THE HOPI - PART I

GENERAL DESCRIPTION

THE Hopi are without doubt among the most interesting of our surviving American Indians, and one of the very few groups recently living in a state similar to that of a hundred years ago. For the anthropologist the complexity of the ethnic elements that in the last three and a half centuries have combined to produce the modern Hopi, and the astonishing richness of their religious ceremonies, present a field crowded with opportunity. Artist and traveller are invariably entranced with the picturesque desert environment of the Hopi, with their ancient, many-storied, cliff-perched pueblos, their dramatic dances and artistic ceremonial costumes, their pleasing pottery and basketry, and no less pleasing manners.

They call themselves *Hópitu*, the Peaceable People, and peace-loving they have always been. True, their history contains pages darkened with the annals of warfare, but their military activities were invariably either for defence of their fields and flocks from the forays of Ute and Navaho, or what they conceived to be just punishment visited upon some component members of the nascent Hopi people. Affability and sunny disposition are apt to be one's first impression of the dominating traits of Hopi character, at least at Walpi, the goal of most Caucasian visitors. Presume on this affability, and you encounter cold reserve, ill-concealed disapproval, or outspoken resentment. The Hopi can be persuaded and led, if you convince his reason; failing this, you will hardly drive him. More than once in his relations with the Government he has shown that force and authority have no terrors for him when he believes himself unjustly assailed. Numerically weak, poor in worldly goods, physically small, he possesses true moral courage.

From the time of the Conquistadores the Hopi have been commonly known as Moqui, an alien term of opprobrium originating probably in Zuñi *Ámu-kwe*. Apparently cognate terms are found in various Keresan dialects, as Laguna *Mó'ts*^{tsa}. The Hopi heartily dislike the designation, which, they believe, originated in the error of the first Spanish visitors, when they mistook the Hopi word *móki*, dead, for the tribal name.

Although the Hopi are composed of elements that must have spo-

ken several diverse tongues, their speech is readily recognized as a dialect of the Shoshonean language, which in various forms was spoken in a large part of the Great Basin between the Rocky mountains and the Sierra Nevada, in southwestern Oregon, and in southern California even to the coast and on Santa Catalina island; and which furthermore is undoubtedly allied to the great Aztecan language. A linguistic map would represent the Hopi as an isolated people surrounded by alien tongues.

Since they first appeared in history in the sixteenth century, these Indians have occupied their present habitat in northeastern Arizona. Their neighbors on the north, west, and east were the predatory Navaho, alternately hostile and friendly, now raiding the Hopi fields and sheep ranges, now visiting the pueblo festivals, sometimes even receiving Hopi migrants and marrying them. From the north and east came also the warlike Ute, to combat whom the Hopi more than once called in Tewa settlers from the distant Rio Grande. Southward the country was overrun by nomadic bands of Apache, who frequently swooped down from the mountains south and west of the present Winslow. About a hundred miles to the southeast were the Zuñi villages, the romantic Seven Cities of Cibola of the Spanish adventurers; and beyond them to the Rio Grande, and particularly along that stream, were numerous pueblos, with all of which the Hopi held more or less intercourse. Far to the west, in and about the Grand cañon, were the Havasupai and Walapai, both of the Yuman stock, whom Hopi traders regularly visited for the purpose of exchanging yarn and blankets for deerskins, and who in turn annually brought roasted mescal and piñon-nuts to the Hopi.

The reservation of 3863 square miles lies in the eastern watershed of the Little Colorado, but at no point does it extend to the river. In fact there is no perennial stream within its borders.[1] The country is typical of the semi-arid Southwest. Broad sandy wastes are broken by rocky buttes and fantastically eroded mesas rising abruptly from the general level. Some seventy-five miles to the southwest the San Fran-

1 Since this statement was written, Oraibi wash has been eroded by freshets down to strata so nearly impervious that the water, instead of flowing underground, now courses along like any proper stream.

cisco mountains are visible, snow-covered in winter. High temperature prevails during the days of summer, but the nights are refreshingly cool. As the country lies at an elevation of about six thousand five hundred feet, the winter nights are fairly rigorous, but delightful, sunny days are the rule. A more healthful climate it would be difficult to find, and the harmonious pastel shades of sand, rock, and vegetation, the huge, cottony billows that float aloft on a summer's afternoon, the glorious cloud effects at sunset, the distant ranges of lavender mountains slowly transformed into turquois as the lowering sun sinks behind them, the incredible blueness of the sky and brilliance of the stars, take hold of the heart and call one back again and again.

Considerable moisture is stored in the soil by snowfall, and the frequent heavy rains of midsummer, coursing down the slopes toward the washes, are guided into the cultivated fields and suffice for the deep-rooted Hopi corn and beans.

The vegetation is characteristically desert. Sage and greasewood dot the sand in clumps, and the latter furnishes the bulk of the fuel. The principal trees are the juniper and the piñon, the latter yielding edible nuts and house timbers. The distant mountains are clothed with coniferous forests, in which pines predominate, but these were of little concern to the Hopi except at the period of the Spanish missionaries, when the padres induced them to transport on their backs pine beams from San Francisco mountains.

The fauna of the Hopi country and the immediately surrounding region included antelope, deer, elk, mountain-sheep, cougar, wolf, coyote, fox, wildcat, bear (both *Americanus* and *horribilis*), beaver, porcupine, badger, cotton-tail and jack-rabbit, condor, eagle, buzzard, various hawks and waterfowl, and wild turkey.[2]

There are now eight Hopi pueblos, all of them on the tops of mesas. On East mesa are Walpi (Wáhl-pi,[3] "gap place") and Sichomovi (Si-tsómovi, "flower mound place"); on Middle mesa, Mishongnovi (Mûsánenûvi), Shipaulovi (Sûpôlavi), and Shongopavi (Sonó-pa-vi,

2 Coronado observed captive turkeys at Zuñi and the Rio Grande pueblos, but Espejo in 1583 noted that the Hopi had none.

3 *Wála,* gap. Only at Shipaulovi and Shongopavi is this name pronounced, with greater correctness, Wál-pi.

"rush spring place"); on West mesa, Oraibi (Ozaívi), Hotavila (Hótvelu, "juniperwood slope"), and Pakavi (Páka-vi, "reed place"). Hotavila and Pakavi were established only within the last few years by dissatisfied factions from Oraibi. At East mesa also is Hano (Háno), a Tewa pueblo founded early in the eighteenth century by emigrants from the Rio Grande. Not one of the Hopi villages occupies the site on which it stood at the opening of the historical period in the middle of the sixteenth century.

The first white men in the Province of Tusayan, as the Spaniards called the Hopi country, were Captain Pedro de Tovar, Fray Juan de Padilla, and a small company of horsemen and foot-soldiers, who in 1540 were sent to explore the region by Coronado, then at the Zuñi villages. To quote from the account of the Coronado expedition by Castañeda:

"They informed him about a province with seven villages of the same sort as theirs, although somewhat different. They had nothing to do with these people. This province is called Tusayan. It is twenty-five leagues from Cibola. The villages are high and the people are warlike.

"The general had sent Don Pedro de Tovar to these villages with seventeen horsemen and three or four foot soldiers. Juan de Padilla, a Franciscan friar, who had been a fighting man in his youth, went with them. When they reached the region, they entered the country so quietly that nobody observed them, because there were no settlements or farms between one village and another, and the people do not leave the villages except to go to their farms, especially at this time, when they had heard that Cibola had been captured by very fierce people, who traveled on animals which ate people. This information was generally believed by those who had never seen horses, although it was so strange as to cause much wonder. Our men arrived after nightfall and were able to conceal themselves under the edge of the village, where they heard the natives talking in their houses. But in the morning they were discovered and drew up in regular order, while the natives came out to meet them, with bows, and shields, and wooden clubs, drawn up in lines without any confusion. The interpreter was given a chance to speak to them and give them due warning, for they were very intelligent people, but nevertheless they drew lines and insisted that our

men should not go across these lines toward their village.[4] While they were talking, some men acted as if they would cross the lines, and one of the natives lost control of himself and struck a horse a blow on the cheek of the bridle with his club. Friar Juan, fretted by the time that was being wasted in talking with them, said to the captain: 'To tell the truth, I do not know why we came here.' When the men heard this, they gave the Santiago so suddenly that they ran down many Indians and the others fled to the town in confusion. Some indeed did not have a chance to do this, so quickly did the people in the village come out with presents, asking for peace. The captain ordered his force to collect, and, as the natives did not do any more harm, he and those who were with him found a place to establish their headquarters near the village. They had dismounted here when the natives came peacefully, saying that they had come to give in the submission of the whole province and that they wanted him to be friends with them and to accept the presents which they gave him. This was some cotton cloth, although, not much 'because they do not make it in that district.[5] They also gave him some dressed skins and corn meal, and pine nuts and corn and birds of the country. Afterward they presented some turquoises, but not many. The people of the whole district came together that day and submitted themselves, and they allowed him to enter their villages freely to visit, buy, sell, and barter with them."[6]

The village visited by Tovar was undoubtedly Awatobi (Awátovi, "bow high-place"), the most easterly of the Hopi settlements and now a ruin on the point of Antelope mesa nine miles southeast of Walpi. At that time Walpi was the only one of the present East Mesa pueblos, and it was not on its modern site but on the northwestern slope of the mesa. Its ruins are now known as Kuchaptuvela (Kötsap-tevelu, "ashy slope"). Sikyatki (Sikyát-ki, "bitter house," so called in reference to the alkalinity of the water, or "yellow house," in allusion perhaps to the color of the rocks), now a mere mound of a ruin at the southeastern

4 See later in article the present continuation of this custom

5 This is an error. The Hopi cultivated cotton and wove fabrics in prehistoric times.

6 Winship, *The Coronado Expedition,* in Fourteenth Annual Report, Bureau of Ethnology, Washington, 1896, pages 488 - 489.

base of the mesa, had already been destroyed by the people of Walpi.

Cardenas, another of Coronado's subordinates, was commissioned by the general to visit the great river of which the Hopi had told Tovar, and after a friendly reception and entertainment by the natives, he pushed westward with the guides and the provisions they gladly furnished him, and discovered the Grand cañon of the Colorado.

Spanish exploration in Tusayan made no further progress until 1583, when Antonio de Espejo marched to "Aguato" (Awatobi), and recorded the fact that there were five large "Mohoce" pueblos. The Hopi were still in awe of the strange beasts ridden by the Spaniards, who, quick to take advantage of the situation, warned them that unless they built a stone corral for the horses, the animals would become very angry and devour them. Under direction of the soldiers the natives built a stone wall, which was so arranged that it could be used defensively. Indian tradition declares many tortures were perpetrated in the effort to extract the secret of the gold mines supposed to exist in the country.

