the most instructive pictures in the Eisele collection is the bowl shown in figure 2, upon which are represented three butterflies with outspread wings, two with extended and one with retracted probosces. Each butterfly has two wings around the edge of which are the customary dots which are almost universally found on butterfly figures from the Hopi to the Gila Valley. In the middle of this group stands a man who carries on his head a small vase which he holds in position. One of the butterflies, clinging to the elbow of the man by its feet, extends its proboscis as if to take the contents of the vase. The color of this vase is light cream and the figures are painted in brown merging into black. The ordinary symbol of the butterfly is, of course, triangular; but in this case we have this insect shown from one side, which is a very rare position in pueblo pictography.

The design on figure 3¹ is very intricate, consisting of two units, each twice represented at opposite ends of diameter of the bowl. These units may be called central and peripheral. The former represent two human beings facing in opposite directions and separated by geometrical figures. The arms in each case are raised above the head as if holding a burden. The face of one is white; the color of the body is black. The appendages are slim. The other or peripheral unit is thought to represent a bird. Each of the two representations of this unit has extended tail. The last joint of the legs and the attachment of the legs to the back suggests a grasshopper. This is one of the most complex of all the Mimbres figures, and probably illustrates some ancient myth of which there is no survival, as the aboriginal inhabitants of the Mimbres have either completely disappeared or, what is more likely, have been absorbed into other stocks.

Figure 4 represents a native drawing of a naked² human figure with a feather tied in his hair. He holds at arm's length, in both hands, an animal which resembles a snake. On first sight the impression would naturally be that this figure indicates that the prehistoric Mimbresños had some form of a snake dance, like that of the Hopi, or that this figure represents a shaman or snake charmer conjuring with a reptile. It calls to mind a figure holding a curved object which

¹ When not otherwise stated specimens here described are now in the collection of the U. S. National Museum, and were purchased from Mr. Osborn in 1923.

² Naked men's bodies and limbs are painted black.

might be either a rabbit stick or snake, shown in figure 5; but until we have more detailed material we cannot regard this as more than a suggestion. It does not, of course, follow, even if this man is carrying a snake, that there was an elaborate snake dance among the Mimbrenos.

Figures of snakes are rare, but Mrs. Watson, of Pinos Altos, has a bowl with two coiled designs resembling snakes but without an accompanying human figure; the author has elsewhere¹ figured a horned snake from this region.

The posture of the well-drawn figure of a man in figure 6 (Eisele Collection) is peculiar. Arms and legs are extended and the upper part of the head and nose is black; cheeks white.

The two human beings shown in figure 7 are remarkable. They suggest a child riding on the back of his parent, holding on literally by the hair of his head. This interpretation does not explain the fish attached to the nose of the smaller figure, leading to the belief that there must be some unknown legend back of this figure. The fish has the two ventral fins and the two pectorals. There is also an anal fin but no dorsal. The fins that are represented are longer and more pointed than is usually the case; and the crescent that ordinarily represents the gill opening and operculum is missing, its place being occupied by an unusual black object depicted on a white ground.

The small figure is apparently clothed in one of those jacket-like garments worn by figures of hunters shown in a former article.² This garment is held in place by a woven belt whose ends appear in the figure, tied around the body. There is no indication of clothing on the larger figure, whose head, body, arms and legs are black, the customary color in representing nude figures. The attitude of the arms suggests an ancient Egyptian at prayer. The profiles of the faces in both figures have a certain likeness.

Whether figure 8 represents fishermen who have captured a large fish, some fish legend or a ceremony connected with fishing, is unknown, but each of the four participants has a line connected with the fish's mouth and above the group is an upright pole with feathers attached at intervals. Every man has a different attitude and the faces of all are painted white with black crowns. The cheeks are crossed with parallel lines which also extend lengthwise on the fish. The operculum

¹ Archaeology of the Lower Mimbres Valley, Smithsonian Misc. Coll., Vol. 63, No. 10, fig. 28, 1914.

² Archaeology of the Lower Mimbres Valley, Smithsonian Misc. Coll., Vol. 63, No. 10, fig. 13, 1914.

is not crescentic as in most fishes but is indicated by a white line. The head, fins, and tail are black; ankles of all men are white in color.

In figure 9 a man holding a bow and arrow is shown; head and limbs are evident, but the bowl is so broken that other details do not appear.

The head of the animal represented in figure 10 resembles that of a carnivorous animal, as a mountain lion. The remarkable feature in this figure is the tail, which is very much thickened and elongated, bearing a terraced design on the surface and ending in a triangular tip. A chevron figure on the head of this animal has some resemblance to one on a serpent figured elsewhere.¹

The design figured on the inside of the food bowl (fig. 11) represents a quadruped with a very long tail, curving over the back and ending in a white tip. Attention should be called to the fact that in this figure the anterior legs bend forward, and not backward, which is the general case in most quadrupeds. This animal is apparently walking on his tail and perhaps visualizes some ancient myth similar to one to which my attention has been called as existing among the Plains Indians.

The quadruped depicted in figure 12 evidently represents some carnivorous animal of the cat group, resembling somewhat a wolverine. The interior of the bowl was so much broken that only one figure remained, the duplication being restored.

Figure 13 is a figure of a mountain sheep or goat not unlike some other representations of the same animal elsewhere figured.

We have in figure 14 a representation of a mountain goat, the form and attitude of which is highly characteristic. In figure 15, which represents a mountain sheep, the differences are brought out.

Figure 16 represents a mountain lion but differs from any yet figured in the white line that extends from the ears to the throat. The tail in this figure is turned over the back—an almost universal position in pueblo pictures of the mountain lion.

Figure 17 is a negative picture, or one in white on a black background, representing a rabbit. The ears bear the customary black spots, and the eye is circular in form.

Figures 18, 19, each represent two rabbits painted black on a white ground. The body of one is marked with a longitudinal curved white band with black dots, the other with a checkerboard pattern. But few instances of rabbit pictures are known to me in which the side of the body is decorated with any figure.

¹ This figure has, however, a cephalic horn which is absent in the design considered, which also has two ears.

In figure 20 we have representations of two animals, possibly mother and offspring, one large, one small, both of which have similar projecting jaws. The posterior end of the body of the smaller merges into a fish; the body and hind legs of a quadruped are replaced by the body and fins of a fish, two on the back (where there is never in other fishes more than one dorsal), and one anal fin.¹

Figure 21 shows two hornless quadrupeds standing feet to feet on an ornamented base decorated with checkerboard design. The body of each bears an intricate cross design with stepped edges. The neck has white lines on three sides of a rectangle. Body black; eyes lozenge shaped; ears prominent; tail short, stumpy, marked with white lines.

Figure 22 represents some mythic animal with four legs, and a raised wing. The body is continued in a very unusual posterior appendage recalling a human leg. This specimen belongs to the Hulbert collection. The body is surrounded by a belt with two series of squares, alternating black and white. The mythologic conception in the mind of the painter of this design is a strange one, unlike any yet described in pueblo folk tales.

Figure 23 represents two figures with round heads, large white eyes and prominent lips. The figures of hands apparently are shown on the corners of the bodies. Legs well drawn and toes human in character. No suggestion is made regarding the identification of these figures.

Figure 24 is a negative picture of a flying creature like a bat² with large outspread wings, round head like that last mentioned, and prominent ears. This animal has a tail like that of a mouse outlined in white on a black ground.

Figure 25 shows two quadrupeds with short, stumpy legs, relatively large heads and small necks, with white bodies. No identification of these animals has been made and the details of the small drawings are very incomplete.

The peripheral parallel lines surrounding these figures are crossed by a zigzag line which follows the course of the inner cluster of encircling parallel lines making a singularly ornate and exceptional decoration.

¹The frequent occurrence of fish designs on Mimbres picture pottery has led to a suggestion that we have evidence of a former life near more water than now flows in the Mimbres. But facts do not warrant the conclusion. The author has previously described a figure of a combined antelope and fish.

