

THE DWARF AND THE DEITIES



Tales of Masauwûh and
Calako

Although water was so near the surface that it could be found by pulling up a tuft of grass. The people had but little food, however, and they besought Masauwûh to help them, but he could not. "There came a little old man, a dwarf, who said that he had two sisters who were the wives of Calako, and it might be well to petition them. So they prepared an altar, every man making a paho, and these were set in the ground so as to encircle a sand hillock, for this occurred before houses were known. "Masauwûh's brother came and told them that when Calako came to the earth's surface wherever he placed his foot a deep chasm was made; then they brought to the altar a huge rock, on which Calako might stand, and they set it between the two pahos placed for his wives. "Then the people got their rattles and stood around the altar, each man in front of his own paho; but they stood in silence, for they knew no song with which to invoke this strange god. They stood there for a long while, for they were afraid to begin the ceremonies until a young lad, selecting the largest rattle, began to shake it and sing. Presently a sound like rushing water was heard, but no water was seen; a sound also like great winds, but the air was perfectly still, and it was seen that the rock was pierced with a great hole through the center. The people were frightened and ran away, all save the young lad who had sung the invocation. "The lad soon afterward rejoined them, and they saw that his back was cut and bleeding and covered with splinters of yucca and willow. The flagellation, he told them, had been administered by Calako, who told him that he must endure this laceration before he could look upon the beings he had invoked; that only to those who passed through his ordeals could Calako become visible; and, as the lad had braved the test so well, he should thenceforth be chief of the Calako altar. The lad could not describe Calako, but said that his two wives were exceedingly beautiful and arrayed with all manner of fine garments. They wore great headdresses of clouds and every kind of corn which they were to give to the Hopi to plant for food. There were white, red, yellow, blue, black, blue-and-white speckled, and red-and-yellow speckled corn, and a seeded grass (kwapi). "The lad returned to the altar and shook his rattle over the hole in the rock, and from its interior Calako conversed with him and gave him instructions. In accordance with these he gathered all the Hopi youths and brought them to the rock, that Calako might select certain of them to be his priests. The first test was that of putting their hands in the mud and impressing them upon the rock. Only those were chosen as novices the imprints of whose hands had dried on the instant. "The selected youths then moved within the altar and underwent the test of flagellation. Calako lashed them with yucca and willow. Those who made no outcry were told to remain in the altar, to abstain from salt and flesh for ten days, when Calako would return and instruct them concerning the rites to be performed when they sought his aid. "Calako and his two wives appeared at the appointed time, and after many ceremonials gave to each of the initiated five grains of each of the different kinds of corn. The Hopi women had been instructed to place baskets woven of grass at the foot of the rock, and in these Calako's wives placed the seeds of squashes, melons, beans, and all the other vegetables which the Hopi have since possessed. "Calako and his wives, after announcing that they would again return, took off their masks and garments, and laying them on the rock disappeared within it. "Some time after this, when the initiated were assembled in the altar, the Great Plumed Snake appeared to them and said that Calako could not return unless one of them was brave enough to take the mask and garments down into the hole and give them to him. They were all afraid, but the oldest man of the Hopi took them down and was deputed to return and represent Calako. "Shortly afterward Masauwûh stole the paraphernalia, and with his two brothers masqueraded as Calako and his wives. This led the Hopi into great trouble, and they incurred the wrath of Muiyinwûh, who withered all their grain and corn. "One of the Hopi finally discovered that the supposed Calako carried a cedar bough in his hand, when it should have been willow; then they knew that it was Masauwûh who had been misleading them. "The boy hero one day found Masauwûh asleep, and so regained possession of the mask. Muiyinwûh then withdrew his punishments and sent Palüükooñ (the Plumed Snake) to tell the Hopi that Calako would never return to them, but that the boy hero should wear his mask and represent him, and his festival should be celebrated when they had a proper number of novices to be initiated." Several food basins from Sikyatki have a human hand depicted upon them, and in one of these both hands are represented.

