PROPERTY-RIGHT IN EAGLES AMONG THE HOPI

By J. WALTER FEWKES

Spanish accounts of the extreme southwest, dating as far back as the middle of the sixteenth century, mention the existence of domesticated "fowls" or gallinaceous birds among the Pueblo Indians. As no direct statement concerning the uses to which these birds were put is made in the early chronicles, it is naturally inferred that they were kept for food, and the discovery of many turkey-bones in pueblo ruins would seem to support this conclusion. There are also found bones of the turkey made into various implements, as awls, bodkins, whistles, and the like, indicating that a great many of the birds were killed, and implying that they were highly prized for purposes other than food.

Few writers, early or recent, seem to have been particularly impressed by the fact that the Pueblo tribes of New Mexico and Arizona, like those of Mexico, domesticated birds, and comparatively little attention has been paid to this fact in studies of zoöculture among the North American aborigines.

Birds and dogs were the only animals which the Hopi had under domestication at the time they were first seen by Spaniards, in the middle of the sixteenth century. It may be instructive to consider the status of each in relation to the development of zoöculture.

The Turkey and the Parrot

Although there is no doubt that the bird with long, pendent chin, to which early Spanish travelers refer as having been seen among the Pueblos, was no other than the turkey-cock,[1] when our

[1] As pointed out by Winship. The first accounts of the Hopi make no mention of their having turkeys, but as the Rio Grande tribes possessed these fowls, they were also doubtless kept in the Hopi villages.

own people first visited these villages, fifty years ago, the Hopi had no tame turkeys; indeed as late as 1890 there were none of these birds and but few chickens at the Hopi villages. The turkeys now owned on the East Mesa of Tusayan are descendants of those introduced about 1894 and later. There are many of these domesticated birds on all three mesas, and they appear to thrive notwithstanding the rather harsh way in which they are sometimes treated.

Since reading Castañeda's account[1] of the birds which the Pueblos had in captivity, the thought has occurred to me that it is unlikely they were used for food.[2] Other writers have expressed the same doubt, and have called attention to other purposes which these birds served. In seeking information on this point from the Hopi, there have come to my knowledge a few significant facts regarding property-right in eagles which seem to bear on the general question of domestication of animals by the North American aborigines.

The Hopi now keep turkeys mainly for their feathers, which are used more than those of any other bird in the manufacture of prayer-sticks. They occasionally eat the eggs, and sometimes use the albumen from the same to glaze masks and other ceremonial objects. It is not improbable that the use of the turkey-feather, which is such a constant feature of prayer-sticks, is in some way akin to the sacrifice of birds by some, at least, of the sedentary tribes of Mexico. As the prayer-stick is a sacrificial object, the feather tied to it should be regarded as representative of the bird from which it was taken, and would come under the group of sacrifices called substitutional, or symbolic, a part for the whole.

Although no mention is made of the fact in early accounts, there is archeological evidence that parrots were sometimes kept

[1] Castañeda also states that some of the natives of what is now northern Mexico had tame eagles, but no reference has been found in his writings to the keeping of raptorial birds by the New Mexican Pueblos.

[2] See Powell, Indians of North America, in *Johnson's Universal Cyclopedia*, vol. IV, 1896.

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alive by the Hopi for ceremonial purposes. In the ruin called Wúkoki, near Black falls, on Little Colorado river, Arizona, Mr Doney, of Flagstaff, found a desiccated parrot to which a few feathers still adhered.[1] This was buried in a room with the remains of a child, and to its leg a prayer-stick was attached. Parrot-bones have also been found in ruined villages of the Hopi not far from their present pueblos, and they have been reported from other parts of the Pueblo area. Parrot-feathers are highly prized by the Hopi for the ornamentation of their masks, and in former times were brought from the settlements on the Rio Gila and from the northern states of Mexico, where they were obtained by barter.