²The belief that this figure represents a flying mammal or bat, is based on the shape of the head and the absence of feathers.

Figure 26 belongs to the Eisele collection and was found in the same ruin as figure 1. It represents a wading bird (ibis ?) with correspondingly long legs and neck, along which are four small fishes. A short distance from its beak is another fish, apparently about to be devoured by the bird.

One of the instructive forms of composite animals is a figure resembling a bat seen laterally. It shows tail, fore and hind legs of a quadruped, and an appendage attached to the back as seen in figure 27. This appendage represents a wing or row of feathers, seven of which are rounded at the tips and 24 marked with dots at the distal end, and three have their extremities cut off straight, angular or more pointed than the other feathers. The snout of this animal closely resembles that of a bat and has teeth. Three arrows are shown as converging at the mouth as if talking to this animal. Altogether, this is one of the most exceptional forms of flying animals in the Eisele collection, and represents some ancient myth.¹

As in collections previously described, avian figures predominate, but the few specimens here considered introduce one or two novel variations. The simplest form of bird figure in the collection made in 1923 is shown dorsally in figure 28. Here we have a form where wings, body, tail, and head are outlined with straight lines. The head is triangular, black in color, with two dotted eyes. The wings are also triangular and are crossed by parallel lines. The body is rectangular and the tail ends in two triangular black points. The peripheral zone of decoration of this vessel is peculiar and artistic, consisting of alternating zigzag and triangular lines, the character and shape of which are shown in the figure.

Figure 29 (Eisele collection) represents a quail with tufted head turned to one side, and peculiar wing feathers. The aborigines rarely represent a bird laterally with its head twisted back as gracefully as in this picture. The curved appendage to the eye recalls the club-shaped bodies so constantly occurring in Casas Grandes pottery. The wing feathers are of two varieties: one with rounded tips and dots; the other pointed, without dots. The wing is made conspicuous by being white in color while the body is black. The necklace is white.

¹ It suggests a quadruped with an extended wing of a bird. The situation of the arrows is suggestive. In several Hopi legends there are accounts of how a supernatural being shot arrows into the sky, which talked with a mythological personage and then voluntarily flew back to the sender. One of these talking arrows was noted in the legend of the Snake people. Snake Ceremonials at Walpi, Journ. Amer. Arch. and Eth., Vol. IV, 1894.

The bird in figure 30 has widely extended wings of triangular shape, the feathers being represented by dentations on the lower side; the tail feathers have characteristic white tips. The body is globular, without legs. There are parallel lines on the head resembling a tuft of feathers. The body decoration is a square enclosing three parallel concentric lines and a white interior. The head is turned to one side, but the tail is shown from above.

Figures 31 (Eisele collection), and 32 are representations of a similar bird. The extended wings of figure 31 are crescentic and bear midway three parallel white lines. Along the lower edge of each wing are clubshaped feathers. The head and tail are seen dorsally. The legs are abnormally extended, one on each side. The irregular design just below the neck is a perforation made when the bowl was "killed."

In figure 33 we see a well drawn representation of a turkey cock, showing the tail feathers twisted vertically out of perspective. The figure below on which it stands is a turkey hen. We have here both sexes of the turkey. It will be noted that the body of the cock is not perfectly square but the surrounding lines are slightly bent or curved, imparting some grace to an otherwise stiff figure.

As has been stated elsewhere negative pictures of animals or geometric designs occur on both Mimbres and Casas Grandes pottery. In these figures the animal is not drawn but a background is painted in such a way that a white figure is represented. In certain Mimbres designs within the profile of the white or rectangular field is a picture in black. A figure of a human being or animal drawn inside the negative of the same is exceptional in pueblo ceramic decoration. An example of this form of design is shown in figure 34.

The bird represented in figure 34 is double headed and is one of those very exceptional figures in which we have a negative picture overlaid with a positive so that the latter seems to be rimmed with a white border. The body is rectangular, covered by a checkerboard design of small black and white lozenge-shaped figures. The two wings are dentated along their borders; legs short, without claws. The two round heads with short beaks face in opposite directions, and curved appendages recall feathers.

Remove the picture in black from its setting or background and the negative picture of a bird still remains, or a white figure with black background. There are one or two other examples of similar overlaid pictures in Mimbres picture bowls.¹

¹ Designs on Prehistoric Pottery from the Mimbres Valley, Smithsonian Misc. Coll., Vol. 74, No. 6, fig. 10, 1923.

A well drawn bird figure shown in figure 35 is represented on the right side. Unlike most of the Mimbres birds its beak is short and the legs are small, placed far back on the body. Almost all the body is covered by a checkerboard design composed of alternate squares, white and black in color. The extended primary and secondary feathers of the wing are clearly seen. The tail is quite unlike that of other birds, more like that of some quadruped. The geometrical marking on the body under the extended wing is exceptional.

The design on the bowl shown in figure 36 is an unknown bird whose neck is ornamented with a number of dotted squares arranged in a zigzag figure recalling the design on the head of a Horned Serpent shown elsewhere. The association of the checkerboard figure on the sun and serpent symbol is highly suggestive. The puncture in the middle of this bowl hides the figure on the body which is indicated by ends of white lines. This bird stands above an implement of unknown use.

Figures 36a to 36f represent the different forms of this implement which is several times figured with the realistic designs from the Mimbres. The exact use of these objects is not known but it has been conjectured that they were knives, batons, or other stone objects, with handles. The simplest form is shown in figure 36a and consists of an elongated blade attached to a handle. This blade has zigzag markings which Mr. De Lancey Gill has suggested represent chipping of a stone implement ("sword").

Figures 36b and 36c are aberrant forms of an implement that may have been used for defense, the same shown under a bird in figure 36. Figure 36f resembles in some respects a stone spear point.

Figure 36a introduces a figure of a circular body between the handle and the shaft, and two crescentic extensions between the handle and the blade.

Figure 36e would seem to be analogous to the group of implements above although it wants the handle so conspicuous in the three preceding figures. It has a circular extremity around which are a number of small semicircles. This object was held in the hand of a quadruped, whereas, the other objects were associated with birds.

In figure 36f, where two of these objects are represented on the same bowl, we have, in addition to the handle, radiating lines at the point of attachment of the shaft and handle.

The middle of this bowl has been punctured in "killing," thus rendering it impossible to discover whether an arm and leg is drawn on each side.

As the use of the objects which these figures represent is purely conjectural it is much to be hoped that other bowls on which they may be figured will later be brought to light for examination.

The present figure (fig. 37) is from the original now in the U. S. National Museum, and differs from the former illustration¹ in the tail feathers which are unique. Each of the six tail feathers bifurcates into two parallel lines as here shown (fig. 37). The wing is highly symbolic; its central part in the original has a brown color which is here incorrectly indicated by parallel lines resembling hachures elsewhere shown. We have only one-half of this bowl, but there were undoubtedly two parrots on it when complete. The triangular object in front of the parrot is connected in some way with the "sword" elsewhere considered.

Portions of a head and tail of an animal are shown in figure 38. Enough is preserved to indicate that they are parts of a bird figure carrying a twig of leaves or feathers in the mouth. The middle of the bowl is too much broken to enable one to determine the shape of the body, wings, and the remainder of the design.

The mouth of figure 39 has teeth unlike any genus of living bird and the tail resembles that of a fish more than any other animal. The specimen is owned by Mr. Eisele, of Fort Bayard. The head bears two horns that remind one of some species of Cervidae, but the body and wings are strictly avian. The correlation of a long neck and legs exists in this picture.

Figure 40 shows two negative designs, that above representing a rabbit and the one below a highly conventionalized bird. These two figures are separated by a band consisting of several parallel lines black and white alternating. The original is in the Hulbert collection at Pinos Altos.

Figure 41 is a well drawn bird from the Eisele collection as seen from the side. This bird shows a tail prolonged at the two corners into pointed feathers and is the only bird design that has this characteristic.