On the most perfect of these hand figures a wristlet is well represented, with two triangular figures, which impart to it an unusual form. From between the index and second finger there arises a triangular appendage, which joins a graceful curve, extending on one side to the base of the thumb and continued on the other side to the arm. The whole inside of the basin, except the figure of the hand and its appendage, is decorated with spattering, and on the outside there is a second figure, evidently a hand or the paw of some animal. This external decoration also has a triangular figure in which are two terraces, recalling rain-cloud symbols. One of the most interesting representations of the human hand is found on the exterior of a beautiful bowl. The four fingers and the thumb are shown with representations of nails, a unique feature in such decorations. From between the index finger and the next, or rather from the tip of the former, arises an appendage comparable with that before mentioned, but of much simpler form. The palm of the hand is crossed by a number of parallel lines, which recall a custom of using the palm lines in measuring ceremonial prayer sticks, as I have described in a memoir on the Snake dance. In place of the arm this hand has many parallel lines, the three medial ones being continued far beyond the others, as shown in the figure. QUADRUPEDS Figures of quadrupeds are sparingly used in the decoration of food bowls or basins, but the collection shows several fine specimens on which appear some of the mammalia with which the Hopi are familiar. Most of these are so well drawn that there appears to be no question as to their identification. One of the most instructive of these figures is shown in plate CXXX, a, which is much worn, and indistinct in detail, although from what can be traced it was probably intended to represent a mythic creature known as the Giant Elk. The head bears two branched horns, drawn without perspective, and the neck has a number of short parallel marks similar to those occurring on the figure of an antelope on the walls of one of the kivas at Walpi. The hoofs are bifid, and from a short stunted tail there arises a curved line which encircles the whole figure, connecting a series of round spots and terminating in a triangular figure with three parallel lines representing feathers. Perhaps the strangest of all appendages to this animal is at the tail, which is forked, recalling the tail of certain birds. Its meaning is unknown to me. There can be no doubt that the delineator sought to represent in this figure one of the numerous horned Cervidæ with which the ancient Hopi were familiar, but the drawing is so incomplete that to choose between the antelope, deer, and elk seems impossible. It may be mentioned, however, that the Horn people are reputed to have been early arrivals in Tusayan, and it is not improbable that representatives of the Horn clans lived in Sikyatki previous to its overthrow. Two faintly drawn animals, evidently intended for quadrupeds, appear on the interior of the food bowl shown in plate. These are interesting from the method in which they were drawn. They are not outlined with defined lines, but are of the original color of the bowl, and appear as two ghost-like figures surrounded by a dense spattering of red spots, similar in technic to the figure of the human hand. I am unable to identify these animals, but provisionally refer them to the rabbit. They have no distinctive symbolism, however, and are destitute of the characteristic spots which members of the Rabbit clan now invariably place on their totemic signatures. The animal design on the bowl illustrated in, probably represents a rabbit or hare, quite well drawn in profile, with a feathered appendage from the head. Behind it is the ordinary symbol of the dragon-fly. Several crosses are found in an opposite hemisphere, separated from that occupied by the two animal pictures by a series of geometric figures ornamented with crooks and other designs. The interior of the food bowl shown in, as well as the inner sides of the two ladles represented in plate, are decorated with peculiar figures which suggest the porcupine. The body is crescentic and covered with spines, and only a single leg, with claws, is represented. It is worthy of mention that so many of these animal forms have only one leg, representative, no doubt, of a single pair, and that many of these have plantigrade paws like those of the bear and badger. The appendages to the head in this figure remind one of those of certain forms regarded as reptiles, with which this may be identical. In another decoration we have what is apparently the same animal furnished with both fore and hind legs, the tail curving upward like that of a cottontail rabbit, which it resembles in other particulars as well. This figure also hangs by a band from a geometric design formed of two crescents and bearing four parallel marks representing feathers. The single crescent depicted on the inside of the ladle shown in plate, is believed to represent the same conception, or the moon; and in this connection the very close phonetic resemblance between the Hopi name for moon and that for the mammal may be mentioned.

In the decoration last described the same crescentic figure is elaborated into its zoomorphic equivalent. An enumeration of the pictographic representations of mammalia includes the beautiful food bowl shown in plate , which is made of fine clay spattered with brown pigment. This design represents probably some ruminant, as the mountain sheep or possibly the antelope, both of which gave names to clans said to have resided at Sikyatki. The hoofs are characteristic, and the markings on the back suggest a fawn or spotted deer. There is a close similarity between the design below this animal and that of the exterior decorations of certain vases and square medicine bowls. Among the pictures of quadrupedal animals depicted on ancient food bowls there is none more striking than that illustrated in, which has been identified as the mountain lion. While this identification is more or less problematical, it is highly possible. The claws of the forelegs are evidently those of one of the carnivora of the cat family, of which the mountain lion is the most prominent in Tusayan. The anterior part of the body is spotted; the posterior and the hind legs are black. The snout bears little resemblance to that of the puma. The entire inner surface of the bowl, save a central circle in which the head, fore-limbs, and anterior part of the body are represented, is decorated by spattering. Within this spattered area there are highly interesting figures, prominent among which is a squatting figure of a man, with the hand raised to the mouth and holding a ceremonial cigarette, as if engaged in smoking. The seven patches in black might well be regarded as either footprints or leaves, four of which appear to be attached to the band inclosing the central area. In the intervals between three of these there are branched bodies representing plants or bushes. REPTILES Snakes and other reptilian forms were represented by the ancient potters in the decoration of food bowls, and it is remarkable how closely some of these correspond in symbolism with conceptions still current in Tusayan. Of all reptilian monsters the worship of which forms a prominent element in Hopi ritual, that of the Great Plumed Snake is perhaps the most important. Effigies of this monster exist in all the larger Hopi villages, and they are used in at least two great rites—the Soyaluña in December and the Palüükonti in March, as I have already described. The symbolic markings and appendages of the Plumed Snake effigy are distinctive, and are found in all modern representations of this mystic being. While several pictographs of snakes are found on Sikyatki pottery, there is not a single instance in which these modern markings appear; consequently there is considerable