The Eagle

Of all feathers used by the Hopi in their ceremonies, those of the eagle are valued next to those of the turkey. The eagles of Tusayan are not kept in cages, as at Zuñi; nevertheless, the true ownership of these birds is recognized by all. A Hopi speaks of his eaglets and eagle-nests as he does of his sheep or horses, regarding them as clan property. He takes no care of them; but when he wishes their feathers, he plucks them from birds which he owns and from no others. This recognition that certain wild birds belong to one clan, and others to another, has not, so far as I am aware, been specially commented on by writers on zoöculture among the Indians. We can call this retention of birds for religious purposes a stage of domestication, although it is only a little higher than promiscuous hunting of wild animals. When, as at Zuñi, eagles are brought to the pueblo and kept alive from year to year, there exists an advancement beyond the Hopi custom of merely capturing the feral birds from the nests of their owners. Anyone in Tusayan who kills an eagle, not his own, within about fifty miles of Walpi, trespasses on the property-rights of others. In other words, the eagle, although wild, is

[1] See this journal, vol. II, No. 3, pp. 441–442.

regarded, from the point of view of ownership, in the same way as is the horse, cow, or sheep,—eagles are property over which the Hopi have rights which all their number respect. Unfortunately, however, this right is often violated by white men or by the Navaho, who see no reason why wild birds should belong to a person living perhaps forty or fifty miles away. There are no other wild creatures which the Hopi now regard in the same light of ownership that they do the eagle.

As already suggested, proprietary rights with reference to the eagle inhere in the clan rather than in the individual; nests, eaglets, and adult eagles are owned by the whole clan, not by any one member, although the male head or chief of that clan represents its rights; he speaks of them as his property, and has inherited the right to do so through his mother. This is an ancient form of ownership which prevails likewise in the case of land, springs, peach-trees, houses, and other possessions. Some clans are poor, and own no eagles; but among the "wealthy," two members of the same clan may have nests in different localities. As a rule, however, the nests of eagles near village ruins are owned by the descendants of clans which once lived in their neighborhood.

Ownership of Eagle-nests Effected by Clan Migrations

As has been previously shown, the present population of Walpi is composed of descendants of clans which from time to time drifted together from different directions for mutual protection. Some of these clans came from as far north as Rio Colorado, while others came from the Gila basin and still others from Rio Grande valley. In their early migrations from distant pueblos to their ultimate homes, each clan halted at intervals, where towns were built but were afterward deserted. The sites of these abandoned villages are indicated by ruins which are very numerous in Arizona and also in parts of New Mexico. Thus it resulted that men of certain clans claim rights in springs

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near ruins in which their forefathers lived, and at times of ceremony they revisit these ancestral springs to obtain water which is considered particularly efficacious in the performance of ancient rites; thus, also, certain tracts of land are regarded as the property of this or that clan. The present ownership of eagle-nests in the vicinity is a survival of a similar claim. A consideration, therefore, of the situation of eagle-nests claimed by clans is directly related to former migrations of the clan. In order to appreciate the bearing of the claims of clans to eagle property in different directions from Walpi, let us briefly consider the salient points in the early history of that pueblo.

In remote times there came into what is now the Moki reservation, several clans from New Mexico, which founded different pueblos, among them being (1) a settlement of Bear clans on the terrace below the present site of Walpi; (2) a pueblo, called Sikyatki, about three miles away, and (3) a village called Awatobi. At this early period there was a settlement of Flute people at Leñanobi, northeast of Walpi, but there is no reliable information regarding the origin of its former population.

In the course of time there entered the country from the north a group of Snake clans which joined the Bear settlement. They had formerly lived with the Horn clans, but in their southern migrations the latter separated from the Snake people and joined the inhabitants of the Flute village, or Leñanobi. When the Snake clans became well united with the Bear settlement, they were joined by combined Horn and Flute clans, which deserted Leñanobi. At this time there were three large pueblos near the East Mesa, viz., Walpi, Sikyatki, and Awatobi. The inhabitants of Walpi and Sikyatki had frequent trouble with each other, which culminated in the destruction of the latter town and the absorption of its clans by the former. The remaining two pueblos, Walpi and Awatobi, increased in size, each receiving increments to its population until the beginning of the eighteenth century, when Awatobi was destroyed by the people of Walpi, and its

inhabitants scattered, the majority going to Walpi and the Middle Mesa pueblos.