Figure 42 represents a man herding a turkey whose globular body is different from that of any turkey yet described. The original specimen is in the Watson collection at Pinos Altos.

Two designs of figure 43 in Mrs. Watson's collection are supposed to represent serpents, but their identification is doubtful. They are comparable with the so-called serpents held by the priests shown in figures 4 and 5.

¹ Designs on Prehistoric Pottery from the Mimbres Valley, fig. 46. Fig. 6 in this article is a female figure with a basket on her back in which are twins, each with a sun symbol.

Figure 44 is the dorsal view of a lizard. The design on the margin of this bowl appears never to have been completed but consists of triangles, five of which are simply outlines; the remainder filled in with solid black.

The surface of the food bowl shown in figure 45 is decorated with a picture of a turtle crowded into the whole interior surface of the bowl. The body of this turtle is crossed by a number of parallel longitudinal lines and on each side of it are two curved bands with dentations on one side. The hind legs have no indications of feet. On each side of a pointed tail and in a corresponding position to the head there are depicted angular extensions of the rim, black in color, the shapes of which can be seen in the figure (45).

The head of figure 46 also resembles that of a turtle but the fragments of the bowl on which the body was drawn are missing. The fore and hind legs and tail are represented by triangles painted solid black.

Figure 47 represents a turtle with outstretched legs, triangular head and a single eye. It is surrounded by four white scrolls.

Figure 48 has fragmentary parts of two lizards arranged side by side.

Figure 49 represents a turtle with four claws; the tail and head shown on the periphery of the carapace. The back is covered with a rectangular figure with concentric quadrangles.

It is interesting to notice how often¹ the fish was used by the prehistoric aborigines of the Mimbres Valley in decorating the inside surface of their food bowls. The main differences in the different fishes are specific or indicated by the geometric figures on their bodies or in the shape and number of their fins. The body of the fish shown in figure 50 is decorated with a plaid, rarely used but not unknown as a geometric ornament.

Animals with their mouths approximated are sometimes found on Mimbres ware and it is suggested that the intention was to represent these two animals as talking to each other. In figure 51 we have a common example of this usage in Mimbres pictography, namely, a bird and fish with mouths approximated.

Figure 52 represents a fish, the body of which is covered by a checkerboard design of alternating black and white squares. In other respects this figure is not exceptional, similar fishes having been often

¹Very few fishes are depicted on prehistoric pueblo pottery of other areas so far as is known to the author.

figured, but the arrangement of the gill opening is unusual and the anterior end of the body is differently marked from others that the author has seen.

The bowl, the design on which is shown in figure 53, was broken when found, rendering the relationship of the two animals and the accompanying object painted on it more or less doubtful, but parts of a fish figure and of an antelope are recognizable. The highly instructive original of this picture is owned by Mrs. Watson. Apparently this is not a composite of an antelope and fish but the former stands in front of the latter. The author has no theory to suggest regarding an identification of the object on which the hind legs of the antelope rests.

The animal pictured in figure 54 is called the "vinagaron" and belongs to the Arachnida, or spider group, differing from insects in having four pairs of legs instead of three. Two representations of this animal are known to the author but the greater part of one figure is illegible.

Figure 55 represents some insect, as a grasshopper, the surface of the body of which is covered with a checkerboard pattern.

The animal shown in figure 56 has three legs on one side of the body, recalling an insect. It has antennæ and head like those of the same group of animals; but the body is far from realistic, recalling a turtle. This may be one of the composite animals of which the author has already spoken, as its identification as one animal is difficult.

The design on figure 57 represents the same animal as figure 56, but with minor differences. Legs are absent in this figure and its body instead of being decorated with a checkerboard pattern has wineglass and other figures in white outlines on a black ground. In figure 57 the semicircular design corresponding to the curvature of the body is black; its middle is occupied by a semicircle with hachures and saw-toothed straight edge.

The author is unable to identify the insect pictured in figure 58. It has certain anatomical likenesses to the ant lion but the head is somewhat exceptional. The original figure shows a possible composite animal, but the relationship of it is unknown. The original is owned by Mrs. Hulbert, of Pinos Altos.

Figure 59 is probably a mythological conception, the identification of which is at the present time conjectural. In form the main design is a prominent circle with triangular extensions suggesting a sun symbol and two eyes like those of a mask. This disk is supported on two appendages resembling legs. An elbow-shaped organ hangs between these legs, and the region of the face below the eyes is

covered by a chevron-shaped zone of alternate black and white squares forming a checkerboard decoration reminding one of the figure of the sun elsewhere shown. It is possible that this is a representation of some mythological being, or symbol associated with sun worship; but too little is known of the Mimbrenño mythology to properly identify it.

GEOMETRICAL DESIGNS

The Mimbres geometrical designs are quite unlike those described from pueblo areas. Several geometric designs are negative figures or white designs brought out by black backgrounds. The most abundant geometric figures are the interlocking slanting terraces, one covered with hachure, the other plain black. In all the figures rectilinear lines predominate and zigzags are the most pronounced. It is wonderful how many different designs can be produced by a modification of the two interlocking terraces, parallel lines and cruciform figures. All geometric designs are limited to the inside surface of mortuary bowls, the exterior being destitute of decoration. There are no broken encircling lines.

The characteristic geometrical patterns of the Mimbres ware, on account of their strictly American character no less than their great artistic beauty, are particularly good as patterns for decoration of fabrics and specialists have already begun working on them with this thought in mind. They are as unlike those of prehistoric pottery from other pueblo areas as are the various realistic designs already considered. Their significance cannot be determined—a condition true of most pueblo geometric figures—but irrespective of that they are of the utmost importance in determining by comparative methods of the relations of the pottery and hence the relation of subcultures of our Southwest which is the home of the pueblos. The general characters of the geometrical patterns may be seen in figures 60 *et seq.*, no two of which are identical. It will be seen on examination of these figures that the majority are linear designs with now and then curved lines. Among other figures may be identified the cross, stars, broad arrow, squares, triangles, checkerboard and other figures.

The designs are simple, either covering the whole interior surface of the food bowl or confined to the periphery leaving a central circular, rectangular or other formed area without decoration.

The design on figure 61 represents a four-pointed star outlined in pure black and filled with a hachure. Its center is occupied by a geometric figure with a number of concentric smaller rectangles

A five-pointed star has not yet been found in Mimbres designs and the star made up of four blocks of solid black with a white center so common on Sikyatki¹ (a Hopi ruin) and other Hopi pottery is likewise absent in Mimbres ware.

In figure 62 we also have a representation of a star verging into a cross in which the arms are not pointed but cut off at right angles. The design in figure 63 is cruciform with suggestions of a swastica. The arms are prolonged into needle-like points; on one side of each arm there are three serrations with notched edges. This unique form of cross the author does not find duplicated in prehistoric pueblo pottery and is peculiar to the Mimbres.

The cross-shaped figure forming the design (fig. 64) has three arms and a central circular area; the intervals between the arms being filled in with parallel lines or hachures and dots. This figure, like the preceding, is peculiar to the Mimbres ceramic area.

There is very little duplication of geometric designs in the collection. The design of figure 65 is painted red and consists of three arms, each formed of three parallel lines extending from a circular center to the periphery. The three areas between these groups of lines are filled in with zigzag white figures ending in interlocked spirals, a unique form of decoration.

In figure 66 we have the negative picture of a three-lobed design bordered with dentations, the triangular intervals being filled in with solid black.

The beautiful design shown in figure 67 can best be appreciated by an examination of the illustration. Cross hatching introduced in the two opposite units is a new feature in Mimbres geometrical designs and is exceptionally striking.

There are six white bordered arrows in figure 68 alternating with three rectangles with hachures and three in white forming an attractive design exceptional among pueblo decorations.

Figure 69 is an artistic design with four rectangular figures on a black ground alternating with which are eight small white circles each with a cross in black at its center.

Figure 70 is largely made up of negative designs artistically arranged with hachures, dual terraced figures forming a combination of a unique character in pueblo designs.