In 1598 Juan de Oñate' governor of New Mexico, led an expedition from the Rio Grande to the Hopi country. The identity of the pueblos then existing is thus established by Hodge:

"In a *testimónio* forming, part of the 'Memorial sobre el descubrimiento del Nuevo Mexico y sus acontecimientos - Años desde 1595 á 1602' (Doc. Inéd. de Indias, XVI, 207), which was made in the interest of Oñate, and which, although apparently pertaining to Chamuscado's discoveries more likely relates to the entrada of Espejo, the following Hopi pueblos are mentioned: Aguato (Awatobi), Gaspe (Gualpe, Walpi), Comupavi (Shongopavi), Majananí (Mishongnovi), and Olalla (Oraibi), thus accounting for all the pueblos occupied by the Hopi at the close of the sixteenth century and indeed for many years later." [7]

Thus far, for a century and a half, contact with the white race had been at very long intervals and of a most casual nature; but with the attempt to Christianize the natives a new era dawned. The old gods were threatened. In 1629 an expedition left Santa Fe for the purpose

7 *The Memorial of Fray Alonso de Benavides*, translated by Mrs. Edward E. Ayer, annotated by F.W. Hodge and Charles F. Lummis, Chicago, 1916, page 258.

of founding churches in the western pueblos, and after accomplishing the first step of their program at Acoma and Zuñi, the Spaniards proceeded to Awatobi, which was christened San Bernardino de Ahuatobi in honor of the saint on whose birthday they arrived. Fray Francisco de Porras was placed in charge of the new mission, and the lay religious Francisco de San Buena-ventura assisted him. The two other priests of the party were doubtless given posts at Shongopavi and Oraibi, for at the time of the Pueblo uprising in 1680 these two villages had missions, the former with a *visita* at Mishongnovi, the latter a *visita* at Walpi. The Walpi of that period is now the ruin Kisakobi, on the terrace below the point of the mesa where the present village stands. Thus each of the five villages was offered religious instruction .[8]

But from 1629 to 1919, missionary work among the Hopi has never been a sinecure.

"Porras is declared to have immediately cured a case of blindness in a Hopi boy by spitting on his hand, rolling a little mud, and lacing it on the eyes of the lad while uttering the word '*Epheta*' – resulting in the conversion of a thousand of the Indians.... But the old men, evidently enraged at the loss of power through the adherence of so many of their tribe to the missionaries, poisoned some food, which the Father ate. Realizing his fate, he immediately went to Fray Francisco de San Buenaventura, who administered the last sacraments.... The date of his death is June 28, 1633."[9]

The missionaries probably had little success. The Hopi resented being forced to carry building timbers from the mountains and drinking-water from distant springs. The traditionists agree that sometimes a priest would demand that a girl be sent to his house, and this was another source of irritation. Like most Indians they probably were tolerant of the new religion and mildly interested and amused by the dramatic features of its ritual; but when the priests attempted to suppress their age-long rites by forbidding the planting of pahos (plumed prayer-sticks), the seeds of revolt were sown. The Hopi mind is unable to conceive that the people can prosper without offering these suppli-

8 Ibid., page 207.

9 Hodge, *op. cit.,* page 207, after Vetancurt, *Menologio,* pages 211-213, ed. 1871

cations to their numerous deities. So, although they continued to plant pahos, surreptitiously if necessary, the occurrence of an unusually dry season and consequent partial failure of crops pointed to the attempted overthrow of the old customs as the source of the evil. The Hopi were ripe for the uprising that had been brewing throughout the entire province of New Mexico, from the upper Pecos to the Little Colorado.

In 1680 messages were exchanged between the chiefs, and at the appointed time there was a concerted attack on the members of the hated race wherever found. In the Hopi country every mission was burned and probably every Spaniard killed. On the Rio Grande success was less complete only because of the relatively large number of colonists, soldiers, and priests, but even so the contest ended in the utter abandonment of the province until the year 1692, when Diego de Vargas reconquered the country. It was in this interim that throughout the Pueblo region such villages as were not already established on mesas were moved to these elevated sites as a measure of defence against the sure vengeance of the Spaniards; and numerous bands fled from the Rio Grande to the less accessible Hopi country. Many of these subsequently returned, but others became permanent residents in the west. The Hopi had no collision with Vargas, who in truth acted with commendable and unusual forbearance and received the submission of the Hopi, and of all others who tendered it, without thinking it necessary to inflict punishment.

In 1700 the priest Garaicochea found the mission at Awatobi rebuilt by the inhabitants, of whom he baptized seventy-three[10]. But he was warned not to proceed to the other villages, where hostility to the strange religion was so strong that in the following November Walpi, Mishongnovi, and Oraibi, spurred on by the extremely hostile Tewa refugees from the Rio Grande, accepted the invitation of the Awatobi chief, Tapólo, and united to destroy the apostate faction, whom they regarded as sorcerers. The conservative element of Awatobi, including the chief, and most of the females, were incorporated in the population of the three avenging villages, and Awatobi has ever since

10 Fewkes, *Expedition to Arizona in 1895,* in Seventeenth Annual Report, Bureau of Ethnology, Washington, 1898, page 601.

remained a ruin.[11]

For nearly two centuries longer the Hopi remained practically out of contact with the white race. Occasional travellers and Mexican traders and raiders visited them, but the degree of their isolation during all this period may be deduced from the fact that the Snake dance, the most spectacular of all Indian dramatic performances, was first mentioned in print in 1881 by Charles A. Taylor, a missionary among the Hopi, although the first extended account of the ceremony is that of Captain John G. Bourke, U. S. A., published three years later.[12]

The character of the relations of the Hopi with the Mexicans may be illustrated by the following narration.

About the year 1862 came the third successive season of crop failure, which the Hopi attributed to the evil ways of the people, especially as regards adultery. During each of the three seasons only enough corn was harvested to furnish seed for the next planting, and at the end of the third year many of the people left the country, some going to Laguna, Jemez, Taos, San Felipe, and Zuñi, and others joining the Navaho bands. What little corn they had harvested they cooked and carried along for food on the journey. Few in those days had burros, and men, women, and children trudged along through the snow. In the various pueblos to which they went the women ground corn for their involuntary hosts, and the men performed whatever labor could be found for them.

Only the few families having enough corn to last over the winter remained at home, and among these, as supplies became exhausted, beads and clothing were bartered for corn, until at the end a valuable woman's dress brought only four or five small ears. Dry cactus fruit and grass seeds were gathered, and when these failed the starvlings prowled among the neighboring ruins and dug in the piles of refuse for old bones, which they boiled. Women would snatch the last grain from their weeping children, and some cases of cannibalism occurred.

About the month of February people from Rio Grande pueb-

11 See the native tradition by Háni, a descendant of Tapólo.

12 See *Rocky Mountain Presbyterian,* X, No. 4, page 276, New York and Cincinnati, April, 1881; also Bourke, *The Snake-dance of the Moquis of Arizona,* New York, 1884.

los, Isleta, Santo Domingo, and San Felipe, as well as some Mexicans, brought loads of corn on horses and mules, which they exchanged for blankets, deerskins, shells, beads, and children. Many Hopi had died, and the living were gaunt creatures prowling about the deserted houses and the refuse heaps, searching for a chance grain of corn or a melon seed. Crows perched on the empty houses, and coyotes skulked about the village streets.

Saqístiwa (the narrator) left his sister and her family at Walpi, bought a load of food at Jemez, and returned with others on foot by way of old Fort Wingate and Zuñi. Snow covered the ground, and they travelled from early morning until nearly midday, and then rested while the snow was soft, resuming their journey in the afternoon and halting after dark. Many people on their way to Zuñi were seen. East of Awatobi they overtook three women and three children who had started for Zuñi, but, becoming exhausted, had given up and were returning to Walpi. Learning from Saqístiwa that some eastern Indians and Mexicans were coming with loads of food, the women and children then turned their faces eastward once more to meet the expected caravan. Saqístiwa completed the journey from Jemez to Walpi in eight or ten days, with a load of corn on his back. The distance in a straight line is about two hundred and twenty miles, but the route actually covered was, of course, much longer.

Two years after the famine an Oraibi man named Tawáhevi planned a certain revenge because someone had seduced his wife. Hoïntiwa, Políhinniwa, and Póhkya assisted him. Póhkya was sent to a Mexican settlement near Santa Fe to invite the men to visit Oraibi and steal the women and children. The Mexicans arrived during the Soyal ceremony. They came through Kearns cañon, detoured to the north of East mesa, passed down Oraibi wash to the site of the present village Hotavila, and camped where the Oraibi day-school now stands. Here they remained four days, coming frequently into the village and looking about. At noon on Totókya day of the ceremony, while the men were in the kivas making pahos, the Mexicans again entered the pueblo. It is believed that the four conspirators had agreed to meet them, for each of the four made an excuse to leave the kiva in order to dispose of the refuse of his pahomaking. But in the open streets, before the eyes of the women and children, the Mexicans set upon the four and killed them, in order, as the Hopi now believe, that after the raid the

conspirators might not be alive to give evidence against them.[13] The Mexicans then hurriedly drove together thirty or forty children and one woman, and took them down into the valley, where they rounded up all the sheep in the vicinity. The shepherds ran for their lives, some of them fleeing to Middle mesa, where the inhabitants flocked out to view from a distance the passing of the raiders with their slaves and spoil. That night the Mexicans camped at Tevéskya, a spring west of Walpi, and some of the people ventured down from that village to view the captives sitting despondently about the campfire. Másа, who understood Spanish, recognized the woman captive as a clanswoman of his and saw among the children his niece, who had been living at Oraibi since the famine. They implored him to take them up to Walpi, but he replied that he could do nothing immediately, promising however to see what could be accomplished in the morning. Early next day the Mexicans moved to Tawá-pa ("sun spring"), where they butchered the sheep and bartered the meat for corn, meal, deerskins, blankets, and moccasins. Nearly all the animals were thus disposed of in exchange for goods that could be transported on pack animals. Before they departed, Másа ransomed his niece at the price of a Navaho boy, whom his family purchased from Nûváti for the use of about five acres of farming land. The woman they were unable to redeem, because of the lack of means.

After concluding their trading, the Mexicans started for Keams cañon, camping at the spring where Keam later built his first establishment, and ten men of Walpi followed them, intending if possible to rescue the children after nigthfall. They planned to kill the Mexicans while they slept, but nothing could be done. They thought the Oraibi men would surely come to help them, but none appeared except Wíkvaia, husband of the captive woman. They openly visited the camp and sat up all night, trying to screw their courage to the sticking point, but they doubted their ability to kill all the Mexicans before some

13 It is more than likely that there was no conspiracy on the part of these four men, but rather that their going out at this time was a mere accident and the Mexicans were forced to kill them in order to carry out their design. The general belief that the raid was planned by invitation is to be expected of the Hopi mind, which can see deep design in the purest accident.

awoke. The next day they returned home and the raiders went on.

A week or two after these events some people from Oraibi went to Santa Fe, and soon letters came to Walpi from the Taos chief and from the officials at Santa Fe, summoning the Walpi chief Chino; for the Oraibi men were asserting that Walpi had planned the raid and had urged the Mexicans to accomplish it. With about thirty men Chino set out.

Oraibi had spread among the eastern Pueblos the false accusation, and when the party reached Laguna they were warned not to go farther, lest they lose their lives, for the government officials at Santa Fe were said to be greatly incensed. It was learned that the Taos chief was the one who had reported to Santa Fe the accusation against Walpi. At Albuquerque Chino's party was coldly received by the natives, and they pushed on to Taos. Sémple, the chief, was not well-disposed toward them, but the people fed them and commiserated with them because they were to be imprisoned. They counselled Chino not to be afraid, but to tell the officials a straight story. A meeting was held that very night, and an official came up from Santa Fe. The Oraibi men made their accusation, and Másа, the interpreter for Walpi, informed the council that the Oraibi people themselves were to blame, and showed the innocence of Walpi. Then the Taos chief reprimanded Oraibi for mistreating Walpi and laying a false accusation against them, and Másа related how the Walpi men had waited at the Mexican camp for assistance from Oraibi. The official then asked the Oraibi men if they would go the next day among the Mexican settlements and identify their children, but they were afraid, and the Walpi party volunteered to undertake it as a further proof of their innocence. With official letters directing the Mexicans to release the captives without protest or resistance, they in four days secured and brought to Santa Fe all except a single boy, who had been taken down the Rio Grande. Másа and three others, however, recovered him in two more days.