Walpi thus by conquest became the dominant pueblo of the region about the East Mesa. In the early part of the eighteenth century inroads by the Apache along the Little Colorado forced the villagers there to seek refuge in the north, and groups of clans, of which the *Patki* (Rain-cloud) was the most prominent, migrated to the vicinity of Walpi and built a pueblo called Pakachomo. When, later on, this village was abandoned, the Rain-cloud clan, by invitation, united its members with the existing Hopi villages, a considerable number settling at Walpi. Shortly after this event, the Ute, pressing down from the north upon Walpi, which was now occupied by the several clans enumerated, threatened it with destruction; consequently certain Tanoan people of Rio Grande valley were invited by the chief of the Snake clan to come and render aid. The *Asa* clan, and later a group of Tanoan clans from a pueblo called Tcewadi responded; they repulsed the invaders, and were rewarded by the Walpians. The *Asa* people were invited to make their home at Walpi, while the clans from Tcewadi were given a site on the mesa for a pueblo of their own, which their descendants still occupy. This is the village of Hano.

About the middle of the eighteenth century, on account of sickness and famine at Walpi, the *Asa* moved to Tsegi cañon, or Cañon de Chelly; but they later returned and founded the pueblo now called Sichomovi, between Walpi and Hano. This town is not very ancient, for there is an old woman, the last of the *Asa* women now living in Walpi, whose mother, they say, once lived in Tsegi cañon.[1]

[1] Almost all Hopi clans are represented among the Navaho. An incident in the history of the *Pakab* clan shows one of the ways in which this has been brought about. Years ago a few men, women, and girls of this clan were attacked by the Navaho in the fields below Walpi. The women and girls were made prisoners, and in time took Navaho husbands. The children by these intertribal unions are regarded by the Hopi as members of the *Pakab* clan.

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Let us now consider the eagle-nest property of different Hopi clans, in their geographical distribution.

One of the oldest, if not the most ancient of all the Walpi clans, is the Snake, which formerly lived at a place called Tokonabi, near Navaho mountain, far north of the Hopi mesas. In their migration southward the members of this clan were accompanied by others, among whom was the Horn clan. They built houses at intervals in their migration, the ruins of which are pointed out, and which are still known by name to the traditionists of the clan. On the abandonment of a pueblo several miles north of Walpi, the Horn clans separated from the Snake and went to a pueblo called Leñanobi, which, as its name implies, was inhabited by Flute (*Leña*) clans. After this consolidation these two clans abandoned Leñanobi and joined the Snake settlement at Walpi.

The eagle-nests of the Snake clan are situated a few miles north of Walpi, not far from one of the abandoned Snake pueblos; they claim others north of this which, however, they never visit. In most ancient times this clan doubtless had eagle-nests at Tokonabi, but as it drifted southward and the country which they left became occupied by hostiles, visits to these nests were gradually dispensed with. Those which they still claim are near their last settlement, but visits to them became more or less dangerous after the hostile Ute raided the Hopi farms not many years ago.[1]

The Horn (*Ala*) clan owns the eagle-nests about Wakash (Span. *Vaca*, Cow) spring, northeast of Walpi. Their eagle claim is contiguous to that of the Snake clan, as would naturally be expected from the fact that these two clans once lived together at Tokonabi.

One of the first clans to settle in the neighborhood of the East Mesa was the Firewood (*Kokop*), whose pueblo, called Sikyatki, in early times was larger than Old Walpi. There is evidence that it

[1] Since about the beginning of the eighteenth century the Hopi have not been molested by the Ute, but the inroads of the Apache from the south continued far into the present century.

was a flourishing place when the Snake clans came into the country, and that it was one of the most ancient settlements in Tusayan.

The Firewood clans came from the east, probably not far from the pueblo of Jemez, and during their early migration lived for some time in Keam's cañon, not far from Keam's trading post, where the ruin of their settlement may still be seen. This clan claims as its property all eagle-nests in the upper end of the cañon named, near the school and their former pueblo. Indeed, there is a farm owned by this clan about halfway between the school and Keam's store.

The *Honau*, or Bear, is probably the oldest[1] of the Walpi clans, and appears to have occupied the site of Walpi before the advent of the Snake clan. The former is reputed to have come from New Mexico and to have lived at one time in a pueblo on the Rio Grande. The clan is now extinct with the exception of three persons, one of whom, Kotka, the chief, assumes a prominent part in several ceremonies. Little can be learned concerning the route of migration of the Bear clan westward from the Rio Grande valley, but it is said to have passed through Keam's cañon to Turkinobi, a now-ruined pueblo not far from Sikyatki. The *Kokyan*, or Spider clan, one of the group of Bear clans, claims the cliffs at the entrance of Keam's cañon as its eagle preserves.