Figures 71 and 72, hitherto undescribed geometrical decorations on pueblo pottery, are artistic and so far as known characteristic of the Mimbres. Although the various geometrical designs on Mimbres pottery differ greatly they have a general similarity.

¹ Vide 17th Ann. Rep. Bureau of American Ethnology.

Figures 73 and 74 are characteristic designs not found among pueblos.

The design on figure 75 is an intricate serrate figure surrounding a central circle that is devoid of decoration. The two regions of the zone about the central figure are different; on one side we have three points of a star; on the other bars and hachures.

The design shown in figure 76 is a central white circular zone with projecting points of an irregular star around which is a meander of white lines with black background, in four zones, each zone remotely like the others.

Figure 77 has zigzag lines surrounding a central circle without decoration. There are rain-cloud designs which can best be seen by examining the figure.

In figures 78 the design is composed of zigzag and other figures surrounding a central undecorated circle.

Figure 79 shows a design on a black background made up of zigzags, rectangles, and hachured triangles surrounding a central undecorated zone.

Figure 80 recalls pueblo designs but is strictly characteristic of the Mimbres.

Figure 81 is an unusual geometric pattern in which hachures and white zigzag lines predominate.

In figure 82, representing a design from the Black Mountain ruin, we notice the main differences between Gila and Mimbres designs. This bowl is made of red ware and has a yellow interior on which are painted a solid black circular rim and white squares with black dots.

In order to show how much the designs on Gila Valley pottery differ from those of the Mimbres Valley the author has introduced figure 82 from the Black Mountain ruin not far from Deming. This ruin was settled by colonists from the Gila Valley and in its mounds are also found other specimens of Gila Valley pottery as well as that characteristic of Casas Grandes, specimens of which are also shown in subsequent figures.

The design (fig. 83) consists of a number of zigzag bands radiating from the center.

Each of the designs (fig. 84) can be reduced to a quadrangular body the margins of which have rows of triangles.

The design on figure 85 is stellate, in which the white is brought out into a negative picture by a decorative black base. The design is not symmetrical and is characteristic.

In figure 86 we have represented a design made of white areas as in figure 85 forming a cross with four arms. Few specimens of this design have been found in the Mimbres Valley.

The design (fig. 87) has elements of figure 86 and that shown in figure 88 has an hourglass center. The last designs are unique, never found in pueblo decorations.

Figure 90 shows a unique design from a Mimbres bowl composed of two units: one, white bars interlocking with parallel black lines; the other, white zigzags on a black base.

The design on the food bowl shown in figure 91 is a cross formed of white bands, and parallel lines surrounded by encircling lines and hachures arranged in groups.

The design on figure 92 may be reduced to two rings surrounding a black central circular region. These two rings are made up of alternating white triangles on a black ground; but these triangles do not correspond, to form rectangles, as one would expect; the triangles in the interior zone are more pointed than those of the exterior zone. There seems to be no indication, however, that in making these double designs a pattern was used, and the whole design affords evidences of having been drawn free-hand.

In figure 93 we have a design depicted on a flat circular clay disk, in Mrs. Watson's collection, slightly curved on one face and flat on the other. The design is restricted to the curved surface; the flat side being undecorated. The use of this object is unknown, but it has a likeness to one shown in profile in a previously published figure where three men engaged in a game of chance are represented and the stake is a bunch of arrows in a basket.

Figure 94 shows a design of intricate character in which are introduced a central undecorated area surrounded by a rectangular figure with radiating extensions recalling figure 63. The peripheral portion of this design is quite different from those previously described in the so-called friendship curve, a pueblo feature repeatedly found on pictographs and pottery designs. It also occurs in various modifications of Mimbres pottery.

Figures 95 and 96 are simple designs that need no description and can be readily understood by examination of the illustrations. The element of artistic beauty in figure 95 that separates it from the majority of other designs of the same general nature is a series of dotted lines forming a tracery passing over the zone of parallel lines surrounding the central figure.

Figure 97 shows two effigy jars from the Mimbres Valley which are instructive as indicating the geographical distribution of this form. In the Casas Grandes pottery, where these effigy jars are much more numerous and complicated, we have a very large relative number of similar forms, some of which have been modified into human figures. In the Mimbres, on the contrary, objects of this kind are quite rare. The designs on the two here figured strictly belong to the Mimbres group.

In figure 98 we have still another of these effigy jars, which, however, differs from those spoken of above in that a handle is absent. The form of these jars suggests a conventionalized bird, the conventionalized designs on the body representing wings; the eyes and mouth are rudely indicated by circles. The remaining designs on figure 99 are representations of a mountain sheep, and on figure 100, what appears to be a composite animal having a tail of a bird and the limbs, thorax, body, and head of an insect.

The last figure (fig. 101) represents four rude undecorated vases belonging to the coiled variety of pottery, evidently cooking vessels, one of which has a handle. This type of pottery, found throughout the Mimbres Valley, recalls the archaic types recorded from the pueblo region but is crude in comparison with them. It resembles somewhat prepuebloan types from northern New Mexico and Colorado, but the fine corrugated and coiled ware of the North is thinner and shows greater technique and variety than that either of the Mimbres or Casas Grandes in Chihuahua.

Geometric decorations are generally arranged on bowls either in two or four; sometimes in three, but very rarely five and higher numbers. When the unit design is doubled the two units are placed diametrically opposite on the bowl. Decoration is always absent on the exteriors of the food bowls. It will be noticed in a consideration of dual designs in the series that the repetition of the same unit is painted freehand; no pattern or stamp was used and the unit pattern when repeated varies somewhat in execution. Evidently the potter held the object in her hand and painted by the eye, arranging the figures in such a way that the spaces might be filled by the pictures. A modification of the shape of the figure to conform with the area to be covered was not uncommon. The lines are sometimes so fine that we can hardly suppose the chewed end of a yucca stick was used as a brush as is generally the case among the Hopi.

COMPOSITE DESIGNS

The composite pictures are representations of two animals combined. The custom of uniting different animals as a unit is sometimes found among the more advanced tribes of Mexico and Central America, but is rare or unknown among the North American Indians. As examples of these composite pictures may be mentioned quadrupeds represented with a human head and nondescript animals with the body of an antelope and tail of a fish, or tails of twin fishes added to a turtle body. These composite pictures illustrate to the Indian mind their folk-lore or mythology and may represent mythological beings or legends now forgotten which were current at the time they were made. It may be possible by renewed research to find survivals of these stories in the folk-tales of kindred peoples and thus determine what personages these composites were intended to represent; but at present we can do no more than recognize that the Mimbres Valley pottery bears evidences of a rich mythology or folk-lore that has disappeared. Fishes and quadrupeds are the most common of the composite forms.

Two of the best examples of a composite animal in the collection now being described are shown in figures 1 and 14; in figure 37 the wing and its feathers, also the tail feathers, are conventionalized, while the head and body of the bird are wonderfully realistic.

Attention may be called to the tendency to conventionalize certain organs, as wings and feathers of birds, even when the figure of the bird is realistic. This may be an index of the change from realism to symbolism which in Sikyatki pottery has gone so far as to reduce the whole figure to a symbol.

COMPARATIVE STUDY OF MIMBRES DESIGNS

Geographically the valley of the Mimbres lies between high lands on the east and north and the Casas Grandes Valley on the south. As the physiography of these neighboring areas is different and pottery designs unlike each other, it may be well to devote a few lines to comparative studies. The northern and western neighbors of the aborigines of the Mimbres were those of the Gila Valley and its tributaries; on the south the Mimbres Valley merges into that of northern Chihuahua. It is natural that the distribution of ancient pueblo and other pottery in our Southwest should follow rivers or streams of water whose banks are natural trails. The presence of water, also a desideratum for an agricultural population, may be considered in a general treatment of migration of people.