doubt in regard to the identification of many of the Sikyatki serpents with modern mythologic representatives. In questioning the priests in regard to the derivation of the Plumed Serpent cult in Tusayan, I have found that they declare that this cultus was brought into Tusayan from a mythic land in the south, called Palatkwabi, and that the effigies and fetishes pertaining to it were introduced by the Patki or Water-house people. From good evidence, I suspect that the arrival of this phratry was comparatively late in Tusayan history, and it is possible that Sikyatki was destroyed before their advent, for in all the legends which I have been able to gather no one ascribes to Sikyatki any clan belonging to the phratries which are said to have migrated from the far south. I believe we must look toward the east, whence the ancestors of the Kokop or Firewood people are reputed to have come, for the origin of the symbolic markings of the snakes represented on Sikyatki ceramics. Figures of apodal reptiles, with feathers represented on their heads, occur in Sikyatki pictography, although there is no resemblance in the markings of their bodies to those of modern pictures. One of the most striking of these occurs on the inside of the food basin shown in plate. It represents a serpent with curved body, the tail being connected with the head, like an ancient symbol of eternity. The body is destitute of any distinctive markings, but is covered with a crosshatching of black lines. The head bears two triangular markings, which are regarded as feather symbols. The position of the eyes would seem to indicate that the top of the head is represented, but this conclusion is not borne out by comparative studies, for it was often the custom of ancient Tusayan potters, like other primitive artists, to represent both eyes on one side of the head. The zigzag line occupying the position of the tongue and terminating in a triangle is a lightning symbol, with which the serpent is still associated. While striving not to strain the symbolism of this figure, it is suggested that the three curved marks on the lower and upper jaws represent fangs. It is highly probable that conceptions not greatly unlike those which cluster about the Great Plumed Serpent were associated with this mythic snake, the figure of which is devoid of some of the most essential elements of modern symbolism. While from the worn character of the middle of the food bowl illustrated in plate, it is not possible to discover whether the animal was apodal or not from the crosshatching of the body and the resemblance of the appendages of the head to those of the figure last considered.

It appears probable that this pictograph likewise was intended to represent a snake of mystic character. Like the previous figure, this also is coiled, with the tail near the head, its body crosshatched, and with two triangular appendages to the head. There is, however, but one eye, and the two jaws are elongated and provided with teeth, as in the case of certain reptiles. The similarity of the head and its appendages to the snake figure last described would lead me to regard the figure shown in plate, as representing a like animal, but the latter picture is more elaborately worked out in details, and one of the legs is well represented. I have shown in the discussion of a former figure how the decorator, recognizing the existence of two eyes, represented them both on one side of the head of a profile figure, although only one is visible, and we see in this picture a somewhat similar tendency, which is very common in modern Tusayan figures of animals. The breath line is drawn from the extremity of the snout halfway down the length of the body. In modern pictography a representation of the heart is often depicted at the blind extremity of this line, as if, in fact, there was a connection with this organ and the tubes through which the breath passes. In the Sikiyatki pottery, however, I find only this one specimen of drawing in which an attempt to represent internal organs is made. The tail of this singular picture of a reptile is highly conventionalized, bearing appendages of unknown import, but recalling feathers, while on the back are other appendages which might be compared with wings. Both of these we might expect, considering the association of bird and serpent in the Hopi conception of the Plumed Snake. Exact identifications of these pictures with the animals by which the Hopi are or were surrounded, is, of course, impossible, for they are not realistic representations, but symbolic figures of mythic beings unknown save to the imagination of the primitive mythologist. A similar reptile is pictured on the food bowl shown in plate, in which design, however, there are important modifications, the most striking of which are: The animal has both fore and hind legs represented; the head is round; the mouth is provided with teeth; and there are four instead of two feather appendages on the head, two of which are much longer than the others. Were it not that ears are not represented in reptiles, one would be tempted to regard the smaller appendages as representations of these organs. Their similarity to the row of spines on the back and the existence of spines on the head of the "horned toad" suggests this reptile, with which both ancient and modern Hopi are very familiar. On a fragment of a vessel found at Awatobi there is depicted the head of a reptile evidently identical with this, since the drawing is an almost perfect reproduction. There is a like figure, also from Sikiyatki, in the collection of pottery made at that ruin by, of Prescott, the year following my work there. The most elaborate of all the pictures of reptiles found on ancient Tusayan pottery is shown in plate, in which the symbolism is complicated and the details carefully worked out. A few of these symbols I am able to decipher; others elude present analysis. There is no doubt as to the meaning of the appendage to the head, for it well portrays an elaborate feathered headdress on which the markings that distinguish tailfeathers, three in number, are prominent. The extension of the snout is without homologue elsewhere in Hopi pictography, and, while decorative in part, is likewise highly conventionalized. On the body semicircular rain cloud symbols and markings similar to those of the bodies of certain birds are distinguishable. The feet likewise are more avian than reptilian, but of a form quite unusual in structure. It is interesting to note the similarity in the carved line with six sets of parallel bars to the band surrounding the figure of the human hand shown in plate. In attempting to identify the pictograph on the bowl reproduced in plate, there is little to guide me, and the nearest I can come to its significance is to ascribe it to a reptile of some kind. Highly symbolic, greatly conventionalized as this figure is, there is practically nothing on which to base the absolute identification of the figure save the serrated appendage to the body and the leg, which resembles that of the lizard as it is sometimes drawn. The two eyes indicate that the enlargement in which these were placed is the head, and the extended curved snout a beak. All else is incomprehensible to me, and my identification is therefore provisional and largely speculative. I wish, however, in leaving the description of this beautiful bowl, to invite attention to the brilliancy and the characteristics of the coloring, which differ from the majority of the decorated ware from Sikiyatki. Among the fragments of pottery found in the Sikiyatki graves there was one which, had it been entire, would doubtless have thrown considerable light on ancient pictography. This fragment has depicted upon it portions of the body and the whole head and neck of a reptilian animal. We find on that part of the body which is represented, three parallel marks which recall those on the modern pictures of the Great Plumed Serpent.