In the meantime another sister of Saqístiwa, who during the famine had gone to Zuñi, had been sold to some Rio Grande Indians, who in turn had sold her to a Mexican family living above Albuquerque; and Saqístiwa, following her from place to place, had reached Santa Fe, where he had been thrown into prison on the strength of the Oraibi accusation against Walpi. After the refutation of the charge, he was freed and received a letter ordering the release of his sister. He found

five Navaho girls held as slaves by the same Mexican family, and was informed that they all had run away three times, but always had been recaptured and beaten, and finally shorn of their hair.

After the recovery of all the Hopi children, the government official engaged Taos men to carry them on burros as far as the next pueblo below. A soldier with a letter of authority accompanied the party, and so from village to village they were taken as far as Laguna. Most of the Hopi men were afoot, and none had more than one burro. From Laguna all travelled on foot, because the Oraibi people were unwilling to pursue the indirect route through Zuñi. The Walpi men met at each village a very different reception from the cold greeting that had been given them on their way to Santa Fe.

When the government representative at the Navaho agency at Fort Defiance began to persuade the Hopi to take up modern methods of farming, Tûvi, an Oraibi man, was one of the few to fall in with his plans. But the chief, Lólolma, was opposed to the new order of things, and the two quarrelled. The chief said, "If you are going to follow the white man's ways, I do not want you to stay here." So Tûvi took his wife and went to Provo, Utah, where he was baptized by the Mormons. After some years, about 1880, he returned and built a house at Moenkapi, and a few Oraibi families joined him. He afterward moved back to Oraibi, where he died, and the other families followed him. Later an old woman, Nasílewi, took possession of his Moenkapi house, and the other families returned from Oraibi. There are now about eighteen houses in the village. The name of Tûvi is the original of "Tuba," the settlement near by, formerly occupied by Mormons, now the seat of a government school.

The Hopi reservation was established in 1882, but until the beginning of the twentieth century the people were practically independent of governmental authority. Since that time official supervision, assistance, and sometimes blundering interference in harmless religious and personal customs (witness a futile decree that Hopi men must wear the hair short), have become more and more effective, and the result is a gradual abandonment of the old order. In 1906 not a maid at East mesa but scrupulously kept her hair in the picturesque squash-blossom whorls indicative of the unmarried state. In 1912 the change in this single respect was startling. Many saw no indecorum in allowing their locks to hang loosely. More and more the people are permanently

taking up their residence in detached houses in the valleys. They are closer to their fields and sheep ranges, and so the change is a material gain; but it needs no prophet to foretell the eventual and probably not distant abandonment of the pueblos. And when that time arrives, the ancient ceremonies and home customs of the Hopi will be only a memory.

Nor is it difficult to predict what will be the last stronghold of Hopi culture. For some years prior to 1906 there was a gradually widening rift between two factions at Oraibi, the conservative and the liberal. The determination of government officials to enforce education crystallized sentiment, and the party that favored active resistance to restraint packed up their goods and chattels, marched forth from the pueblo, and built the new village Hotavila about four miles distant. Here they live with only the unavoidable minimum of contact with the white race, whom they unostentatiously but cordially hate. For them a few officious zealots are the American people. Their chief, recently released after a prison term of several years, during which no doubt he had abundant time to ponder on the futility of a Hopi insisting that his children be educated in his own ancient fashion when some individual two thousand miles away ordered him to cut their hair and deliver them at the schoolhouse, is a thoroughly embittered man, quiet in his bitterness, but unyielding. And that spirit pervades all his people. Henceforth they will formally obey orders, because they know of the force that lurks behind them, but many years will pass before they enter into the spirit of American education for their children. Meanwhile they cling to the old order. Desperately poor, they are diligent farmers, surpassing all other Hopi, and as they have more than enough of the best agricultural land on the reservation, lying on the mesa and adjacent to the village, and not in the distant valleys, there need be no apprehension as to their future. The pueblo is most unattractive. Few of the houses rise above a single story, and there is a rather disheartening air of newness.

On the same mesa and about a mile from Hotavila is Pakavi, which was established by another Oraibi faction a few years after the founding of Hotavila. The houses are all of one story and are ranged along both sides of a single street. The inhabitants are less morose than their neighbors, and while the village, in its exterior, resembles a Mexican settlement rather than a Hopi pueblo, it has an appearance of order

and neatness in distinct contrast to Hotavila.

Deserted by these two factions, and by many families who have built houses at different places in the valley, Oraibi is practically an abandoned village.

So much for recorded Hopi history. It remains to detail the steps by which various migrant groups in centuries past gradually assembled in Tusayan. Mostly the information to be had on this subject is legendary, but the latest of these movements are known also from documentary evidence. How much of fact lies in these clan legends, who can say? The present writer would not be understood as taking the ground that all of the patently unmythical parts is historical truth. On the other hand he does not reject them *in toto*. He believes that the roots of these legends are embedded in the truth, that they actually indicate the directions from which various groups of people started in a series of wanderings that finally brought them together in the Hopi country.

At the dawn of this legendary period we find the Bear people living at Tûkínovi, now a small ruin on East mesa north of the Gap. They are said to have come from the east.

At Tokonabi (Tokónavi) on Colorado river lived the Cougar and the Dove people, and these were joined by the Horn people from a region still farther north. The son of the Cougar chief, returning from a journey down the river, brought home a Rattlesnake girl, who became his wife and founded the Rattlesnake clan, which eventually predominated in this group. Together the Rattlesnake and the Horn people departed southward and in time settled at Wukoki (Wûkó-ki, "great house"), now a group of ruins on Little Colorado river northeast of Flagstaff, where they found the Squash and the Flute people.

The Horn people now separated from the Rattlesnake, Squash, and Flute people, and turning back northward established themselves at Moenkapi (Mûnkap-ki, "small-stream house") in the wash of that name northwest of Oraibi. Later the Little Colorado pueblos were abandoned by all the others, who in company travelled northeastward to Oraibi wash, where they separated. The Squash people founded successively Mûnyá-ovi ("porcupine high-place") near the present Oraibi, and Chukubi (Chûkû-vi, "pointed place") a mile northeast of the present Shipaulovi at Middle mesa. The Flute people, after leaving the Little Colorado, settled at Lengyaobi (Lenán-ovi, "flute high-

place") about thirty miles northeast of the present Walpi, where they were later joined by the Horn people from Moen-kapi wash. Before the Spanish occupancy the consolidated Horn and Flute people had left Lengyaobi and settled at Kwastapabi (Qásta-pa-vi—"spring place") about two miles northeast of Wípho spring and six miles northeast of Walpi. Here they remained for an extended period.

Meanwhile the Rattlesnake people, who left the Little Colorado in company with the Squash and the Flute people, had established themselves in the valley midway between East and Middle mesas. Their next movement was to Kuchaptuvela (Kötsap-tevelu, "ashy slope") on the northwestern slope of East mesa.

While these slow migrations were taking place, another eastern group, the Firewood people, had been approaching, and after many years had finally established Sikyatki at East mesa. It was during the occupancy of Kuchaptuvela and before the Spanish *entrada* that friction developed with Sikyatki, which resulted in the overthrow of that town and the dispersal of its population.

At the time when the Rattlesnake and the Horn people were in Tokonabi, the Squash and the Flute people at Wukoki, and the Bear people at East mesa, the Tobacco people built Honû-vi ("juniper-shoot place") among Hopi buttes, and later Awatobi. Their former home was in the south.

By the year 1629, when Spanish missionaries began their labors, Ashy Slope at East mesa had been abandoned in favor of Kisakobi (Ki-sákovi, house ladder high-place") on the terrace below the modern pueblo, and here the Snake and Bear people were joined by the Horn-Flute people from Kwastapabi, an event still commemorated in the biennial Flute ceremony. After the uprising of 1680 Kisakobi was deserted and modern Walpi founded.

In the meantime the Squash people at Middle mesa had abandoned Chukubi and built Mishongnovi, not however in its present location, which was occupied only after the killing of the missionaries. Shongopavi and Shipaulovi, and at West mesa Oraibi, all of which had been established in the valley, were removed to their present sites at the time.

While the Rattlesnakes were still living in the valley between East and Middle mesas, the Reed people entered the country from the east and settled at Lömé-va near old Mishongnovi. After a quarrel with the

Squash people of that village they joined the Rattlesnakes and eventually became a part of the Walpi population.

Also from the east came the Badger people, who after long wanderings settled at Kisíu-va ("shadow spring") about fifteen miles northeast of Walpi. Later they moved down Oraibi wash, and halfway to Oraibi built Síu-va ("onion spring") near the spring of that name. Ultimately they joined old Oraibi. The Badger clan was established at Walpi by the marriage of a Badger woman, who, contrary to custom, went to live with her husband's people. The Walpi Badgers later founded the adjacent pueblo Sichomovi.

After the insurrection of 1680 many refugees from the Rio Grande entered the Hopi country, and some of them founded the village of Payupki (Payûp-ki, "river house") on Middle mesa. In 1748 they were taken back and settled at Sandia. About the year 1700 the Tanoan clan called Ása ("tansy-mustard"), at the solicitation of Walpi, which was being hard-pressed by the Ute and Navaho, left their homes on the upper Rio Grande, and after stopping successively at Laguna, Acoma, and Zuñi, at each of which pueblos they left some of their number,[14] they built Chakwaina (Chaqaína) on Antelope mesa. After an indeterminate sojourn there, they proceeded to Walpi, but were refused admittance by the Bear and Snake chiefs when they confessed that they had no magic for the common good. Much depressed by the failure of Walpi to keep its promise regardinglands, they settled near the spring Isba (Ís-va, "coyote spring"). The ruin of this village is called Sikyá-owa-tsomo ("yellow rock mound"). In a battle with the Navaho and Ute they saved the day, and as a reward received all the land north of an east-and-west line passing through the Gap, with permission to build a village on the site of the present. Tewa village Hano. Friction arose over the appropriation by an Ása man of theWalpi Crier Chief's wife, and the Ása prepared to leave. At Tawa-pa spring however they were solicited to return, because the Hopi wereapprehensive that the two Water Bullsnakes, which the Ása were believed to have deposited in Tevéskya spring on their arrival at East mesa, would cause an earthquake if their guardians departed. The Ása were then assigned

14 Represented at Zuñi today by the Aíaho *(Phacelia ivesiana* Torr.) clan, which is on the verge of extinction.

a building location in Walpi to guard the head of the Stairway trail. Some years later other Tanoan people were induced to join the Hopi at East mesa, and they built the modern village Hano, where the Tewa language is still spoken. Many of the Ása, as well as others, went into the Navaho country at a time of famine in 1780, but the second generation of mixed-bloods returned to Walpi, most of them joining the people of Sichomovi, which had been founded by the Walpi Badger clan about the middle of the century.

From the south another group of migrants had been slowly advancing. The Cloud clan, originating in the distant south, gradually worked northward to Palatkwabi (Palátqavi), which Hopi traditionists identify with a group of ruins on Gila river west of San Carlos. They were accompanied by the Lizard, Rabbit, and Sun people. A destructive flood, which they attributed to the mythical Water Bullsnake, caused them to resume their northward movement, and after various stops they settled at Homolobi (Homól-ovi, "breast high-place") on the Little Colorado near the site of Winslow. There they were so plagued by mosquitoes that they abandoned the pueblo and settled at Pakachomo (Pá-koi-tsomo, "water soil mound")[15] about four miles south of Walpi. Some of them ultimately joined Walpi, others the Middle Mesa towns. Their entry into the Hopi country occurred after the destruction of Awatobi and the founding of Hano and Sichomovi, probably about the middle of the eighteenth century.