The geographical location of tributaries of four streams of constant water, the Gila, the Rio Grande, the Little Colorado and the San Juan, played an important part in migration. The Mimbres not being connected with these rivers or their drainage areas, being in a way isolated, we may expect, *a priori*, that its pottery was little modified by that of these other drainage areas. The Rio Grande river in the latitude of Deming to the Gulf of Mexico is singularly free from tributaries, especially on the right bank, and there are no river routes for interchange of prehistoric people. Higher up we find pueblos on this river still inhabited. The Gila river also has few tributaries in its lower course and few ruins away from the river itself. It runs east and west; its sources and those of the Salt divided into numerous tributaries. In this country of the Upper Gila and Salt we find many ruins of several varieties. There are several northern tributaries where ruins are abundant and in the Upper Gila there are many tributaries and many ruins among the canyons of the sources of this river. Throughout its whole course from source to the Gila Bend there are many ruins. The northern tributaries overflowed their population beyond the Mogollon into the Valley of the Little Colorado as far north as the Hopi, Zuñi, *et alii*. This wide north-south distribution of Gila Valley pottery is due to the direction of the flow of the many tributaries of these rivers.

The main tributaries of the San Juan on the left or south bank were also significant in the direction of human migrations. The general trend of migration is south from this river and the ruins are more abundant near the sources and along tributaries. The isolated Mimbres Valley migrations had very little effect on the pottery designs of the aborigines of the San Juan.

There seems to be a consensus of opinion of the few ethnologists who have considered the Casas Grandes ceramic culture area that it is true puebloan, or that pottery likenesses are sufficient to place both in the same group. If we limit the term "true pueblo" to a type of sedentary culture¹ that developed in the northern part of New Mexico and Arizona and the southern part of Utah and Colorado, the differences are striking. The author believes there are so many features in the culture of the Gila that are different from the pueblo that in strict scientific usage it is better not to classify them in the same type.

It is believed that the Gila culture spread north over the Mogollon mountains into the Little Colorado valley and even north of that into

¹ Practically the so-called "Kiva culture" of the San Juan Valley, whose structural characteristics have been elsewhere pointed out.

the Hopi region where it mingled with the true pueblo, migrating southward, thus forming a mixed culture. In New Mexico the same thing happened; the pueblo element, originating in the north, extended as far south as Zuñi, in which are evidences of a mixture with the Gila culture. The ancient potters of the Upper Gila and Salt rivers left abundant pottery and there is enough material from which we can by comparison determine their relation to the people of the Lower Gila. They show the union of the true pueblo culture and that of the aborigines south of them, which did not greatly differ from the pueblos.

The pottery of the adjacent Gila-Salt area differs from that of the Mimbres in several characters. The designs on the interior are broad black rectangular lines on a gray surface, the outside of the bowl being red in color, whereas Mimbres ware is white with narrow black or red figures¹ on the inside of the bowls.

It is also pertinent to point out the differences between the pottery of the Mimbres Valley and that of northern Chihuahua (Casas Grandes region), which are significant. The available collections thus far made in these two regions afford differences in data; an examination of these collections shows that the specimens from the Mimbres are food bowls, while those from northern Chihuahua are vases. As a rule food bowls found in the latter region are small and deep, although sometimes large. They are decorated on the exterior, which is not the case in similar vessels from the Mimbres. About ten per cent of the Casas Grandes vases are effigies, while only a very small portion of the Mimbres vases can be so designated. In the Casas Grandes area are many polished black bowls like the so-called Santa Clara ware, but little black ware has thus far been found in the Mimbres. The same is true of undecorated red ware, which occurs in Chihuahua but is rare or absent in the Mimbres.

It is mainly in the decoration of pottery of the two areas that we find the greatest differences in the pottery. That from the Chihuahua mounds is more brilliant in color than any other in the Southwest; it is very smooth without superficial slip, in which it recalls old Hopi ware from the ruins of Sikyatki where the beautiful figures are also painted directly on the surface, not on a slip. Casas Grandes ware is a polychrome, or red and yellow on a gray-white ground. The ware

¹ Incidentally attention should be called to the uniform width of the encircling parallel lines and the boldness with which they are drawn in Mimbres ware. In the accompanying figures Mrs. Mullet has preserved that uniformity in breadth of line and distance apart. This fact is mentioned lest some critic may find too much regularity in the drawings.

from the Mimbres may be called the black and white, although many of the bowls are gray rather than white, and even pass into a red. The decorations of both Casas Grandes and Mimbres¹ food bowls are drawn in black and brown ranging into tan color, but it would appear at times as if this difference in coloration was due to unequal firing of the paint which is apparently some iron oxide. There are one or two polychrome bowls and one in which the figures are decidedly red. The change in color by exposure to the air in some specimens which were collected in 1914 is perceptible. But while the Mimbres pottery may be classified as black and white ware it differs from that found in cliff dwellings and other archaic ruins. The main differences are not so much in colors as in designs, which afford a clear idea of cultural differences. In other words, it is, of course, in the decorations that the main difference between the pottery from the two regions lies.

The animals represented on the Chihuahua (Casas Grandes) pottery are very few compared with those on Mimbres ware. Birds, snakes, a quadruped or two, the frog, and one or two others, embrace the main animal designs on the southern pottery, while in the Mimbres the number of animals depicted is very much larger. A complete list of these would make a catalogue of some size, but a few of those animals not found on Casas Grandes ware might be mentioned. Among quadrupeds are the lion, deer, antelope, mountain sheep; several species of fishes; a large number of birds; many insects, as butterflies, dragon flies; scorpions, turtles, lizards, and various other animals. None of these are represented in relief, however, as is the case with animal forms on pottery from Casas Grandes, but are painted on a flat surface mainly on the inside of bowls. There is no area in the Southwest where the animals represented on pottery outnumber those of the Mimbres, nor any area where the aboriginal potters have left us such truthful realistic pictures of animals by which they were surrounded.

The representations of human beings in the Chihuahua ware are painted effigies; there are few representations, so far as known, of an effigy human being or one in relief on the pottery of the Mimbres. The author has seen no picture on Casas Grandes pottery in which men are represented as hunting, gaming, or engaged in any occupation.

¹ The character of the design rather than the technique of the pottery distinguishes the two regions.

The geometrical designs as well as naturalistic representations of men or animals from Casas Grandes and the Mimbres have much in common but several differences. One of the most common of the geometrical decorations is the step figure divided into two halves separated by a zigzag band. This is almost universal throughout the pueblo area.¹ In the Casas Grandes ware one of these oppositely placed series of step figures is generally (not always) black and the other tan colored or red. The same design on the Mimbres ware has one series painted a solid black color and the other has hachure lines, a design which occurs all over the Southwest and which the Mimbres area shares with the Pueblo and the ruins in the valley of the Gila. This likeness suggests that the Mimbres ware is allied both to the pueblan and to that from Casas Grandes.

One important geometrical decoration of the Mimbres pottery consists of parallel lines. In their desire to decorate all portions of the object they have almost invariably filled in different geometrical outlines with hachure or cross hatching, checkerboard or other rectangular figures as suited the wish of the designer. Another favorite geometrical design is the cross of various kinds, among which the elaborate swastika may be mentioned. A rectangular design of frequent use throughout the Southwest is the compound triangle made up of two or more united triangles. This is a favorite decoration on the bodies of animals and has been variously interpreted. The triangle is the symbol of life, and the arrangement of several triangles may have some similar meaning. Similar triangles, double or single, appear on the walls of kivas or sacred rooms of cliff dwellings, in the houses and on the wedding blankets of the Hopi girls. Among the living Hopi a triangle is commonly said to represent the butterfly, a symbol of life or fertility.

Another favorite rectangular ornament is the checkerboard pattern, alternate clusters of black and white triangles or squares forming a very effective rectangular pattern. The checkerboard is very commonly associated with the sun but is also frequently found in the paintings of animal bodies.

The majority of geometrical figures are rectangular or triangular: Spirals, circles, and curved lines are very rare.