On the back there were apparently the representations of wings, a feather of which is shown above the head. The head likewise bears a crest of three feathers, and there are three reptilian like toes. Whether this represents a reptile or a bird it is impossible for me to say, but enough has already been recorded to indicate how close the symbolism of these two groups sometimes is in ancient pictography. It would almost appear as if the profound anatomical discovery of the close kinship of birds and reptiles was unconsciously recognized by a people destitute of the rudiments of the knowledge of morphology. Among the inhabitants of an arid region, where rain-making forms a dominant element in their ritual, water animals are eagerly adopted as symbols. Among these the tadpole occupies a foremost position. The figures of this batrachian are very simple, and are among the most common of those used on ceremonial paraphernalia in Tusayan at the present time. In none of these is anything more than a globular head and a zigzag tail represented, and, as in nature, these are colored black. The tadpole appears on several pieces of painted pottery from Sikyatki, one of the best of which is the food bowl illustrated in plate. The design represents a number of these aquatic animals drawn in line across the diameter of the inner surface of the bowl, while on each side there is a row of rectangular blocks representing rain clouds. These blocks are separated from the tadpole figures by crescentic lines, and above them are short parallel lines recalling the symbol of falling rain. One of the most beautiful forms of ladles from Sikyatki is figured in plate, a specimen in which the art of decoration by spattering is effectively displayed. The interior of the bowl of this dipper is divided by parallel lines into two zones, in each of which two tadpoles are represented. The handle is pointed at the end and is decorated. This specimen is considered one of the best from Sikyatki. The rudely drawn picture on the bowl figured in plate, would be identified as a frog, save for the presence of a tail which would seem to refer it to the lizard kind. But in the evolution of the tadpole into the frog a tailed stage persists in the metamorphosis after the legs develop. In modern pictures of the frog with which I am familiar, this batrachian is always represented dorsally or ventrally with the legs outstretched, while in the lizards, as we have seen, a lateral view is always adopted. As the sole picture found on ancient pottery where the former method is employed, this fact may be of value in the identification of this rude outline as a frog rather than as a true reptile. One of the most characteristic modern decorations employed by the Hopi, especially as a symbol of fecundity, is the butterfly or moth. It is a constant device on the beautiful white or cotton blankets woven by the men as wedding gifts, where it is embroidered on the margin in the forms of triangles or even in more realistic patterns. This symbol is a simple triangle, which becomes quite realistic when a line is drawn bisecting one of the angles. This double triangle is not only a constant symbol on wedding blankets, but also is found on the dadoes of houses, resembling in design the arrangement of tiles in the Alhambra and other Moorish buildings. This custom of decorating the walls of a building with triangles placed at intervals on the upper edge of a dado is a feature of cliffhouse kivas, as shown in NordenSKIÖLD's beautiful memoir on the cliff villages of Mesa Verde. While an isosceles triangle represents the simplest form of the butterfly symbol, and is common on ancient pottery, a few vessels from Sikyatki show a much more realistic figure. In plate, is shown a moth with extended proboscis and articulated antennæ, and in d of the same plate another form, with the proboscis inserted in a flower, is given. As an associate with summer, the butterfly is regarded as a beneficent being aside from its fecundity, and one of the ancient Hopi clans regarded it as their totem. Perhaps the most striking, and I may say the most inexplicable, use of the symbol of the butterfly is the so-called Hokona or Butterfly virgin slab used in the Antelope ceremonies of the Snake dance at Walpi, where it is associated with the tadpole water symbol. The most beautiful of all the butterfly designs are the six figures on the vase reproduced in plate. From the number of these pictures it would seem that they bore some relationship to the six world-quarters—north, west, south, east, zenith, and nadir. The vase has a flattened shoulder, and the six butterfly figures are represented as flying toward the orifice. These insect figures closely resemble one another, and are divided into two groups readily distinguished by the symbolism of the heads. Three have each a cross with a single dot in each quadrant, and each of the other three has a dotted head without the cross. These two kinds alternate with each other, and the former probably indicate females, since the same symbols on the heads of the snakes in the sand picture of the Antelope altar in the Snake dance are used to designate the female.