To summarize the evidence, legendary and documentary, it may be stated that the Hopi consist of the descendants of various groups that entered the country from the north, the east, and the south, and that the series of movements covered a period of probably three centuries, and perhaps considerably longer.

The walls of the many-roomed, terraced buildings of the Hopi are rather rudely constructed of stones cemented with mud. Tradition does not extend back to a period when these people were not dwellers in stone houses. The structures of ancient times, however, are said to have been so much smaller than those of the present day that the occupants were unable to stand upright in the little stone cells. The walls

15 Apparently a contraction of *pá-koyan-tsomo*. *Pá-koyan* is the dust raised by a pelting shower.

of a modern house are seven or eight feet high and about eighteen inches thick, enclosing an approximate parallelogram. Usually the men provide and lay the stone, while the women apply the mortar, which is simply a puddle of sandy gumbo; but not infrequently women are also the masons. Some of the stones are rudely shaped by fracture, but there is no attempt at dressing them, and the face of the wall is filled out to a comparatively plane surface by chinking the crevices with spalls. After the walls are erected, the women cover them on the inside, and sometimes, though not usually, on the outside, with plaster of the kind used in the masonry, applying it with the bare hand; and finally they finish the inner walls with a coat of white gypsum laid on by means of a large glove of sheep fleece. The gypsum is mined on the top of the mesa north of the Gap, and after drying two or three days it is mixed with water into a thin wash. In some houses the inner walls are covered with a finishing plaster of pink clay, such as is generally used on the floor; and one house in Sichomovi has been so treated on the outside.

The roof is nearly level. Beams of juniper, pine, cottonwood, or piñon, resting directly on the side walls, are about two feet apart, and across them is a series of pole battens, usually willow. Over the battens is a layer of skunk-bush *(Rhus trilobata)* shoots, and a thatch of coarse, dried grass is followed by a layer of gumbo plaster, over which is spread a covering of dry earth of the same kind. This soil is firmly trodden down, and once wet it dries out into a hard and fairly impervious roofing. Generally there are no eaves, the walls extending slightly above the roof in a low coping pierced for drainage, which is discharged over a flat or slightly curved slab of stone, a wooden trough, or a gourd.

At one corner of the roof is left a small hole for the passage of a chimney, a feature which is proved by archeological investigation to have been wanting in ancient pueblo structures. The construction of the earliest form of chimney was begun by placing, about three feet above the floor, a short pole across the angle of a corner, the ends being secured in crevices of the walls. Resting on this base, long sticks or green sunflower stalks extended upward to the opening in the roof, forming a roughly funnel-shaped flue, which was thickly coated on both sides with mud. In some cases two stone piers were built against the walls near a corner of the room for the support of the ends of

a curved piece of green piñon wood, on which the base of the flue rested; and another method was to drive a stake into each wall and support their intersecting ends on a thong fastened to a roof-beam. On wooden pegs driven into the walls inside the chimney were laid bundles of green greasewood for drying. Greasewood and piñon were the only fuel. In the fireplace were three or more roundish stones, on which stood the single cooking-pot.

In cold weather the elder members of the family occupied the places near the fire, and the children huddled together in the space that was left available. The old people offered a good reason for this state of affairs by saying that the children must accustom themselves to enduring cold in preparation for the time when they must take the war-path or make long journeys for other purposes. It is not recorded that the children ever inquired why their elders, having had that training in their childhood, found it necessary to hover over the little fire.

The exterior chimney still consists of a rectangular masonry base surmounted by a stack of bottomless pots cemented together. These primitive fireplaces continued in general use until about 1892, when the Government rewarded with a heating stove each family whose children were sent to school. A few years later cooking stoves were distributed, and since about 1910 hemispherical, outdoor ovens of the Mexican type have become quite common.

The floor is made by spreading a layer of clayey soil, sprinkling water on it, trampling and beating it down hard and level, smearing over it with the hand a mixture of pink clay, sand, and water, and finally, while it is still moist, rubbing it well with a smooth stone in order to prevent cracking. The result is a fairly hard floor of a beautiful pink tint. Carefully used, such a floor will last a month, and a new coat of plaster must then be applied. When after many such applications the stratum of plaster becomes appreciably thick, it is stripped off, pulverized on the mealing stones, and used again. In some houses, where the rock on which they are built is fairly smooth, the floor of the lowest story is simply this bed-rock surface.

The Hopi villages were established on their present almost inaccessible sites for purposes of defence; and with the same object in view the builders formerly never left a door in the outer walls of the first story, access to the rooms invariably being through hatchways in the roof. On the upper levels low doorways were provided. In cold

weather the well-to-do hung a deerskin over the opening, and later, say the traditionists, cottonwood shoots and sunflower stalks were woven into rude doors. A further development consisted of piñon slabs flattened on both sides and bound together by means of deerskin thongs. A piñon slab formed the threshold and another the lintel. At one end of both threshold and lintel was a hole, and the projecting, pointed ends of one of the stiles of the door fitted into these holes, so that the door swung as if on hinges. This form of door, the traditionists affirm, was in use when the first clans arrived in the present Hopi country. There is no archeological evidence supporting this contention, however, and such doors are doubtless of Spanish origin.

The principal articles of furniture in a Hopi house are mealing stones, earthen pots and water-jars, basketry trays, and bedding. The mealing stones are a series of three flat slabs of sandstone about fifteen inches square, cemented at a convenient angle for the worker in three compartments on the floor. They are of different degrees of fineness. On the coarsest stone the corn is crushed by rubbing with a basalt or lava muller; on the second the fragments are reduced to coarse meal with a sandstone muller; and in the third compartment a muller of still closer texture produces a meal almost as fine as our wheat flour. Girls and young women grind the corn, kneeling on the floor and working with the movement of a woman at her washboard. The work is generally performed early in the morning to the accompaniment of grinding songs.

Even at the present time the bedding is spread on the floor at night and hung across a pole during the day. In primitive times the blankets were made of strips of rabbit-skins, and in some instances of white woven cotton, but sheep fleeces and woollen blankets are now used.

A very important adjunct to the Hopi home is the stone on which is baked the paper-like bread called *pîki*. Usually it is placed in a small room of the first story, or sometimes, at Walpi, in a cell built in a niche at the edge of the cliff with its roof and hatchway on the same level as the mesa top. The material for the piki stone (*tûma*) is quarried in the foothills about three miles north of Walpi on the south side of the mesa, and it is taken out in four-inch slabs measuring about two-and-a-half by three feet. In ancient times, before the days of steel implements, the workmen doubtless used wooden wedges and stone mauls in splitting the stone. The rough piece is thinned down with an old

axe and smoothed with a piece of coarse sandstone, after which it is rubbed with a grinding stone and a quantity of sand. It is now about three inches thick. After a polishing process with smooth, water-worn stones and masticated watermelon-seeds, the slab is placed with its longer edges on two low walls of stone in the fireplace, and a small fire is maintained under it all day. Toward evening the ends of the space beneath the stone are walled in and all the crevices are filled up with clay, in order to confine the heat, and piñon-gum is dropped on the stone. After it has burned, it is rubbed off with a bunch of twigs, and another quantity of melting gum is rubbed into the stone with a piece of sheep fleece. Then ground watermelon-seeds and crumbled piki are burned on it, and it is again rubbed smooth and polished with a fleece. Finally the end walls are removed and a fresh fire is built under the stone, and piki is baked on it, the first two or three sheets, which absorb the taste of pitch, being rejected.

Each village possesses several or many chambers reserved for the use of ceremonial societies. They are always detached from the dwellings, and either partially or wholly below the general level of the ground, the entrance being through a hatchway by means of a ladder. To these subterranean cells the native term *kiva* is generally applied, in preference to the Spanish *estufa* (stove), which was given them by the Conquistadores on account of their high temperature. Like the dwelling house, the kiva has masonry walls and a nearly flat roof of timbers, thatching, and earth. About one-third of the stone-paved floor is raised ten inches above the remainder, and it is on this raised portion that spectators sit. The sunken fireplace is directly beneath the hatchway and near the foot of the ladder. But the most important feature of the ceremonial chamber is the *sipapu,* a small pit near the end of the room on the lower level of the floor, covered with a thick slab flush with the floor, in which is a two-inch hole fitted with a wooden plug. This represents the orifice through which the ancients emerged in their ascent from the lower world of darkness. Hopi kivas are approximately rectangular, from twenty-two to thirty feet long and ten to fifteen wide, and the ceiling is seven to eleven feet high in the middle, sloping down slightly toward the ends.

Hopi men in primitive times wore shirts, leggings, loin-cloths, moccasins, and head-bands, and women wore tunics, leggings, and moccasins; but when weather and occasion permitted it, men wore

nothing but the loin-cloth. The men's shirt *(nápna)* was an oblong piece of undyed cloth woven of native cotton with a hole for the head in the centre, like a poncho. Sometimes it was sleeveless, but usually straight, unshaped sleeves, open along the lower edge but tied at the wrists, were attached to the shoulders. The edges hung open at the sides, except for a few yarn ties. This garment fell into disuse about 1865, but a modified form with seams at the sides and in the sleeves, and made of white or figured cotton goods, is still worn. The primitive leggings of knitted cotton reached midway up the thigh and were supported by the same waist-string that held up the cotton loin-cloth. These leggings, which were not used in warm weather, have given place to white cotton pantaloons extending nearly to the ankles. The present loin-cloth is of blue woollen cloth. When deerskin could not be obtained, the primitive foot-wear was sandals of woven yucca-leaves with the sharp edges removed. Deerskin moccasins were made like the goat-skin winter foot-wear of today. An oblong piece of skin is doubled over, and where two of the corners meet the material is cut away in a curve to fit the instep. The free edges along the curve and at the back are then sewn together, and the result is a moccasin without a seam at the edge of the sole. The Navaho type, with separate rawhide sole and red-dyed upper, is much used.

Women formerly wore the *mötsapû*, an undyed cotton robe, which passed under the left arm and over the right shoulder, the two edges meeting at the right side and the edge from behind overlapping the other. It was tied together above the right shoulder, but not at the side. The modern successor of this garment is made of blue-black wool, and the broad belt, replacing the ancient one of undyed cotton, is of blue-black wool with red and white ornamentation. Rarely seen at East mesa, the *mötsapû* is not uncommon at Middle mesa, and is the rule at the western villages. Ordinarily nothing else was worn, the arms and lower legs being bare; and only on ceremonial occasions, such as dances and weddings, did women use the one-piece moccasin with pure white leggings attached. Half of a large deerskin was required for a legging, which was wrapped about the calf in the manner still seen. At the present time Hopi women, copying the Navaho fashion, wear moccasins like those of the men, with rawhide sole of cowskin, red-tanned deerskin upper, and two or three silver buttons at the side. Women used no stockings, but in comparatively recent times,

influenced by the Zuñi fashion, they adopted the knee-length, footless, blue stocking held down by a string under the foot.

Bed blankets of white cotton were thrown about the shoulders in cold weather, but more commonly these were worn by women, while men used robes of nine wildcat-skins, or blankets made of strips of rabbit-skin interwoven with cotton yarn. Bear-skins were used at a later date, and when the Hopi began to make long journeys to the eastern pueblos they obtained a few buffalo-skins from the Comanche whom they met there. Women still make rabbit-skin robes, but men do all the weaving.