The *Piba* (Tobacco) clan once lived with the *Patki* (Rain-cloud), and the *Kükütc* (Lizard) at Palatkwabi, a mythic region in the far south. They migrated northward from that place to Homolobi, on the Little Colorado, near Winslow; but this village was in turn abandoned, the clan continuing northward by a well-defined route,[2] until they came to Jeditoh valley, where they

[1] The traditionists of both the Bear and the Snake clan claim that their ancestors were the oldest settlers in Walpi, but the balance of evidence strongly supports that of the former.

[2] It is said by good authority that the *Piba* left the *Patki* clans at a place called Kokopelki, going thence to Awatobi. The *Pikyas* clan also left the *Patki* at the same place and went to Akokyabi ("Acoma"), now a ruin in Jeditoh valley or on Awatobi mesa. The *Pikyas* later went to the Middle Mesa.

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joined the population of Awatobi. On the destruction of that pueblo, the *Piba*, under their chief, Tapolo, settled in Walpi. Hani, the "governor" of Walpi and a lineal descendant of Tapolo, claims for his clan, ownership of eagle-nests in the crags near Awatobi on both sides of Jeditoh valley eastward to Hubbell's store.

As before stated, the Rain-cloud (*Patki*) clans formerly lived at Palatkwabi, but migrated northward to Homolobi, near Winslow. Abandoning this town, they went farther northward, building a pueblo not far from the Moki buttes. When they left this habitation, the ruins of which are still traceable, they continued their course to the Walpi wash and erected homes at Pakachomo, in the plain about three miles from Walpi, where the remains of house-walls are still pointed out. From Pakachomo the clan went to Old Walpi by invitation of the chief of the latter pueblo. Anawita, the head-man of that clan, claims as his property all eagle-nests in the Moki buttes as far east as the Holbrook road. The eagle property of the *Kükütc* (Lizard) clan begins at Bitahütci on the same road, and extends eastward to the ruin of Kintiel, twenty-five miles north of the railroad.

The *Pakab* (Reed) clan lived at Awatobi until its destruction, but before they reached that place they inhabited a pueblo called Kwavuñapi,[1] about forty miles north of Navaho station on the Santa Fé Pacific Railroad. When Awatobi was destroyed the *Pakab* went to the Middle Mesa, and settled at a pueblo near the spring at its base. From this place part of them went to Mishonginovi and part to Walpi. Pautiwa, chief of this clan, claims all the eagle-nests near Kwavuñapi and the region south of that ruin.

The *Kükütc* (Lizard) clan, which, like the *Patki*, originally came from the far south and had settlements at one time on the

[1] The most distant pueblo east of Walpi inhabited by the *Pakab* clan is called by them Kwavuñapi, the ruin of which has not yet been identified. This clan is closely related to ancient Zuñi clans.

Little Colorado at or near Homolobi, owns the eagle-nests east of the Holbrook road around Bitahütci,[1] or Red Rocks, about forty miles from Walpi.

The eagle-nests near Kicyuba, north of Walpi, a sacred spring of the *Katcina* clan, are owned by Supela, of the *Patki* clan. This clan never lived in that region, hence there is no way of accounting for Supela's claim except that he inherited it from Oraibi relatives.[2]

The eagle-nests west and northwest of the East Mesa, along the lower part of the Little Colorado (*Pala-baiya*[3]), and portions of the Great Colorado (*Pisis-baiya*), belong to clans of Oraibi and the Middle Mesa pueblos, hence the Walpians lay no claim to them. I have not studied the clans of the latter villages, but there is evidently good reason for their claim, judging from the composition of the clans in these pueblos. Probably many of their ancient clans came from the numerous houses, now in ruins, within the drainage of Rio Colorado. Among these may be mentioned the Squash (*Patuñ*) clan, now extinct at the East Mesa villages.

The clans of the Tewa pueblo of Hạno have no eagle-nest property near their pueblo. This can readily be explained by the fact that they were late arrivals in Tusayan, consequently all available nests had been preëmpted by existing Hopi clans.

It thus appears that the present claims to ownership of eagle-nests are based mainly on the situation near former places of residence. This fact can hardly be regarded as a mere coincidence, nor do the Hopi consider it as such; indeed, they regard this proprietorship as a proof that the country in which eagle-nests are situated is theirs, and have repeatedly urged me to so inform

[1] Near Maupin's trading post.