There is one geometric design which occurs almost universally in the pueblo area and while it suffers several modifications is essentially identical in widely separated geographical localities. This dec-

¹One of the strongest reasons advocated to include these areas among the pueblos.

oration may be called the "dual reversed stepped design." It is composed of two terraced figures so placed that their terraces interlock, leaving a zigzag line between them. This is particularly characteristic of black on white or gray ware which is most abundant on the oldest decorated pottery of the Southwest, but it also survived into modern times. In the Mimbres pottery as in other types it forms the most abundant form of geometric decoration. The two series of reversed terraces are different either in color or design. This is indicated in the Mimbres by solid black on one side and hachure or parallel lines on the opposite, while in the Casas Grandes pottery one series is solid black, the other red, hachure being exceptional; the terraces here, acute angled among the pueblos, become right angles as in Mesa Verde pueblos situated in both caves and open situations.

The presence of this "dual reversed stepped design" on the ancient decorated pottery of our Southwest in the judgment of some authors relegates both Mimbres and Casas Grandes pottery to the pueblo type. It suggests that the Mimbres pottery is old,¹ and the fact that it is so abundant on black and white ware, which is considered old, supports the same conclusion. There are several other characteristic pueblo designs on Mimbres pottery, as the interlocked spiral. They point to pueblo affinities.

The rectangle is found constantly on pueblo pottery; it is sometimes simply an outline but may be solid black or crossed by parallel lines which may be cross hatched and form a checkerboard pattern with or without dots. The edges of these rectangles may be dentated, serrated, or without ornament, simply plain. The rectangular figure, generally single but rarely double, is very common on animal designs.

The realistic figures on Mimbres and the symbolic figures on Sikyatki² ware have little in common; there are comparatively few realistic animal designs depicted on bowls from the latter ruin. It was the habit of the Sikyatki potters to decorate the outside of their food bowls as well as the interior with geometric figures, a habit rarely if ever practiced by the Mimbres potters. The highly conventionalized designs on the inside of Sikyatki food bowls were seldom

¹ The black and white ware found elsewhere in the Southwest shows very few realistic figures except in the Mimbres, but many simple geometric designs.

² 17th Annual Report, Bureau of American Ethnology, Pl. CXXI. While comparative studies bearing on the relation of Sikyatki pottery are not wholly satisfactory it has seemed to the author that the affiliations of Awatobi designs with those of Sikyatki are not as close as he thought a quarter of a century ago. Awatobi pottery is nearer to that of the Little Colorado than is Sikyatki, and this is also the teaching of tradition.

accompanied with geometrical figures. Negative pictures, so common on the Mimbres ware, are not found on ancient Hopi (Sikyatki) ceramics. The great difference between ancient Mimbres and Hopi designs is that the former are realistic¹; the latter conventional and limited to a few forms; no fishes, turtles, or deer appear on Sikyatki ware because aquatic animals were absent from their water course. Among the cliff houses we find mountain sheep represented realistically as pictographs. The ceramic art of Sikyatki reflects a waterless desert, but the Mimbresños lived in a valley where water, although small in quantity, was perennial.

The "killing" of mortuary bowls before they were buried is almost universal in Mimbres ware. The bowls were almost without exception perforated artificially. Sometimes several perforations were made and in one instance three of these holes were arranged in such a way as to suggest a mask with the mouth and eyes of a human face. Sikyatki pottery was never perforated and "killing" mortuary objects was almost wholly unknown. There are no reliable evidences that the San Juan cliff dwellers killed their mortuary pottery. The potters of the Gila killed their mortuary vessels as did also certain of their descendants.

The Mimbres pottery is distinguished from that of Casas Grandes by significant conventionalized designs. The "club-like" ornament, so conspicuous a negative design on Casas Grandes decoration, is practically absent in the Mimbres area. This ornament can generally be reduced to bird heads, feathers, or even bird bodies, and is generally introduced to fill in triangles where the background is solid black. Whereas bird figures on Casas Grandes ceramics like the "club-like" figures are almost invariably negative or white on black background, only a few negative pictures of birds are found on Mimbres ware, but instead birds are black or red painted on a white ground; we have no human beings, fishes, rabbits and other animals in white on black in Mimbres ware. This is one of the several differences between the pictured pottery of the two culture areas. Although bird figures differ there is a similarity in the form of feathers when used as an individual decorative element in the two regions.

We can say that the remarkable development of realistic designs in the Mimbres area is local, but that the designs are related to the pueblo and have affinities on one side to the Gila and on the other to the Casas Grandes, but on the whole the culture was self centered

¹At Sikyatki we find few realistic and many symbolic and geometric designs; in the Mimbres many realistic, few symbolic and many geometric.

and unique. The interlocked terraced figures and spirals it shares with the pueblo may be a survival of a pueblo relationship and may be an evidence of a remote kinship, but in the Mimbres environment the designs have become wholly unlike the northern relatives.

RELATIVE AGE OF MIMBRES POTTERY

The age of the Mimbres Pottery is unknown save that it antedates the historical epoch. The method of determining its age by the stratification of shards in refuse heaps has not been found feasible in this region, mainly because deep refuse heaps have not yet been discovered. The small size of those that are known indicates a rather short occupation and although a few different kinds of pottery occur they have not yet been arranged in an evolutionary series. It is doubtful whether or not all types were synchronous with the picture bowls. Probably when the valley was first peopled the colonists came from areas beyond the mountains and the production of realistic figures developed after they had inhabited the Mimbres Valley for some time.³

The fact that these designs are highly realistic or specialized does not, in the author's judgment, mean that the culture which they express was necessarily late in development. What few facts we have point to limited residence in an isolated valley.

The potters who painted the designs on Mimbres ware were contemporary with those who decorated the beautiful pottery of northern Chihuahua and that of the Gila compounds as indicated by the presence of shards or even complete specimens from these regions. The transfer was either by traders or possibly by clans or colonists seeking new homes, which appears to account for the alien ware at Black Mountain ruin.

While the penetration of the Casas Grandes type of pottery into the Mimbres Valley, either through trade or otherwise, is indicated by this ceramic distribution, we have no evidence of a counter migration or that Mimbres types or styles of design migrated south across the Mexican border. We have large collections of Casas Grandes ware but in none of them are true Mimbres picture bowls.

The great abundance of designs and the absence of conventionalism is interpreted to mean that pottery making in the Mimbres was not

³ Unfortunately the individual ruins from which most of the specimens here considered have been taken are not definitely known. There is, however, no evidence that there is any great difference in age between the various ruins along the Mimbres.

limited to a few individuals as among the Hopi. Many Mimbres women were potters and there was more individuality in the designs they used. Among the ancient Hopi (Sikyatki) pottery designs show a more crystallized conventional art.

It is not possible in the present state of our knowledge to determine the date when the prehistoric Mimbres disappeared or possibly were merged into the Apache of the same time, but it appears that they were contemporaneous with the prehistoric population of the Gila and the Casas Grandes.



1



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4



5



6

MIMBRES FOOD BOWLS.

1. Human being with horns.
2. Man and three butterflies.
3. Two human beings and two animals.

4. Man with serpent.
5. Man with snake.
6. Seated man.

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12

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MIMBRES FOOD BOWLS.

7. Two human figures and a fish.
8. Four men and a fish.
9. Man with bow and arrow.

10. Quadruped with large tail.
11. Unidentified quadruped.
12. Two mountain lions.



13



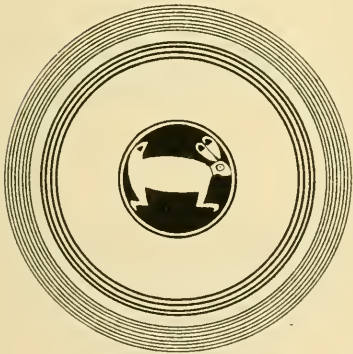
14



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Mullett

MIMBRES FOOD BOWLS.