In dances, and especially in Kachina dances, unmarried girls wore earrings made by smearing piñon-gum on a thin piece of wood about an inch and a half square, and setting bits of turquois in the gum. In reference to the arrangement of the turquois this was called *tûoi-naka (tûoi,* describing the orderly manner of stacking ears of corn with the butts out; *náka,* earring). Young men on ceremonial occasions wore *tsózmûm-naka* ("blue-long earrings"), which were simply strings of turquois beads. After the introduction of glass beads by the Spaniards, strings of these ornaments were worn about the neck by unmarried girls. Some of these large blue beads remain in the possession of the Hopi. The Spanish introduced also copper and coral, which were used respectively for ear-pendants and necklaces. In ancient times the seeds of juniper-berries were boiled and while still soft were pierced for beads. The red berries of the bush *kevépustsuki (Lycium pallidum)* and the black seeds of yucca were made into beads. Formerly the Hopi never made shell beads, but obtained them from Zuñi and the Rio Grande pueblos, and from these sources came also, and still comes, their turquoise. From the Havasupai was obtained a red ochre already prepared as paint, which men and women rubbed on the face before going out into the wind. The Hopi never tattooed.

The modern style of dressing the hair is like the ancient. Men cut it at the sides level with the lobe of the ear, and in front at such a length that when unconfined by the head-band it just covers the eyes; and they part it in the middle and double it up at the nape of the neck, tying it with a string so as to form a bunch about five inches long. Formerly a white down-feather of an eagle was generally worn at the left side of the head. Females part their hair in the middle from the forehead to the nape of the neck. Unmarried girls arrange it in a large whorl

above each ear, a very distinctive style symbolic of the squash-blossom; while married women have at each side of the face a shoulder-length club of hair wrapped from end to end with a long, dark-blue, cotton string. The picturesque whorl fashion is so fast disappearing, at least in Walpi, that in three months' observation in the winter of 1911-1912 only one girl was seen with hair so dressed except on ceremonial occasions. To arrange the whorls is too laborious a task for women with a school education.

Hopi women of East mesa are moderately good potters, and the men are skilful weavers and successful farmers.

The modern earthenware is considerably softer and of coarser texture than the pieces that have been exhumed in large numbers from the ruins of this region. The most successful imitator of the ancient ware, who is not a Hopi at all, but the Tewa woman Nampéyo, of the village Hano, says that its superiority was obtained by the use of lignite, by which the prehistoric potters were able to fire their vessels for several days; but a well-informed traditionist, on the contrary, asserts that it was the result of burying the clay in moist sand for a long time, perhaps two moons, which "caused something in the clay to rot." Probably the excellence of the ancient earthen-ware is due to both causes. The potter's clay is dug out from under the rocks about the foothills of the mesa. When thoroughly dry it is ground on the mealing stones, and after it has soaked in water a quantity of pulverized sandstone or potsherds is mixed with it. Ancient, decorated sherds are preferred for this purpose, fragments of cooking-pots not being used. The mass is thoroughly kneaded, and when it is quite homogeneous, a ball of the clay is held on the left palm while the heel of the right hand works it out into a disc of the required thinness, which is placed in a slightly concave form called*tavípi* ("layer"). This article is now usually a piece of tin-ware, such as a hand basin, but formerly it was either a potsherd or a basket tray filled with fine wet ashes pressed into the desired shape. The base of the proposed vessel, having been thus formed, a small ball of clay is rolled between the palms into a thin rope, which is coiled round and round the edge of the incipient and gradually growing vessel. At intervals, as the height increases, the potter smooths the receptacle inside and outside with a bit of gourd-shell. The completed article is set in the sun, or in winter under the stove, to dry for a day or longer, then with a piece of smooth sandstone it is smoothed and

rubbed down to the desired thinness, and a very thin wash of clay is smeared over the exposed surfaces. A smooth pebble is rubbed over the vessel to polish it and then the painted design is applied by means of a narrow strip of yucca-leaf. The various pieces to be fired are now set about the fireplace (nowadays under the stove) to become quite warm. In a small charcoal fire are placed several blocks of sandstone, on which the pieces of pottery are set in such a way that the fire will have ventilation from beneath and thus burn without smoking at the bottom, which would permanently blacken the vessels. The pieces are piled up in a rounded heap, and then cakes of dried dung from the corrals are placed around and over the whole, with ample ventilation carefully provided both at the bottom and at the sides. Before sheep, burros, and horses furnished dung for fuel, the Hopi potters used lignite, which is found in various places among the cliffs. Many rounded heaps of debris containing bits of charcoal and sherds mark ancient pottery kilns. After the fire has burned out and the vessels have cooled, they are taken out, but not before, as they easily break while still hot.

Hopi pottery is undergoing rapid changes. Raised ornamentation in the form of a serpent, a narrow incised band giving somewhat the effect of lace insertion, new shapes, new designs, greet the returned visitor and shock him with the feeling that all this is foreign to Hopi art. But is it? The inspiration that produced these changes was born within the potter's own soul: it came from no alien source. And shall a Hopi be denied the artist's right of giving form to his vision? Considering the matter in this judicial spirit, the observer, recovering from the instinctive feeling that any departure from the old is not "Indian," can only admit that many of these new creations are meritorious.

Pottery is not made at Middle mesa nor at Oraibi, although adjacent ruin-mounds and burial places are veritable mines of pot-sherds.

The basketry of the Hopi, compared with the work of many other Southwestern Indians, is simple, although it shows a considerable variety of form. The most striking product in this branch is the well-known sacred-meal plaque with the figure of a Kachina in bright colors. At Oraibi these plaques are rabbit-brush twining on a warp of kunk-bush (*sivípsi*) rods, while at Middle mesa they are coiled work of yucca-leaf strips wrapped about a thick coil of yucca strands with the design in black and orange. The deep burden-basket with oblong opening and a capacity of about a bushel, was formerly made and used

at all the Hopi villages for carrying corn, squashes, and peaches. It is made of skunk-bush shoots, and the technique is twining. At Middle mesa is made a tray about three feet long and nearly as wide, on which piki is piled during the baking. The material is skunk-bush shoots. The Middle Mesa villagers make also rough, shallow trays of yucca strips interwoven like matting, for containing corn and for sifting meal. No basketry is now made at East mesa, and the traditionists declare that formerly only burden-baskets were manufactured.

In the art of weaving, knitting, and embroidery the Hopi are preëminent. In ancient times they wove their cultivated cotton into fabrics the fineness of which excited the comment of the early Spaniards, and indeed the cloth remnants found in the ruined cliff-dwellings and burial caves of the country rival the examples of early Peruvian art. Textiles were not dyed prior to the acquisition of sheep, and the white background of ceremonial belts, sashes, and robes is still cotton in the form of commercial cord retwisted into a thin, tight strand. Excellent embroidery in Germantown yarn appears on all ceremonial garments.

Since the very earliest traditional times the Hopi have lived mainly by cultivation of the soil, and almost without exception their numerous religious ceremonies have as their principal object the increase of crops. Corn, beans, squashes, and cotton were raised in ancient times, and with the advent of white men the Hopi have added peaches, muskmelons, watermelons, chile, and onions. Corn remains the principal crop. It is planted very deep and far apart with no more preparation of the thin, sandy soil than removing the brushy vegetation. About 2500 acres are planted annually, yielding about 25,000 bushels. Of other crops perhaps 1500 acres are cultivated, and the Hopi peach orchards are estimated at 1000 acres, a figure which, however, gives an exaggerated impression, as the trees are widely and irregularly scattered.

Cotton was once a most important crop, as it was the material for their woven clothing and had an important ceremonial use, furnishing string for the making of prayer-sticks and other offerings, as well as for various ceremonial garments[16]. Almost every family had a small patch

16 See Frederick L. Lewton, *The Cotton of the Hopi Indians: A New Species of Gossypium*, Smithsonian Miscellaneous Collections, Vol. 60, No. 6, Washington, 1912.

of cotton among the rocks at the eastern and southern base of East mesa, and some traces of the stone enclosures remain. Native cotton was still raised by a few men at East mesa as recently as about 1890, and Lewton, in the paper referred to below, says that near Oraibi "the cultivation of cotton on a small scale is carried on by the Indians as a regular crop." This was published in 1912, and probably refers to a time several years earlier. The cheapness of commercial cotton goods and the increasing numbers of sheep to furnish wool have caused the cultivation of cotton to be quite abandoned. Tradition gives no hint as to the source from which the Hopi obtained their first cotton, and it is a remarkable fact that cotton, as a plant, plays no part whatever in Hopi mythology and religion, nor does plant, flower, or bursting boll appear in esoteric or decorative design. Tradition is silent also as to the origin of the peach orchards. The old men in describing the foods of their ancestors never mention peaches, and are aware that the ancients had none, yet no one of these traditionists can give any information touching the introduction of this fruit. It is known that the large orchard just below Ísba, the spring used by the Tewa, was started from trees obtained from Mormons; but these were far from being the first peach trees of the Hopi. It is said that after the destruction of Awatobi in 1700 the Oraibi chief spared a man who "knew how to cause peaches to grow," and thus the fruit was introduced at Oraibi. As Awatobi was the principal seat of the padres in the Hopi country, it is there we should expect to find the peach to have been first cultivated.

Tobacco is not now, and probably never was, planted and cultivated. The assertion of Fewkes that the Hopi have gardens of tobacco is doubtless based on the fact that in the cornfields the eradication of weeds gives the wild tobacco (*Nicotiana trigonophylla* and *N. attenuata)* a better chance to thrive there than elsewhere, and the farmer never destroys a tobacco plant. The nearest he comes to cultivating tobacco is to pluck and scatter the ripened seed as he chances upon it. Only in occasional seasons is there a good supply of tobacco, and in such seasons enough is gathered to last two or three years. Native tobacco, unadulterated, is always used in ceremonial smoking, but the plant is not regarded as sacred.

A few Hopi men have learned from the Navaho the art of working in silver, their product being buttons, bracelets, rings, and belt buckles. So little bead-making is done that a reliable native informant said there

are no bead-makers among the Hopi; but in the kiva a young man was seen drilling holes through bits of reddish stone by means of a pump drill. The great bulk of stone and shell ornaments, however, is obtained from Zuñi and the eastern pueblos.

Numerous native paints and dyes are used.

In making the red paint called *sûpnala* the liquid from boiled red corn is poured over the crushed ripe berries of the skunk-bush, and pulverized white clay of the kind called *tûmötsoka*, which is used also in certain foods, is added to give it body. The dried berries are kept on hand constantly, and the paint is made as it is needed for decorating the bodies of Kachina dancers.

For yellow paint (*sikyá-piki*) the yellow flowers of *sivápi* (*Chrysothamnus graveolens*), a low shrub used in the gardens as a windbreak for beans and melons, and commonly called rabbit-brush, are boiled, and the liquid is strained off. This is then reboiled, and *siöna,* alkaline salts found in the crystallized state in thin sheets within the clay, is added. *Tûwá-kta* ("sand excrement"), a spherical ball of agglutinated sand, is pulverized and stirred in along with the alkaline salts, in equal proportion, until the mixture is about as thick as our liquid paint. The coarse sand settles to the bottom and the liquid portion of the mixture is used for painting the body of a Kachina dancer. If the paint is to be kept for future use, it is poured off into small dishes, when the excess of water evaporates and there is left a solid, which, as desired, may be mixed with water.