[2] Naka, present chief of the *Katcina* clan, which formerly lived near Kicyuba, claims no eagle-nests.

[3] It is an interesting fact that the name Pala-baiya, "Red river," has the same meaning as the Spanish term Rio Colorado. Among the Hopi, red is the color symbolically assigned to their south, and the Little Colorado in its middle course is in the same direction from the Hopi towns.

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those engaged in surveying the boundaries of their reservation. The legendary claim by the Hopi that their ancestors came to Walpi from different directions is supported by the situation of the eagle-nests still owned by various clans.

Ancient Eagle Hunts

The ancient method of hunting wild creatures is a most instructive chapter in Hopi ceremonial customs, and merits special treatment. Particularly complicated were the antelope hunts which, of late years (since this animal has diminished so greatly in numbers), have been practically abandoned. Rabbit hunts are still more or less popular, and they retain a semblance of their ancient ceremonial character; but even these are declining, as they are now only fairly successful.

The eagle was doubtless the only bird which was systematically hunted by the Hopi in ancient times, but the methods formerly employed have passed into legendary history.

The ancient *kwamakto*, or eagle hunt, was accompanied with ceremonial rites, as were antelope hunts a few generations ago, and as are the rabbit hunts which still frequently occur. The method of conducting these ancient eagle hunts is said to have been as follows:

On a distant mesa northeast of Walpi, but in full view of that pueblo, there is a small circular inclosure, about four feet high, built of stones and called by the Hopi the *kwamaki*, or eagle-hunt-house. The hunter hid himself in this inclosure, having previously tied dead rabbits as a bait to the beams overhead.

Several features of these ancient inclosures, or *kwamaki*, in which the Hopi hunter of eagles hid himself to capture these birds, recall the small stone towers so common in some parts of the southwest, especially along the Colorado and its tributaries. These towers, as a rule, are small; they are situated on elevated sites, and bear little evidence of long-continued use as human

habitations. They are not large enough for permanent dwellings, and the theory that they were employed as outlooks is not wholly satisfactory; nor are they capacious enough for the defense of any considerable number of persons. It is therefore suggested that they were *kwamaki*, or eagle-hunt-houses, of the former inhabitants of the region. Many are situated on crags which are known to have been frequented by eagles, and we have the assertion of the Hopi that there were many eagle-houses in the north.

As in all Pueblo customs, these eagle hunts were accompanied by certain prescribed usages or rites.[1] The hunter first washed his head as a bodily purification, and deposited a prayer-offering in a shrine at or near the eagle-house. After these preliminaries, he stationed himself in the eagle-house and began to sing, accompanying his songs with low calls. Soon an eagle, attracted by the rabbits tied to the logs, circled about and finally alighted on the beams above him, when its leg was seized by the concealed huntsman and the bird was drawn into the inclosure. Other ceremonies followed, concerning which there is little information; but at each eagle-hunt one of the birds was always released after a prayer-stick had been attached to its leg, it being supposed that the eagle thus freed would return to its comrades, bearing the hunter's prayer. The eagles captured by the methods described were not killed, but were carried to the pueblos.

The attachment of a prayer-stick to the leg of the eagle before being released is in harmony with present Hopi practices. During the *Soyáluña* ceremony, for instance, prayer-emblems are tied to the tails or manes of burros and horses, and to the tails of chickens, turkeys, dogs, cats, etc.; it is the same thought which the people of old Wúkoki had in mind when they ceremonially buried the parrot, of which mention has been made; and a similar belief led to the burial of prayer-sticks with the human dead — they were expressions of prayer to the gods.

[1] The Hopi have a special hunters' *tiponi*, called *maktiponi*.

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Present Method of Capturing and Utilizing Eagles

Eagle hunting in the manner described has been abandoned within the memory of some of the older men of Walpi; when eagles are now required the young are taken from their nests after certain ceremonies and offerings. It is regarded as wrong to take all the young from the nest at any one time, and it is evidently due to this taboo that the perpetuation of the species in Tusayan is effected. The captured eaglets are taken to the pueblos, where their heads are washed and sprinkled with prayer-meal — a form of purification found in all Hopi ceremonies.[1]