13. Mountain sheep.
14. Mountain goat.
15. Mountain sheep.

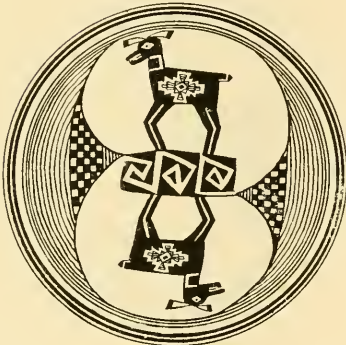
16. Mountain lion.
17. Negative picture of rabbit.
18. Two rabbits.



19



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Mullett

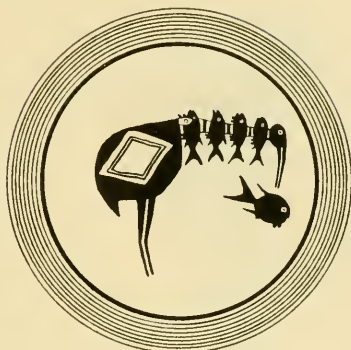
MIMBRES FOOD BOWLS.

19. Two rabbits.
20. Unidentified animals.
21. Two fawns.

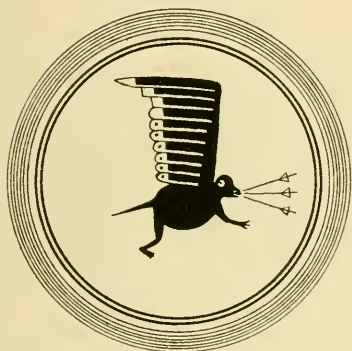
22. Unidentified composite animal.
23. Two unidentified figures.
24. Negative picture of bat.



25



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Mullett

MIMBRES FOOD BOWLS.

25. Two quadrupeds.
26. Crane with five fishes.
27. Bat.

28. Cubist bird.
29. Unidentified bird.
30. Unidentified bird.



31



32



33



34



35



36

Mullett

MIMBRES FOOD BOWLS.

31. Unidentified bird.

32. Unidentified bird.

33. Turkey cock and hen.

34. Bird with two heads.

35. Bird with elevated wing.

36. Bird with "sword."



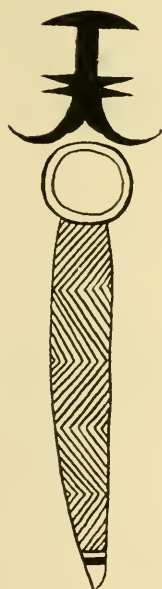
36a



36b



36c



36d



36e



36f Mullett

UNIDENTIFIED OBJECTS FROM DIFFERENT FOOD BOWLS.



37



38



39



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41



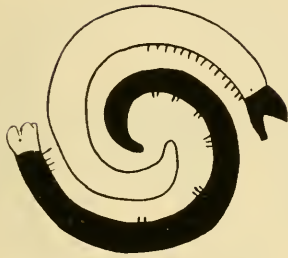
42

Mullett

MIMBRES FOOD BOWLS.

37. Parrot.
38. Dove (?) with object in beak.
39. Unidentified bird.

40. Negative pictures of rabbit and bird.
41. Unidentified bird.
42. Man herding turkey.



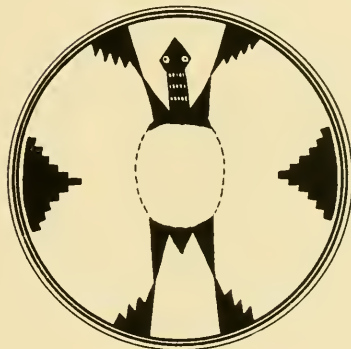
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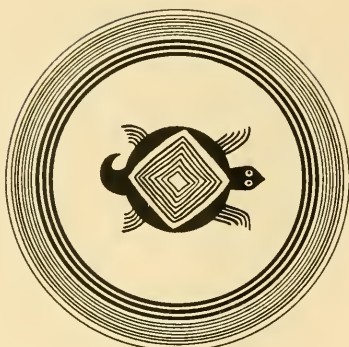
48

Mullett

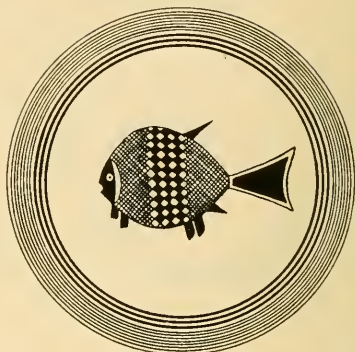
MIMBRES FOOD BOWLS.

- 43. Two serpents.
- 44. Lizard.
- 45. Turtle.

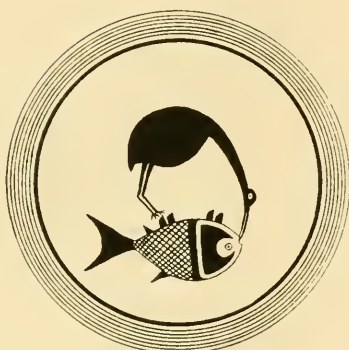
- 46. Turtle.
- 47. Turtle.
- 48. Lizard.



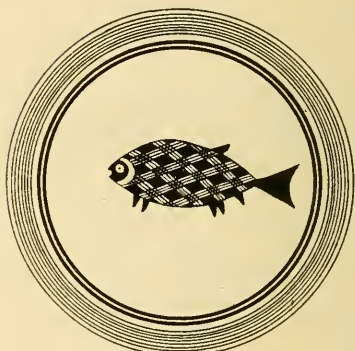
49



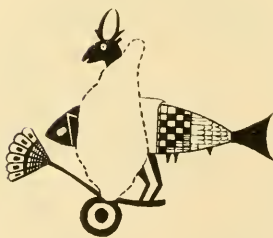
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51



52



53



54

MIMBRES FOOD BOWLS.

49. Turtle.
50. Fish.
51. Bird and fish.

52. Fish.
53. Antelope, fish, and unknown object.
54. Arachnid.

Mullert



55



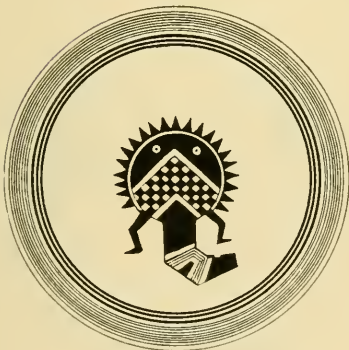
56



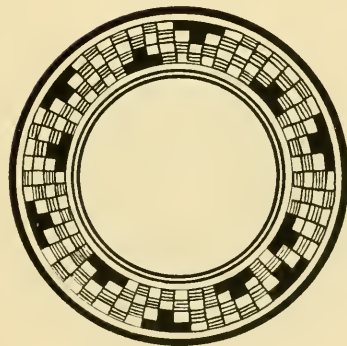
57



58



59



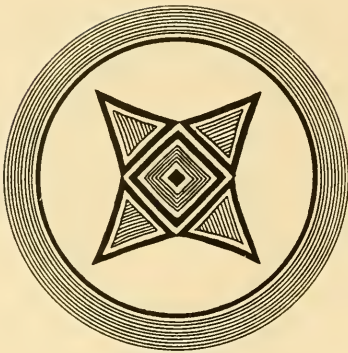
60

Mullett

MIMBRES FOOD BOWLS.

- 55. Grasshopper.
- 56. Unidentified insect.
- 57. Unknown animal.

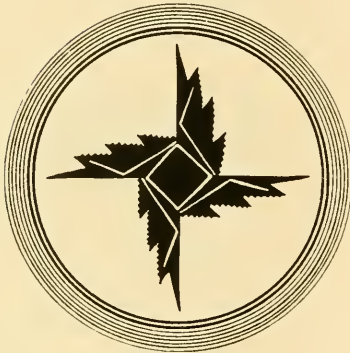
- 58. Unidentified insect.
- 59. Sun symbol.
- 60. Geometric design.