For blue paint, *saqá-piki,* piñon-gum is melted and strained through horse-hair cloth into a vessel of cold water, where it becomes congealed. It is then pulled, like candy, until it is quite white, and is boiled in water. *Sáqa,* a very soft variety of turquois obtained from the Havasupai, is now pulverized and stirred into the mixture, and the boiling is continued, with frequent testing, until, when a stick is thrust into the mass and drawn out, the colored gum adhering to it becomes brittle on cooling. The vessel is then removed from the fire, and the paint hardens into a vitreous mass, which on warming becomes viscous. When it is to be used, a piece is broken off by striking it with a stone, and this is ground on a paint stone and mixed with a quantity of masticated squash-seeds. It is used on the faces of certain Kachina dancers and on the horns of Horn fraternity initiates, as well as on certain Kachina effigies. It is a beautiful turquois blue, but one who wears

it must be careful not to approach a fire too closely, for heat turns it black.

Sitsönovi, micaceous hematite, is rubbed on a stone moistened with water, and then applied to the body by Kachina personators in order to produce white designs. The same material is calcined in flames, then pulverized and mixed with urine and pressed into a ball, when it quickly hardens like cement. This is the ball used in the kicking race.

Wívavi, blue clay, also is used by Kachina personators.

The black dye *tóko (*"lava") has burned piñon-gum for its base. The gum is burned to a cinder in an earthen pot, while a soft yellow substance found between veins of lignite is mixed in gradually. After the burning the gum and the yellow substance are found to be pulverized, and the powder is removed from the pot. Shoots of skunk-bush *(Rhus trilobata)* are coiled up and boiled, the liquid is strained off, and the black powder is stirred into the boiling solution, in which the wool to be dyed is boiled for a time. This dye was not used before the acquisition of sheep. The liquid from boiled skunk-bush shoots is used for the purpose of setting the dye.

Yellow dyestuff is obtained by boiling the yellow flowers of*hohóïsi (Thelesperma gracile)* and adding alkaline salts. It is used at Walpi to dye white horse-hair for certain Kachina costumes, and it imparts an orange shade with a slight reddish tinge. At Middle and West mesas it is used by basket-makers to color their strips of yucca-leaves. Black basketry material is obtained by boiling yucca-leaves in the liquid resulting from the boiling of black beans. Before commercial dyes were to be had only orange, blue-black, and natural white were used by basket-makers.

The rich brown dye for deerskin is the product of two barks: *pötsívi,* syringa, and a thicker bark called *sôku,* which is obtained from the Havasupai and is probably alder. Liquid of boiled syringa-bark, as hot as the hand can bear it, is rubbed over the surface of a deerskin by means of a corncob; pulverized *sôku* is spread over the moist surface, and ashes are strewn over it. After the skin is dry it is spread in damp sand, and when it has become somewhat moist it is worked between the hands, in order to soften it. The result is a beautiful mahogany tint. This is an ancient Hopi process.

Since indigo, which, like soft turquoise is called *sáqa,* has been obtainable from the Mexicans, a broad border on the woman's robe has

been of deep dark blue. Originally the entire garment was blue-black. The indigo is mixed with urine, the ammonia of which sets the color. In dying native stockings the articles are left in the solution for eight days, and daily a bag of indigo is stirred about in the liquid in order to add color. Sometimes the white wool is dyed before the stockings are knitted. The urine of persons who have recently eaten skunk-berries or juniper-berries must not be used for this purpose, as it would cause the fabric to come out a grayish blue.

For the decoration of pottery, *ásа,* tansy-mustard, is boiled down to a waxy paste. When this is to be used, it is moistened with a little water and smeared on the paint stone, *tokó-kûyanpi* ("lava rub-on "). A bit of lava is rubbed on the moist paint stone, and thus a brown color is produced. The coloring matter seems to come entirely from the lava, the *ásа* essence being used only to give it body. In the burning it turns black.

Sikyá-tska ("yellow mud") is a yellow clay, probably ochre, which is moistened and used in pottery decoration. After the design is painted it is rubbed over with a stone, in order to force the paint into the pores of the clay, and after the firing it is found to have become a brownish red.

The Hopi terms of measurement are quite simple. *Tukyé'lemi* is measured by the outstretched thumb and middle finger; *máhmki,* from tip to tip of the middle fingers, the arms outstretched. The former unit is used in measuring short strings and the latter for longer strings, such as those employed by women and girls for wrapping the hair, and for making ropes. *Iílaki* ("step") is used in measuring land or distance. The Hopi pace is about two feet in length. A stretch of cornfield twelve paces wide, but of no definite length, is a *tûki,* the average being about equal to one-half acre.

There are no units of measurement for long distances. When the necessity for such terms arises, it is met by comparing the distance with that of some landmark visible or known to the speaker. Corn in the ear is now measured by sacks, but formerly the unit was the *hoápû,* a large burden-basket about eighteen to twenty inches in width and three feet long at top, by two or two and a half feet deep. Shelled corn is measured by the*tetsaía,* a tray-basket, and meal by the *póta* basket, the amount of one grinding.

The dog was formerly the only domesticated animal. Only recent-

ly, it is said, were turkeys introduced, although the Coronado expedition saw "cocks with great hanging chins" in the Tigua pueblos on the Rio Grande, and "cocks with very big wattles" at Acoma. Eagles and various kinds of hawks were, and still are, kept in captivity from spring until summer for the sake of their feathers.

Each of six Walpi clans - Reed, Cloud, Bear, Firewood, Snake, and Tobacco - has definitely bounded territory in which its members have the right to capture eagles, and in each of these clans there is one family which from ancient times has inherited the privilege of making pahos for the eagles and keeping the captive birds. During the winter solstice ceremony the men make imitation eagle-eggs of dozy cottonwood, and deposit them with *naqáqusi*[17] in various places among the cliffs and rocks near the mesa. In the spring pahos and *naqáqusi* are prepared by the men of a certain family in each clan that has eagle grounds, and small earthen vessels are made by the women of those families and deposited by the men at certain shrines in their respective preserves. The men then proceed to look for eagle nests. The usual method of taking the young birds is to go to the cliff above and lower a man by means of a rope tied about his waist, a blanket being folded under it to prevent it from cutting into the flesh, and a bit of rope about the neck being fast to the main rope so that the hunter may not lose his equilibrium. He carries a curved staff with which to keep himself from being dragged against the face of the cliff and for drawing the eaglets out if the nest is under an over-hanging rock. If the birds are old enough to fly out and tumble to the ground, they are permitted to do so, and men below catch them; but when they are too young to fly, the man on the rope catches them and either ties them to another rope and signals those above to hoist away, or gathers them in and takes them up himself After all the nests in the preserve have been visited, a rude framework of sticks is made for each bird, which is then lashed to it like a baby to its cradle-board. The framework is hung on the saddle, and the party returns to the village and carries the eaglets to the house of the women who made the sacrificial vessels for their clansmen.

17 Feathers to which short strings are attached, and used for offerings where such can be tied to an object instead of being thrust into the ground, as the stick of a paho, or prayer-stick, is used.

When three eaglets are found in a nest, one is left, because triplets in a family are regarded as an evil omen, and, the eaglets being treated like newborn infants, the superstition is extended to this case. But men of clans having no eagle preserves are permitted to take the third eaglet if they desire to do so, and this is usually done, the returning hunters informing the people what nests birds were left in, and a hot race between two or more men not infrequently ensuing.

After the return of the eagle-hunters, all the clanswomen assemble in the presence of the men of their respective clans to wash the birds with gypsum and to give a name to each one, just as if they were infants. There are no songs nor prayers on this occasion, and after the washing and naming the eaglets are tethered on the housetop. It becomes the duty of the small boys to hunt rabbits and mice and keep the birds provided twice daily with meat and water.

About the end of July, on the day after the Nimán Kachina dance,[18] the eagles are killed (though occasionally a bird not mature enough to furnish good feathers is kept longer) by laying the bird's head in a small, shallow excavation and pressing the thumb on the sternum. The long feathers are plucked, the dead birds skinned, and the bodies taken to the south point of the mesa, where they are interred in one of several crevices with a paho tied to each leg and to the bone of each wing in payment for the feathers and the skin. With the bodies are deposited *naqáqusi,* wooden Kachina effigies, and small bows and arrows, which have been made during the Nimán Kachina ceremony, the effigies being intended as offerings to the eagle children and the weapons for the use of the eagle men in killing game. The spirits of the dead eagles are believed to return to their home, accompanying the departing Kachinas. The long feathers are distributed among the male members of the clan, the skin is kept in the house where the eagle passed its captivity, and the short feathers are freely taken from the skin by any one of the clans for making pahos or *naqáqzisi.*

In ancient times adult eagles were taken in the manner employed by many other tribes. There are now standing in the Hopi country the remains of two small stone enclosures much in the form of a Navaho hogan, which are called *qá-mak-ki* ("eagle hunt house"). One is on a

18 Not, as has been said. immediately after washing the eagles' heads.

mesa a little east of north from Walpi, the other on a butte toward the south. Having tied the bodies of several rabbits to a loose thatch of sticks laid across the opening in the roof, a hunter took his place inside, and while his companions hunted for other rabbits, he sang his ceremonial songs, in order to cause the eagles to descend to his bait. When a bird attempted to seize the rabbits, the watcher grasped its legs, dragged it within, strangled it, and at once skinned it. The last bird taken was permitted to escape with a *náqaqusi* tied to one leg and with circlets of turquois and shell beads about both legs. The flesh of birds thus captured was ceremonially eaten by hunters.

Sheep were sometimes captured from the Navaho in considerable numbers, but they were always slaughtered at once, and not until a disastrous famine, occurring about the year 1870, had taught them the folly of this course did the Hopi take to raising flocks. Morfi in 1787 recorded that there were some horses and cattle at East mesa, *"pero mucho ganado";* but it is probable that the flocks and herds of the pastoral Navaho were responsible for the statement. The local agent in 1873 wrote to the Office of Indian Affairs that" they are much pleased that they are to receive sheep this year"; and the Commissioner of Indian Affairs reported in 1874 that the Hopi had small flocks of sheep and goats. At the present time they possess about 120,000 sheep and goats, 3550 burros, swine, and poultry, 6150 horses and mules, 129 stallions and jacks, and 8,400 horned cattle.

When a Hopi child is about to be born, the father's paternal grandmother, or, if she be dead or incapable of acting, his paternal aunt, brings a bowl of water and an ear of corn. The prospective mother lies on a bed of sand, and when the child is delivered the attendant receives it, cuts the umbilical cord, washes the infant in the bowl of water, and wraps it in cloths heated to such a temperature as they think sufficient to kill any vermin therein. She then lays the child on a tray basket, places beside it the ear of corn, which is called its "mother," and carries out the placenta and fetal envelopes, casts them over the cliff upon the piles of refuse, and tosses after them a pinch of meal. For twenty days the room is kept darkened, the door being screened with a shawl or a blanket: for the rays of the sun must not shine on the mother during this period. She receives neither meat nor salt, either of which would cause inflammation. Every fourth day the mother, the child, and the attendant have their heads washed with yucca suds. After the twentieth

day the mother and the child are permitted to leave the house, but on the twenty-fourth day they must again have their heads washed with warm water. Not until then may they use cold water. On the twentieth day each of the mother's clanswomen takes to the godmother a basket of meal and some mutton, which they have prepared on the previous day; and at the same time the father's clanswomen assemble at his house, each bringing some small present for the child, and bestowing on it one of the names that belong to their clan. A Hopi name therefore does not refer to the clan totem of the bearer. From all these names one stands forth prominently, and this is the one adopted for the child. But sometimes a woman expresses the desire to have her child, as yet unborn, named by a woman of some other clan than that of her husband.