Two antennæ and a double curved proboscis are indicated in all the figures of butterflies on the vase under consideration. The zones above and below are both cut by a "line of life," the opening through which is situated on opposite equatorial poles in the upper and under rim. Butterfly design on upper surface of plate Butterfly design on upper surface of plate ,The rectangular figures associated with the butterflies on this elaborately decorated vase are of two patterns alternating with each other. The rectangles forming one of these patterns incloses three vertical feathers, with a triangle on the right side and a crook on the left. The remaining three rectangles also have three feathers, but they are arranged longitudinally on the surface of the vase. The elaborate decoration of the zone outside the six butterflies is made up of feathers arranged in three clusters of three each, alternating with key patterns, crosshatched crooks, triangles, and frets. The wealth of ornament on this part of the vase is noteworthy, and its interpretation very baffling. This vase may well be considered the most elaborately decorated in the whole collection from Sikyatki. There are several figures of butterflies, like those shown in plate, in which the modifications of wings and body have proceeded still further, and the only features which refer them to insects are the jointed antennæ. The passage from this highly conventionalized design into a triangular figure is not very great. There are still others where the head, with attached appendages, arises not from an angle of a triangle, but from the middle of one side. This gives us a very common form of butterfly symbol, which is found, variously modified, on many ancient vessels. In such designs there is commonly a row of dots on each side, which may be represented by a sinuous line, a series of triangles, bars, or parallel bars. The design reproduced in plate, represents a moth or butterfly associated with a flower, and several star symbols. It is evidently similar to that figured in a of the same plate, and has representations of antennæ and extended proboscis, the latter organ placed as if extracting honey from the flower. The conventional flower is likewise shown in e of this plate. The two crescentic designs in plate, are regarded as butterflies. The jar illustrated in plate, is ornamented with highly conventionalized figures on four sides, and is the only one taken from the Sikyatki cemeteries in which the designs are limited to the equatorial surface. The most striking figure, which is likewise found on the base of the paint saucer shown in plate, is a diamond-shape design with a triangle at each corner. The pictures drawn on alternating quadrants have very different forms, which are difficult to classify, and I have therefore provisionally associated this beautiful vessel with those bearing the butterfly and the triangle. The form of this vessel closely approaches that of the graceful cooking pots made of coiled and coarse indented ware, but the vessel was evidently not used for cooking purposes, as it bears no marks of soot. Among the most constant designs used in the decoration of Sikyatki pottery are figures of the dragon-fly. These decorations consist of a line, sometimes enlarged into a bulb at one end, with two parallel bars drawn at right angles across the end, below the enlargement. Like the tadpole, the dragon-fly is a symbol of water, and with it are associated many legends connected with the miraculous sprouting of corn in early times. It is a constant symbol on modern ceremonial paraphernalia, as masks, tablets, and pahos, and it occurs also on several ancient vessels , where it always has the same simple linear form, with few essential modifications. The symbols of four dragon-flies are well shown on the rim of the square box represented in plate. This box, which was probably for charm liquid, or possibly for feathers used in ceremonials, is unique in form and is one of the most beautiful specimens from the Sikyatki cemeteries. It is elaborately decorated on the four sides with rain-cloud and other symbols, and is painted in colors which retain their original brilliancy. The interior is not decorated. The four dragon-flies on the rim of this object are placed in such a way as to represent insects flying about the box in a dextral circuit, or with the heads turned to the right. This position indicates a ceremonial circuit, which is exceptional among the Tusayan people, although common in Navaho ceremonies. In the sand picture of the Snake society, for instance, where four snakes are represented in a border surrounding a mountain lion, these reptiles are represented as crawling about the picture from right to left. This sequence is prescribed in Tusayan ceremonials, and has elsewhere been designated by me as the sinistral circuit, or a circuit with the center on the left hand. The circuit used by the decorator of this box is dextral or sunwise. Several rectangular receptacles of earthenware, some with handles and others without them, were obtained in the excavations at Sikyatki. The variations in their forms may be seen in plates, and These are regarded as medicine bowls, and are supposed to have been used in ancient ceremonials where asperging was performed. In many Tusayan ceremonials square medicine bowls, some of them without handles, are still used.