After this purification the feathers are plucked from the eaglet and the bird is killed, life being crushed out by pressure on the sternum without the shedding of blood. The body of the eagle thus killed is not cast over the mesa side on the pile of débris at its base, but is buried in a special eagle cemetery, near the pueblo, where many skeletons of these birds may be seen. This burial place is a cleft in the top of the mesa south of Walpi on each side of the trail, near where the latter descends to Kisakobi, one of the sites of Old Walpi. The dead eagle is deposited with prayers in this cleft, and above the remains are placed a few stones, but not enough to cover them. After the celebration of the *Nimán*, one of the Hopi festivals, there are placed in these eagle graves small wooden effigies or dolls, and miniature bows and arrows,[2] upon which sacred meal is scattered. I have never witnessed one of these burials, but have frequently visited the eagle cemetery, and reliable members of the tribe have repeatedly informed me of the nature of the ceremonies performed at the time of burial. So far as known, the eagle is the only non-human creature for which the Hopi have a special burial place.

From what has been said it would appear that the ownership

[1] Compare the ceremony of washing the snakes in the Snake dance; *American Anthropologist*, vol. XI, 1898, pp. 313–318.

[2] In this same festival the *katcinas* who participate give dolls to the little girls, and bows and arrows to the boys.

of eagles by the Hopi (or their domestication of the same, if that be a proper term to apply to animals under such a condition) was largely for ceremonial purposes. In the case of the turkey, the bird or the eggs may have been used also for food; the parrot and the eagle, however, were kept solely for their feathers.

We find among the Hopi an Eagle clan; there are evidences also of a Parrot and a Turkey clan. It is possible that a taboo against killing these birds may have once been in force, as is the case among the Snake priests with reference to the killing of rattlesnakes and other ophidians. The eagle, however, is now killed notwithstanding the existence of an Eagle clan, although the manner in which the bird is killed is strictly prescribed.

Prayers for the Increase of Eagles

Soyáluña, the Winter Solstice ceremony, is a prayer directed particularly to Muyiñwu, the Germ god, for the increase of all worldly possessions. At the time of its celebration a special offering is presented for the increase of eagles which is quite different from that made in behalf of the strictly domestic animals. During the *Soyáluña* rites such of the priests as desire sheep, oxen, burros, and horses, make small clay figurines of the same to which they tie feathers—the symbolic prayer. These figurines are deposited in places frequented by these animals; thus, the image of the sheep is placed by a man in a niche in his corral.

In the case of the eagles, however, a special form of offering, called a prayer-stick, is carved of wood, ovoid in form, and painted white with spots in imitation of eagle eggs; to these symbolic prayers in the form of feathers are tied, as in the case of the figurines of truly domestic animals. There are several shrines in which these artificial eagle eggs are deposited, one of the best-known of which is near the old ruin of Turkinobi, situated on East Mesa not far from the twin pyramidal mounds above Sikyatki. In this depository, which is called the eagle shrine,

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two of these artificial eggs were placed during the *Soyáluña* ceremony performed in 1899.

The Hopi Domesticated Dog

The Hopi had a domesticated dog in early times, as is shown by skulls and fragments of skeletons that have been excavated from ancient ruins and graves. This dog was of a breed [1] superior to the half-coyote curs now so abundant in Tusayan. The desiccated remains of dogs found near the Little Colorado ruins show that they were of fairly large size, with reddish hair, recalling a northern variety. There is no knowledge of the ceremonial treatment of the dog by the Hopi, and it does not appear to have been used as a beast of burden as among some of the Indians of the plains.

The dog figures in some of the Hopi legends, but not in the most ancient. According to the traditions of the *Pakab* clan, this animal was brought to Tusayan from Jemez, probably after the destruction of Awatobi. Insignificant though the cause may seem, yet to this animal was due the abandonment of the *Pakab* pueblo under the Middle Mesa.

There is a pictograph of a dog (figure 79),[2] which has every appearance of antiquity, near the site of Old Walpi. The story of this pictograph, briefly related, is as follows: In old times the Oraibi villagers made a raid on the Walpi cornfields, and the women rushed down the mesa to defend their farms. They were aided by a faithful dog which bit the Oraibi warriors and held them until they were killed. The dog, however, was also slain, and the pictograph marks the site of the deed.

Other Domesticated Animals

No evidence has been found in ancient Hopi ruins that animal fibers were used in weaving, and although this absence would in-

[1] As shown by Dr F. A. Lucas, *Science*, vol. v, No. 18, 1897.