At the age of about six or seven years all boys, and some girls, are initiated into the Kachina order, and they then receive new names. Occasionally however the childhood name persists, and the new one is not commonly used. In later life, whenever the individual is initiated into a fraternity a new name is bestowed by the ceremonial father, and this may or may not replace the one previously borne.

In former times when a boy was disposed to sleep late, one of his grandfathers would seize him, hustle him outside, and roll him in the snow or dash cold water over him. Then when the child, released, came running to the fire, another old man would repeat the punishment, and this was kept up until the boy evinced no wish to seek the fire.

At all times children were admonished not to crowd too closely to the fire, and not to eat too much, and constant watch was kept to see that they observed this latter injunction. Daily they were made to practise running, boys of five or six years doing their mile every morning. This Spartan training was intended to render the children capable of resisting the Navaho and other hostile tribes, and untiring in hunting. At night when the elders were talking, boys were told to listen carefully, and if any manifested a desire to sleep he was sent outside to "breathe in the spirit of the stars."

At the age of eight or nine the boys began to take a daily morning plunge. At Walpi Tawá-pa spring was used. On rising, men and boys, clad only in breech-cloths, would run down the trail to the spring, make an offering of meal and prayers to the sun for good luck and

long life, throw off their breech-cloths, and leap into the water. Then, quickly scrambling out, they would don their scanty garments and run up the trail to the village, where each wrapped himself in a blanket and sat outside on the roof or on the ground, leaning against a wall and watching the rising sun. Not all males went to the bath together, but those who happened to rise at about the same moment went in one body, to be followed closely by another group and another. At villages where there was no body of water large enough to permit plunging, the bathers stood at the edge and splashed water up over their bodies. In winter, when snow covered the ground, the bath became a roll in the snow; but if the ground was bare they resorted to the spring, broke the ice, and either jumped into the water or dashed it over their bodies. Always they went to and from the spring on the run.

The purpose of the bath was not cleanliness, but physical hardiness for war and the rabbit-drive; for the rabbit played a most important part in the life of the Hopi. While large game was occasionally captured, the task was so difficult that rabbits furnished by far the greater portion of their meat. Even now young men who do not participate in the rabbit-hunt are twitted, and called women.

Formerly as now the women did not habitually bathe at the springs, but occasionally washed off the body in the house; and once in a while in very hot weather women who happened to be at some spring remote from spectators would bathe for the sake of cooling the body. They made their daily offerings of sacred meal, as the men now do, at the edge of the cliff at sunrise.

The sweat-bath was never employed by the Hopi.

Girls are early taught to perform their share of the work of the household. Even as mere infants they play with small grinding stones and make mud piki, and at eight or ten they begin to use the regular mealing stones. Girls of less than three years of age may be seen playing with the mealing stones and actually crushing the corn, and a baby of little more than a year was observed using toy stones and crooning a song. At the age of eight or ten the girls begin to have much of the care of their infant brothers and sisters, and a common sight is a mere child trudging about with a baby in the shawl at her back.

When a girl reaches the age of puberty she is sent to the house of a paternal aunt, where for three days, behind a curtain raised for the occasion, she grinds corn for her aunt. This is quite contrary to

the custom of most Indian tribes, who generally have stringen rules forbidding females in their menses to have a hand in the preparation of food. Other girls not in like condition may come to grind with her, and keep her company. She may not have meat nor salt, and for scratching her head she must use a forked stick with hawk-feathers tied to the prongs. On the fourth day her head is washed with yucca suds by her aunt, who gives her a present such as a belt, a piece of calico, or in rare instances a dress, and the girl then goes home. On the fourth morning of her confinement the girl deposits the head-scratcher on the edge of the mesa and sprinkles it with meal. Marriage usually occurs soon after this period, but it is said that until two generations ago girls rarely married under the age of fifteen or sixteen. This is a common, but doubtful, statement among many tribes.

The adolescence of boys is usually marked by initiation into one of the fraternities that participate in the New Fire ceremony, though in many cases they are past the age of puberty when the approximately quadrennial initiation occurs. There is no ceremonial fasting or vigil for the obtaining of spiritual aid.

The Hopi are strictly monogamous. The ancient custom, according to which parents arranged marriages for their children, has yielded to a modern practice. The youth now attempts to enter by stealth the house of his beloved. If he succeeds, he awakens her and she calls to her parents, who seize the young man if he has remained, or, if he has run away, take steps to ascertain his identity. This having been done, they summon their relatives to consider whether or not he will make a suitable husband; and if he is acceptable, the girl's mother sends her on the next day with a quantity of piki to the young man's house, and in return his mother gives the girl a tray basket of shelled corn on which lies a piece of meat. This exchange is a pledge of marriage, and other young men cease to pay attentions to the girl. The young man's mother divides the piki among his "brothers," who begin to consider what they will individually contribute.

When the youth's maternal uncles decide that the proper time has arrived, they notify the bride's female relatives, and these begin to grind corn, heaping the meal in ten or more large earthen vessels. A sufficient amount having been prepared, the uncles send the young man to notify the girl to hold herself in readiness, and on the third or fourth night thereafter to come to his house. On this appointed night

he carries the invitation to her relatives, who soon arrive bringing the bride and a small portion of their meal. After partaking of food, they depart, leaving the girl, who remains, but sleeps alone. The relatives of the bridegroom now shell a quantity of corn as a marriage gift, and early in the morning the bride arises and grinds until daylight. After the morning meal a portion of the room is curtained off with a blanket, behind which she remains and grinds corn for three days, or until she has filled with meal three large earthen vessels. Not until that amount has been prepared is she permitted to make her appearance.

On the second day the clanswomen of the bridegroom's father pretend that they are greatly vexed because their "sweetheart," as for the moment they call the young man, has deserted them and has brought home another woman. Meeting at the house of one of their number "to hold a council of war," they don old clothing, prepare a vessel of mud and water, and then in a body repair to their clansman's house, where with mock seriousness they vent their pretended spleen on the young man's father, plaguing and teasing him, throwing mud on him, sometimes cutting off his hair.

On the fourth night the bride's relatives bring all the meal they have ground, ten large vessels full and heaped up, and late into the night the bridegroom's female relatives on both sides bake piki, using wood furnished by his maternal uncles. In the morning his uncles kill sheep and roast them for the marriage feast, which all the people are to attend. At the same time the bride's head is being washed in yucca suds by her mother-inlaw, an act which is taken to signify that the two are now really married.

The night after the wedding feast the couple spend in a room apart from the bridegroom's family, and there they live until his relatives have made for his wife two cotton blankets, a marriage belt, and a pair of deerskin moccasins and leggings, which require about ten days. These garments she then dons, and after the bridegroom's father and uncles have advised him how to treat a wife, exhorting him to provide plenty of food and to use her kindly, his mother leads the young wife to her own house, where thenceforth they live.[19]

19 Since the above description was written in 1912, the authorities have at last succeeded in establishing the license-and-priest method.

Separation is easily accomplished at the desire of either husband or wife. If the man is dissatisfied, he removes his personal possessions from his wife's house; and a woman may inform her husband that he is no longer welcome there, or in his absence she may simply but eloquently pile his effects outside the door.

After the head of a deceased Hopi has been washed with yucca suds by the paternal grandmother or aunt, or some other female relative, and white grains of corn have been rubbed into the hair, the male relatives on the father's side prepare four pahos, which they bind on the forehead of the body, so that the feathers cover the face, and a *pötavi,*[20] which they arrange with the feather on the mouth and the string extending down along the breast and stomach to the navel. This *pötavi* is the "breath string," and symbolizes the breath, or soul. To the hair at the crown of the head they tie a downy eagle-feather, which by its lightness symbolizes the soul floating away to the world of the dead.

The body is then arrayed in its best garments, and with a small quantity of piki and dried meat on its breast, is wrapped in a blanket from head to foot. A slit is cut over the face for the egress of the soul. Generally a blood brother is the one who digs a grave among the rocks at the base or on the slopes of the mesa and carries the corpse down on his back. The grave is a circular pit just large enough to accommodate the body in a sitting posture with the knees drawn up to the chin; and sometimes it is lined and roofed with stones before the covering of earth is added. Caves also are much used. The corpse is set with its face eastward, and before covering it with earth or roofing it over with stones, relatives drop into the grave ornaments of trifling value and bits of ceremonial paraphernalia once used by the deceased. A gourd of water and a dish of food are placed either in the stone cell or near the earthen grave, that the spirit may have sustenance during the four days it remains in the corpse and the four days of its journey to the home of the dead. Finally they thrust into the earth above the grave a long paho, and a stick to serve as a ladder for the spirit. Four times on their way back to the village one of the men stops, and, without looking back, draws each time four parallel marks across the trail with a bit of char-

20 *Pöhû,* road; *ta,* laid; *vi*, there. A *pötavi* is a cotton string attached at one end to a downy feather. It represents the road of life, hence life itself.

coal, in order to prevent the ghost from haunting the village and perhaps taking with it the spirit of any other member of the household.

On the following day all the members of the family, and those who were present at the interment, wash their heads, and the man who carried the corpse goes down to deposit food on the grave and to see if it has been disturbed. The absence of evidence of digging by animals is taken as a good sign, while the contrary condition portends very bad luck. Nothing however can be done to avert the impending, unknown evil.

The outward show of sorrow is limited to wailing on several successive days, in which the women are especially prominent.

It is believed that after four days the soul leaves the body and goes to the under world, *más-ki* ("corpse house"), wearing the Kachina mask which the living person wore at his initiation into the Kachina order; and a woman who has not been initiated into this order is thought to wrap about her the small blanket that is given to every child at the age of five or six years. Before reaching *más-ki* the spirit arrives at the brink of a high cliff, but spreading out his spirit blanket, which accompanies each soul, he floats gently down into the valley and soon reaches a large village of stone houses, the ladders of which are long, fragile, sunflower stalks. Sometimes the spirit of a person not truly dead comes to *más-ki,* but on attempting to mount a ladder he breaks the stalks, and the shock of falling sends him back to this world of consciousness. The spirit of one who has committed evil in this life encounters many difficulties, for his trail lies through beds of cactus, and at various places he comes upon heaps of parched corn, where, though he consumes but one grain in a year, he must remain until every grain has been eaten. At the edge of the cliff stands a huge, powerful man, who seizes the evildoer and with four preliminary movements casts him down to the bottom, where he is destroyed against the jagged rocks. But this final fatal punishment is reserved for those who by wrong counsel brought misery and misfortune upon their people. The ordinary misdemeanors, such as lying, stealing, adultery, are sufficiently expiated by the trail through cactus thorns and the heaps of parched corn, and those who have erred only in these matters float safely down over the cliff to *más-ki*.

In former times the property of a deceased man or woman was usually seized by the father's clansmen, but occasionally they were

merciful and left a portion to the children. When they made away with the whole, the children were cared for by their own clansmen, that is, by their mother's relatives. This custom no longer prevails, and property is regularly inherited by the children.

Land is held by the clans, and within the clan by the women. It is cultivated by the husband of the woman who happens to hold it for the clan, and is bequeathed to her eldest daughter. There are however some plots that are controlled by certain officials during their incumbency: thus, the chief of the Wûwûtsim-wimi fraternity has the use of about twenty acres, and another piece is for the use of the Yóy-asi-taka, who looks after places struck by lightning.