But a more common and evidently more modern variety are round and have handles. The rim of these modern sacred vessels commonly bears, in its four quadrants, terraced elevations representing rain-clouds of the cardinal points, and the outer surface of the bowl is decorated with the same symbols, accompanied with tadpole or dragon-fly designs. One of the best figures of the dragon-fly is seen on the saucer shown in plate. The exterior of this vessel is decorated with four rectangular terraced raincloud symbols, one in each quadrant, and within each there are three well-drawn figures of the dragon-fly. The curved line below represents a rainbow. The terrace form of rain-cloud symbol is very ancient in Tusayan and antedates the well-known semicircular symbol which was introduced into the country by the Patki people. It is still preserved in the form of tablets worn on the head and in sand paintings and various other decorations on altars and religious paraphernalia. The bird and the feather far exceed all other motives in the decoration of ancient Tusayan pottery, and the former design was probably the first animal figure employed for that purpose when the art passed out of the stage where simple geometric designs were used exclusively. A somewhat similar predominance is found in the part which the bird and the feather play in the modern Hopi ceremonial system. As one of the oldest elements in the decoration of Tusayan ceramics, figures of birds have in many instances become highly conventionalized; so much so, in fact, that their avian form has been lost, and it is one of the most instructive problems in the study of Hopi decoration to trace the modifications of these designs from the realistic to the more conventionalized. The large series of food bowls from Sikiyatki afford abundant material for that purpose, and it may incidentally be said that by this study I have been able to interpret the meaning of certain decorations on Sikiyatki bowls of which the best Hopi traditionalists are ignorant. In order to show the method of reasoning in this case I have taken a series illustrating the general form of an unknown bird. There can be no reasonable doubt that the decoration of the food basin shown in plate, represents a bird, and analogy would indicate that it is the picture of some mythologic personage. It has a round head to which is attached a headdress, which we shall later show is a highly modified feather ornament. On each side of the body from the region of the neck there arise organs which are undoubtedly wings, with feathers continued into arrowpoints. The details of these wings are very carefully and, I may add, prescriptively worked out, so that almost every line, curve, or zigzag is important. The tail is composed of three large feathers, which project beyond two triangular extensions, marking the end of the body. The technic of this figure is exceedingly complicated and the colors very beautiful. Although this bowl was quite badly broken when exhumed, it has been so cleverly mended by that no part of the symbolism is lost. While it is quite apparent that this figure represents a bird, and while this identification is confirmed by Hopi testimony, it is far from a realistic picture of any known bird with which the ancients could have been familiar. It is highly conventionalized and idealized with significant symbolism, which is highly suggestive Bearing in mind the picture of this bird, we pass to a second form in which we can trace the same parts without difficulty. On a round head is placed a feathered headdress. The different parts of the outstretched wings are readily homologized even in details in the two figures. There are, for instance, two terminal wing feathers in each wing; the appendages to the shoulder exist in both, and the lateral spurs, exteriorly and interiorly, are represented with slight modifications. The body is ornamented in the same way in both figures. It is continued posteriorly on each side into triangular extensions, and the same is true of its anterior, which in one figure has three curved lines, and in the other a simple crook. There are three tail-feathers in each figure. I believe there can be no doubt that both these designs represent the same idea, and that a mythologic bird was intended in each instance. The step in conventionalism from the last-mentioned figure of a bird to the next is even greater than in the former. The head in this picture is square or rectangular, and the wings likewise simple, ending in three incurved triangles without appendages. The tail has five feathers instead of three, in which, however, the same symbolic markings which distinguish tail-feathers are indicated. The conventionalized wings of this figure are repeated again and again in ancient Tusayan pottery decorations, as one may see by an examination of the various birds shown in the plates. In many instances, however, all the other parts of the bird are lost and nothing but the triangular feathers remain; but as these have the same form, whatever organs are missing, the presumption is that their meaning has not changed. In passing to the figure of the bird shown in plate, we find features homologous with those already considered, but also detect considerable modification. The head is elongated, tipped with three parallel lines.

But decorated with markings similar to those of the preceding figure. The outstretched wings have a crescentic form, on the anterior horn of which are round spots with parallel lines arising from them. This is a favorite figure in pottery decoration, and is found very abundantly on the exterior of food bowls; it represents highly conventionalized feathers, and should be so interpreted wherever found. The figure of the body of the bird depicted is simple, and the tail is continued into three tail-feathers, as is ordinarily the case in highly conventionalized bird figures. The most instructive of all the appendages to the body are the club-shape bodies, one on each side, rising from the point of union of the wings and the breast. These are spatulate in form, with a terraced terminal marking. They, like other appendages, represent feathers, but that peculiar kind which is found under the wing is called the breath feather. This feather is still used in certain ceremonials, and is tied to certain prayer offerings. Its ancient symbolism is very clearly indicated in this picture, and is markedly different from that of either the wing or tail feathers, which have a totally different ceremonial use at the present time. For convenience of comparison, a number of pictures which undoubtedly refer to different birds in ancient interpretations will be grouped in a single series. Plate, represents a figure of a bird showing great relative modification of organs when compared with those previously discussed. The head is very much broadened, but the semicircular markings, which occur also on the heads of previously described bird figures, are well drawn. The wings are mere curved appendages, destitute of feather symbols, but are provided with lateral spurs and have knobs at their bases. The body is rectangular; the tail-feathers are numerous, with well-marked symbolism. Perhaps the most striking appendages to the body are the two well-defined extensions of parts of the body itself, which, although represented in other pictures of birds, nowhere reach such relatively large size. The figure of a bird shown in plate, is similar in many respects to that last described. The semicircular markings on the head of the former are here replaced by triangles, but both are symbolic of rain-clouds. The wings are curved projections, without any suggestion of feathers or basal spurs and knobs. The tail-feathers show nothing exceptional, and the body is bounded posteriorly by triangular extensions, as in figures of birds already described. The representation of the bird in plate, has a triangular body continued into two points on the posterior end, between