[2] This pictograph represents a maiden with a shield on which are depicted feathers and other designs, and a dog with the heart and the eyes represented. The girl is shown with protuberances on the sides of her head representing the characteristic coiffure of Hopi maidens.

dicate that wool-bearing animals were formerly unknown, the testimony is only of a negative kind. The Indians reported to the first Spanish travelers in northern Mexico and the adjacent territory that the people of Totonteac (a province evidently situated south of the present Tusayan) had an animal which yielded hair or wool not unlike that of which the cassock of Marcos de Niza was woven; but this animal has not been satisfactorily identified. Cushing found in the ruins of the Gila-Salado drainage area certain figurines and pictographs which he ascribed to some guanaco-like animal, but, so far as known, no feral representative of a mammal of this description occurs in the fauna of the region.

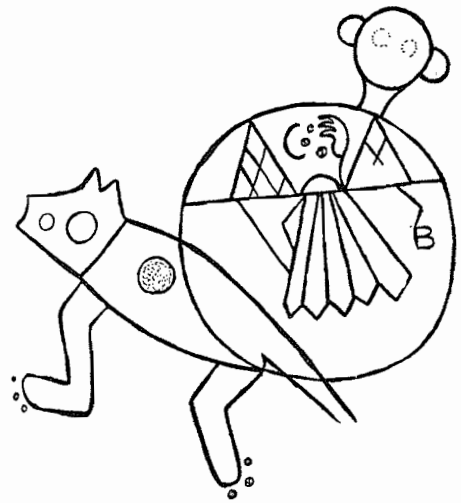

Fig. 79—Pictograph of dog and maiden with shield.

The domesticated animals which the Hopi now possess are descendants of those introduced by the whites. Among these may be mentioned the horse, burro, sheep, chickens, and cattle. These creatures have had greater influence than all others in modifying the condition of these people; but it was an influence from without rather than one due to internal growth, for the fauna of their arid habitat was too meager to furnish them a valuable domestic animal for either food or clothing.

Conclusions

When "discovered" by the whites, the Hopi were in an early stage of the development of zoöculture, the nature of which may be seen in the relations between the people and their eagles.

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With regard to animals as an aid in the food-quest, the Hopi were but little above the hunter stage; they considered certain tracts of land as the range of their respective clans, over which the members alone had a right to hunt, but had not yet domesticated individual animals or their young for food. Adult eagles were ceremonially captured. A knowledge that the eagles were not nomadic in their habits, and that eaglets consequently grew to maturity and died near or on the same crags as their parents, led the Hopi later to claim individual birds and to capture their young as he would gather his corn or peaches.[1]

Birds were among the first animals to which property-right attached among the Hopi, and of these the more important were the eagle, the turkey, and the parrot. These birds were used for religious purposes rather than as food, and the parrot and the turkey were probably kept in the pueblos. The eagle, however, was allowed to remain at large in its feral condition and captured only as needed. Unlike other wild animals, eagles and eaglets, with their nests, were the property of the clans. Ownership of eagles descended through the clan in the maternal line, and the present geographical distribution of eagle-nests is directly connected with clan migration. The treatment of the eagle after capture — its killing and ceremonial burial — is a survival of an ancient custom, probably paralleled in the case of the parrot and the turkey.

The ancient Hopi had a domestic dog which was a pet rather than a beast of burden. The good qualities of this pet were recognized and recounted in their legends. The Hopi domesticated no animal for food or raiment before the advent of the Spaniards, nor did the territory occupied by them furnish any mammal capable of domestication. Unaided they might have advanced in culture, but not through a pastoral stage.

Among most peoples the food-quest has come to be an

[1] Peach trees among the Hopi are owned by individuals, but it by no means follows that a man owns the ground on which his trees are planted.

incentive for the domestication of animals; but when the Pueblos were discovered their meager zoöculture was not for food, nor even for clothing, but for religious purposes — the adornment of ceremonial objects with feathers or the decoration of dance paraphernalia. Is it not possible that before man domesticated animals for the purpose of augmenting his food supply, he kept certain of them in confinement for religious purposes, and that some of these were found to be valuable in material ways — so docile that they could be employed as beasts of burden, possessed of a pelage that could be utilized as raiment, or of udders for yielding milk, etc.? When these benefits were recognized, the domestication of animals became a feature of the food-quest which the Hopi never attained until after the advent of the white man.

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