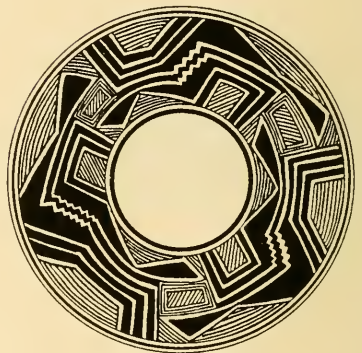
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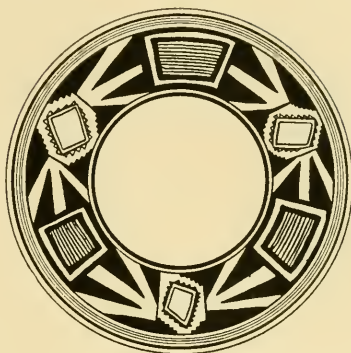
66

Mullett

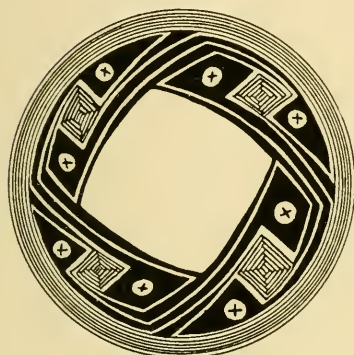
MIMBRES FOOD BOWLS.
Geometric Designs.



67



68



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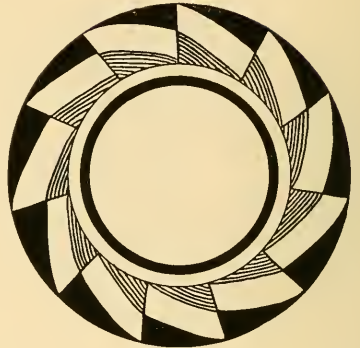
72

Mullett

MIMBRES FOOD BOWLS.
Geometric Designs.



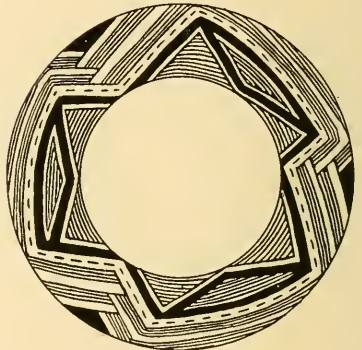
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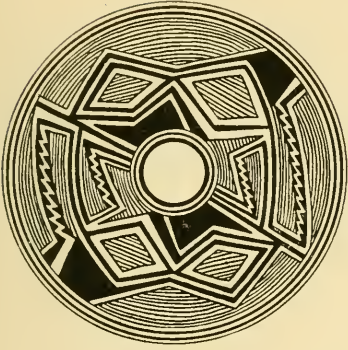
77



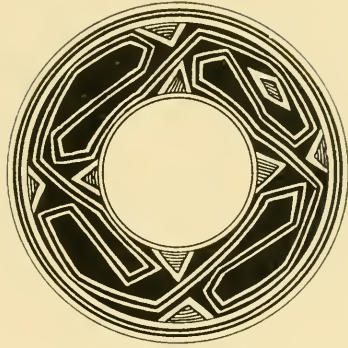
78

Mullett

MIMBRES FOOD BOWLS.
Geometric Designs.



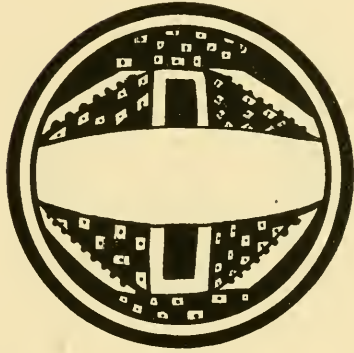
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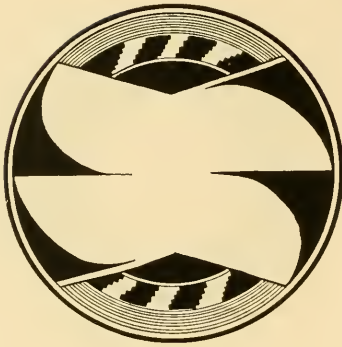
83



84

Mullett

MIMBRES FOOD BOWLS.
Geometric Designs.



85



86



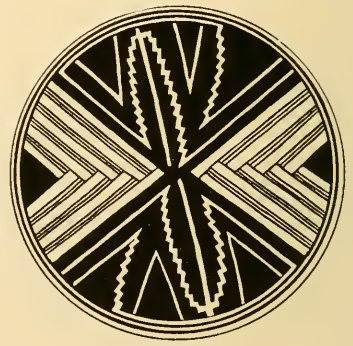
87



88



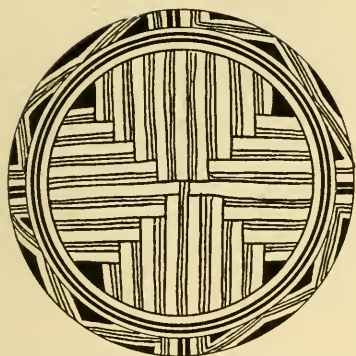
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90

Mullett

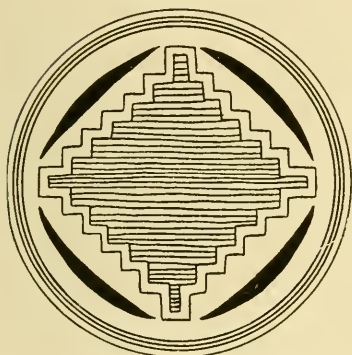
MIMBRES FOOD BOWLS.
Geometric Designs.



91



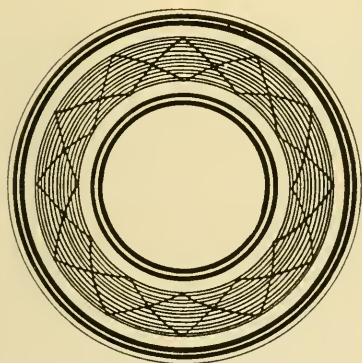
92



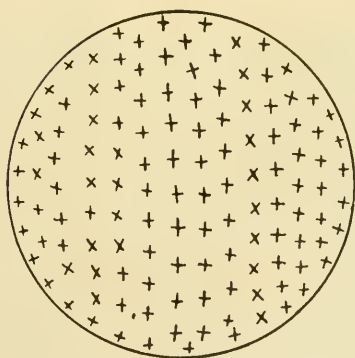
93



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95



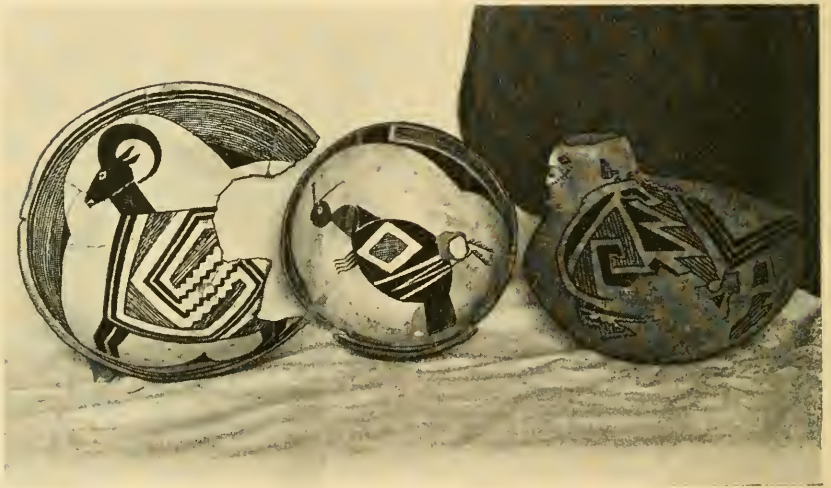
96

Mullett

MIMBRES FOOD BOWLS (FIG. 93, CLAY DISK).
Geometric Designs.



97



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100

98



101

MIMBRES POTTERY.

97. Effigy vase (lateral and front view).
98. Effigy vase (lateral view).
99. Mountain sheep.

100. Unidentified insect.
101. Four rough corrugated jars.