which the tail-feathers are situated. The body is covered with terraced and triangular designs, and the head is rectangular in form. On each side of the bird figure there is a symbol of a flower, possibly the sunflower or an aster. In the figures of birds already considered the relative sizes of the heads and bodies are not overdrawn, but in the picture of a bird on the food bowl shown in plate, the head is very much enlarged. It bears a well-marked terraced rain-cloud symbol above triangles of the same meaning. The wings are represented as diminutive appendages, each consisting of two feathers. The body has a triangular extension on each side, and the tail is composed of two comparatively short rectangular feathers. The figure itself could hardly be identified as a representation of a bird were it not for the correspondence, part for part, with figures which are undoubtedly those of birds or flying animals. A more highly conventionalized figure of a bird than any thus far described is painted on the food bowl reproduced in plate. The head is represented by a terraced figure similar to those which appear as decorations on some of the other vessels; the wings are simply extended crescents, the tips of which are connected by a band which encircles the body and tail; the body is continued at the posterior end into two triangular appendages, between which is a tail, the feathers of which are not differentiated. On each side of the body, in the space inclosed by the band connecting the tips of the wings, a figure of a dragon-fly appears. The figure on the food bowl illustrated in plate, may also be reduced to a conventionalized bird symbol. The two pointed objects on the lower rim represent tail-feathers, and the triangular appendages, one on each side above them, the body, as in the designs which have already been described. Above the triangles is a rectangular figure with terraced rain-cloud emblems, a constant feature on the body and head of the bird, and on each side, near the rim of the bowl, occur the primary feathers of the wings. The cross, so frequently associated with designs representing birds, is replaced by the triple intersecting lines in the remaining area. The resemblance of this figure to those already considered is clearly evident after a little study. The decoration on the food basin presented in plate, is interesting in the study of the evolution of bird designs into conventional forms. In this figure those parts which are identified as homologues of the wings extend wholly across the interior of the food bowl, and have the forms of triangles with smaller triangular spurs at their bases. The wings are extended at right angles to the axis of the body, and taper uniformly to the rim of the bowl.

The smaller spurs near the union of the wings and body represent the posterior part of the latter, and between them are the tail-feathers, their number being indicated by three triangles. There is no representation of a head, although the terraced rain-cloud figure is drawn on the anterior of the body between the wings. The reduction of the triangular wings of the last figure to a simple band drawn diametrically across the inner surface of the bowl is accomplished in the design shown in. At intervals along this line there are arranged groups of blocks, three in each group, representing stars, as will later be shown. The semicircular head has lost all appendages and is reduced to a rain-cloud symbol. The posterior angles of the body are much prolonged, and the tail still bears the markings representing three tail-feathers. The association of a cross with the bird figure is both appropriate and common; its modified form in this decoration is not exceptional, but why it is appended to the wings is not wholly clear. We shall see its reappearance on other bowls decorated with more highly conventionalized bird figures. In the peculiar decoration used in the treatment of the food bowl shown in plate, we have almost a return to geometric figures in a conventional representation of a bird. In this case the semblance to wings is wholly lost in the line drawn diametrically across the interior of the bowl. On one side of it there are many crosses representing stars, and on the other the body and tail of a bird. The posterior triangular extensions of the former are continued to a bounding line of the bowl, and no attempt is made to represent feathers in the tail. The rectangular figure, with serrated lower edge and inclosed terraced figures, finds, however, a homologue in the heads and bodies of most of the representations of birds which have been described. This gradual reduction in semblance to a bird has gone still further in the figure represented in plate, where the posterior end of the body is represented by two spurs, and the tail by three feathers, the triangular rain-clouds still persisting in the rectangular body. In fact, it can hardly be seen how a more conventionalized figure of a bird were possible did we not find in e of the same plate this reduction still greater. Here the tail is represented by three parallel lines, the posterior of the body by two dentate appendages, and the body itself by a square. we have a similar conventional bird symbol where two birds, instead of one, are represented. In both these instances it would appear that the diametric band, originally homologous to wings, had lost its former significance. It must also be pointed out that there is a close likeness between some of these so-called conventionalized figures of birds and those of moths or butterflies. If, for instance, they are compared with the figures of the six designs of the upper surface of the vase shown in plate, we note especially this resemblance. While, therefore, it can hardly be said there is absolute proof that these highly conventionalized figures always represent birds, we may, I think, be sure that either the bird or the moth or butterfly is generally intended. There are several modifications of these highly conventionalized figures of birds which may be mentioned, one of the most interesting of which is figured in plate. In this representation the two posterior triangular extensions of the body are modified into graceful curves, and the tail-feathers are simply parallel lines. The figure in this instance is little more than a trifid appendage to a broad band across the inner surface of the food bowl. In addition to this highly conventionalized bird figure, however, there are two crosses which represent stars. In this decoration all resemblance to a bird is lost, and it is only by following the reduction of parts that one is able to identify this geometric design with the more elaborate pictures of mythic birds. When questioned in regard to the meaning of this symbol, the best informed Hopi priests had no suggestion to offer. In all the figures of birds thus far considered, the head, with one or two exceptions, is represented or indicated by symbolic markings. In that which decorates the vessel shown in plate ,we find a new modification; the wings, instead of being attenuated into a diametric line or band, are in this case curved to form a loose spiral. Between them is the figure of a body and the three tail-feathers, while the triangular extensions which generally indicate the posterior of the body are simply two rounded knobs at the point of union of the wings and tail. There is no indication of a head. The modifications in the figure of the bird shown in the last mentioned pictograph, and the highly conventionalized forms which the wings and other parts assume, give me confidence to venture an interpretation of a strange figure shown in plate. This picture I regard as a representation of a bird, and I do so for the following resemblances to figures already studied. The head of the bird, as has been shown, is often replaced by a terraced rain-cloud symbol. Such a figure occurs in the pictograph under consideration, where it occupies the position of the head.

On either side of what might be regarded as a body we find, at the anterior end, two curved appendages which so closely resemble similarly placed bodies in the pictograph last discussed that they are regarded as representations of wings. These extensions at the posterior end of the body are readily comparable with prolongations in that part on which we have already commented. The tail, although different from that in figures of birds thus far discussed, has many points of resemblance to them. The two circles, one on each side of the bird figure, are important additions which are treated in following pages. From the study of the conventionalized forms of birds which I have outlined above it is possible to venture the suggestion that the star-shape figure shown in plate, may be referred to the same group, but in this specimen we appear to have duplication, or a representation of the bird symbol repeated in both semicircles of the interior of the bowl. Examining one of these we readily detect the two tail-feathers in the middle, with the triangular end of the body on each side. The lateral appendages duplicated on each side correspond with the band across the middle of the bowl in other specimens, and represent highly conventionalized wings. The middle of this compound figure is decorated with a cross, and in each quadrant there is a row of the same emblems, equidistant from one another. It would be but a short step from this figure to the ancient sun symbol with which the eagle and other raptorial birds are intimately associated. The figure represented in plate, is a symbolic bird in which the different parts are directly comparable with the other bird pictographs already described. One may easily detect in it the two wings, the semicircular rain-cloud figures, and the three tail-feathers. As in the picture last considered, we see the two circles, each with a concentric smaller circle, one on each side of the mythic bird represented. Similar circular figures are likewise found in the zone surrounding the centrally placed bird picture. In the food bowl illustrated in, we find the two circles shown, and between them a rectangular pictograph the meaning of which is not clear. The only suggestion which I have in regard to the significance of this object is that it is an example of substitution—the substitution of a prayer offering to the mythic bird represented in the other bowls for a figure of the bird itself. This interpretation, however, is highly speculative, and should be accepted only with limitations. I have sometimes thought that the prayer-stick or paho may originally have represented a bird, and the use of it is an instance of the substitution of a symbolic effigy of a bird, a direct survival of the time when a bird was sacrificed to the deity addressed. The studies of the conventional bird figures which are developed in the preceding pages make it possible to interpret one of the two pictures on the food bowl represented in plate, while the realistic character of the smaller figure leaves no question that we can rightly identify this also as a bird. In the larger figure the wings are of unequal size and are tipped with appendages of a more or less decorative nature. The posterior part of the body is formed of two triangular extensions, to which feathers are suspended, and the tail is composed of three large pointed feathers. The head bears the terraced rain-cloud designs almost universal in pictographs of birds. It is hardly necessary for me to indicate the head, body, wings, and legs of the smaller figure, for they are evidently avian, while the character of the beak would indicate that a parrot or raptorial genus was intended. The same beak is found in the decoration of a vase with a bird design, which will later be considered. From an examination of the various figures of birds on the Sikiyatki pottery, and an analysis of the appendages to the wings, body, and legs, it is possible to determine the symbolic markings characteristic of two different kinds of feathers, the large wing or tail feathers and the so-called breath or body feathers. There is therefore no hesitation, when we find an object of pottery ornamented with these symbols, in interpreting them as feathers. Such a bowl is that shown in, in which we find a curved line to which are appended three breast feathers. This curved band from which they hang may take the form of a circle with two pendent feathers as in plate. In the design on the bowl figured in, tail-feathers hang from a curved band, at each extremity of which is a square design in which the cross is represented. It has been suggested that this represents the feathered rainbow, a peculiar conception of both the Pueblo and the Navaho Indians. The design appearing on the small food bowl represented in plate, is no doubt connected in some way with that last mentioned, although the likeness between the appendages to the ring and feathers is remote. It is one of those conventionalized pictures, the interpretation of which, with the scanty data at hand, must be largely theoretical. Figures of feathers are most important features in the decoration of ancient Sikiyatki pottery, and their many modifications may readily be seen by an examination of the plates.