If a woman dies without daughters, the land is bequeathed to her eldest son, and when he bequeathes it either to daughter or to son it of course passes out of the hands of her clan. There is some agricultural land not claimed by any clan, and any man who clears and cultivates it becomes its possessor; but as he must bequeath it to his daughter, if he has one, it ultimately becomes a possession of his wife's clan. Land cannot be sold, but the use of it may be sold for the period of the purchaser's life.

The house, though largely built by the man, as well as all household furnishings and utensils, is owned by the woman and inherited by the eldest daughter; and if there is not room in the house for the families of the other daughters, they must have houses of their own built by their husbands. The woman is also the sole owner of the crops produced from her land, and if she choose to divorce her husband after the harvest season, she may do so and still keep the entire crop. When she puts her husband's personal effects outside the door as a delicate intimation that she no longer desires his companionship, there must be no delay in his removal of them, lest some passerby appropriate them; in which case there is no redress nor any word of remonstrance from the loser. Women own few sheep. In spite of this apparent exaltation of woman, the Hopi man is the true head and master of his household; and to the honor of the woman it must be said that she seldom abuses her privilege.

Corn was the principal primitive food of the Hopi, but because of the crudeness of their implements no great quantity could be raised. Brush and weeds could be removed only by trampling them down and pulling them out by hand. In planting, the dibble was used, as it

still is,[21] and the ground was broken up by means of the *wíkya,* a stick about three feet long with a broad, fairly sharp end, which was used with a motion like that imparted to a canoe paddle, the sharp edge tearing up the ground. While the process was excessively laborious and limited the amount of land that could be successfully cultivated, another factor was no less important, namely, the constant fear of marauding Navaho or Ute, if the farmer went too far from the village. It is said that a harvest of four or five baskets of corn for each individual was the average. Because of the comparative scarcity of food, restraint was necessarily exercised in their eating, so that it is said to have been customary to eat with the left forearm across the abdomen, the first feeling of distention perceptible to the arm being a signal to desist. Cornmeal was commonly prepared in the form of a pudding, or a thick mush, and it was a rule that only the first two joints of one forefinger should be dipped into the common dish. When a child was detected using two fingers, there were remarks concerning greediness, the tone of which was such as effectively to check gastronomic enthusiasm. In fact children were frequently disciplined in the matter of food. About the middle of a meal the small boys might hear this: "You must stop now. Some time you may have to go on a long journey, when you will be unable to carry all the food you would like. You will then have very little to eat, and you must begin now to make yourself capable of living on little." To a small girl her parents would say: "Go now to the grinding stones and finish your meal there!" And the little one would repair to the mealing trough and take up her task. Sometimes a child would desire a drink of water in the middle of a meal; a fatal mistake, for the parent was sure to say quickly: "Do not drink in the house. Go outside to drink." Which of course was only a polite way of intimating that the meal was ended.

At the meal no prayer is offered, but each person, including children, throws aside a bit of food as an offering to the supernatural beings, and not to any particular deity. During the meal one of the older men usually cries out, "*Távu* ['rabbit']!" and the small boys present reply, *"Nû távu nínani* ['I rabbit will-kill']!" For it is supposed that

21 Since this was written the horse-drawn cultivator is a familiar sight in the Hopi fields.

if the boys have rabbits in mind while eating, they will soon kill one.

The Hopi maintain that they, unlike the Zuñi, have always had the custom of eating thrice daily: a hot meal morning and evening, and a noon meal consisting mainly of piki, which also is the food carried by travellers in a deerskin bag at the belt. The slender store of corn, beans, and dried squash was eked out by the roots and seeds of numerous species of plants.

After harvest the ripened ears of corn of all imaginable colors are neatly arranged in stacks, like so much firewood, in the store-rooms at the back of the living quarters, and as meal is required it is ground on the mealing stones by girls and young women. Throughout the early part of the day trios of grinders may be seen kneeling at their task, black hair neatly combed and bunched below each ear or tied in an elaborate whorl above the ear; broad, white-and-red belts confining the short, blue-black, sleeveless tunic; strong, shapely arms bared to shoulders that with slow rhythm rise and fall as the rubbing stones crush the grains and gradually reduce the coarse fragments to fine flour. Occasionally their voices unite melodiously in one of the grinding songs, and bits of gossip are exchanged. Typical of these melodies is the Dragonfly song.

Hakámi-pa ítamu yóy-nanaqûsa?
where-go we rain go ever
Hakámi-pa sikyá-vatalatsi tíyotu, saqá-vatalatsi mánatu?
Hee….. where-go ever yellow dragonfly boys blue dragonfly maids
Ámonini hawílaina.[22] *Kotsini-naa kohaya talavahayi.*[23]
excellent growing corn yellow-cornmaids these

Hápimee….! Kvápipaí, ómôu ómi kûíva.
perhaps cloud above appear

Peo, peo yóy-wûnú-toni. Peo, peo yóy-wûnu-toni
here here rain stand will here hererain stand will

22 Said to be Keres words.

23 Said to be Keres words.

Peo tûwati yóy-wûnú-toni. nalö-nené-vewii.
here ready rain stand will four directions in turn side-by-side

Hayatalavahayi, ahayai, ahayai! Haiya, Haiya, hayatalavahayi, he!

"Where, I wonder, shall we Rains go? Where, I wonder, will the go, the Yellow Dragonfly Boys, the Blue Dragonfly Maids? Excellent growing corn! These Yellow-corn Maids — Clouds perhaps will appear up yonder. Here, here, the Rain will stand. Here, here, the Rain will stand. From each of the four directions Rain will come side by side."

The commonest food derived from corn is *píki,* a paper-thin bread baked on a smoothly polished stone moderately heated by a fire beneath it. There is usually a small separate room, which at Walpi is commonly below the street level at the edge of the cliff, in which the fireplace and the piki baking stone are found. In making piki the very finest meal is scalded, and water in which ashes of salt bush (*sûovi, Atriplex canescens),* which contain a very high percentage of potash, have been soaking is strained into it through a clean besom. The ashes impart a faint bluish tinge, which, however, is only one of the desired results, the other being the slightly piquant flavor and leavening effect of the potash. The mixture is worked into a dough, and then cold water is added until a thin batter is obtained, a film of which is spread over the heated stone with two or three swift movements of the hand. In a few seconds the thin sheet is carefully stripped off and laid aside, to be returned in the reverse position above another film of batter. After an even briefer baking on this side it is laid on a basketry tray, to be folded and refolded, with a number of other sheets, into a neat packet, which closely resembles a package of colored tissue paper. Red blossoms of pigweed, *kúmu* (*Amaranthus paniculatus),* which the Hopi believe, probably erroneously to have been introduced by the Spaniards, are dried, pulverized, and added to the batter to impart a pink color, and yellow piki is produced by the addition of the yellow blossoms of *Carthamus tinctorius,* which the Hopi call *asápzani.* Sometimes two films of different colors are spread on the baking stone, and a two-colored sheet is the result. White, or uncolored, piki is sometimes made of white cornmeal.

Pikami ("buried piki") is a baked pudding. Fine meal of white corn is scalded and stirred, and with cold water is mixed into a pasty mass. A small bowl of meal that has been masticated and allowed to ferment by action of the saliva is then stirred in, and half of the batter is poured into a large jar, which is carried out and set on the coals in a *pikami* pit, in which a fire has been burning all day. The pit is about eighteen inches in diameter and two feet in depth. Then the remainder of the batter is poured in until the vessel is full to the brim, a slab of stone is laid over the pit, the crevices are stopped with clay, and a fire of charcoal is placed on the stone. The pudding bakes all night. *Pikami* is prepared on Totókya day of all ceremonies and is eaten on the following day, whence an alternative name of this final day is Pikamnovi. This pudding may be baked in another way. In a small stone oven outside the house a fire is built, and the batter is arranged in layers separated by corn-husks until there is a pile about twelve inches high, which is then set in the oven on a bed of stones over the embers, after which the oven is sealed with a stone slab and clay. Sugar instead of masticated meal is now generally used.

At the present time wheat flour obtained from traders is much used at Walpi. This flour they make into yeast bread, which they bake in outdoor ovens of the Mexican hemispherical type, or in the stoves that are now found in nearly all the houses. Both ovens and stoves are very recent innovations. Before using the outdoor oven the housewife casts over the heated floor, which has first been swept clean of embers, a handful of moistened corn hulls from the grinding stones and by the length of time required to brown them she judges if the temperature is right. If it is still too hot, she sprinkles water over the floor by means of a besom.[24]

Besides the two staple foods, piki and pikami, the Hopi make a great many less common preparations of corn. The green ears of sweet-corn in the husk are roasted in pits with heated stones, and the ripened grains are parched. Cornmeal balls (*pövöhl-piki,* round piki) are fine meal mixed with ashes, moistened, and dropped into boiling water. There are tamales of several kinds: the "tied-up piki" (*sumi-viki*) con-

24 In 1919 the Mexican ovens observed in 1911-1912 had disappeared, but stoves were more common than ever.

sists of a paste of fine meal and water from boiled ashes, which is rolled in a cornhusk and baked in hot ashes; *tánû-viki* is like it, except that the meal is coarse and it is baked in a pit with heated stones; "hot-sand piki" (*nák-viki*) is green corn cut from the cob, crushed, made into balls, and baked in cornhusks in hot ashes; "double-pointed piki" (*chûkû-viki*) is the same material rolled in corn-leaves, the pointed ends of which give it the name. The water for gruel is either infused with potash, or not. The Hopi have always had both field-corn and sweet-corn. The former is used in the various cooked preparations, the latter is eaten roasted on the ear, roasted and parched, or roasted, dried, and ground into a fine and tasty meal called *tósi*.

Mescal (*qáni*), the roasted fleshy base of the agave, used to be secured regularly from the Apache and the Havasupai, the latter of whom usually sent traders to the Hopi country in the late autumn. Piñon-nuts were an important and nutritious food, and juniper-berries and the fruit of the prickly-pear cactus *(Opuntia)* and the yucca were appreciated. Various wild plants were eaten as pot-herbs, and salt was regularly used.

The principal animals used for food by the Hopi were antelope, deer, bear, mountain-sheep, wildcat, porcupine, badger, fieldmouse, woodrat, squirrel, rabbit, jack-rabbit, and gopher. Rabbits and jack-rabbits furnished the bulk of the meat, the importance of these rodents being shown by the fact that the rabbit-drive is called simply *mákiwa* ("hunt"). It is the hunt *par excellence*.

Any man who desires to do so may institute a rabbit-hunt, and become its chief, by going to *mákchal ôunwuká* ("hunt announce the-one"), the rabbit-hunt crier, who is always a member of the Rabbit division of the Tobacco clan, and asking him to announce a hunt. The crier then on the following morning bids the men round up their burros and horses during the day; and in the evening the hunt chief goes to the crier, who gives him food and receives in return a cigarette. The crier informs the chief of the hunt just where it will be held, and exactly how the game will be surrounded, going into considerable detail; after which he mounts to the housetop and repeats all this in a public announcement.

In the morning the chief of the hunt goes to the selected place and in a small hole in the sand he lays four *naqáqusi'* so that the four feathers are directed toward the cardinal points. From each feather he

cuts the cotton string, thus as it were destroying the life of the rabbits; for these *naqáqusi* are deposited for the rabbits; and on the strings he places rabbit droppings, grass (which is the food of rabbits), and sand on which rabbit tracks are found. Then after kindling a small fire in the hole, he builds a large signal fire, and the hunters begin to assemble, each one placing on the small ceremonial fire some rabbit droppings, grass, and sand on which rabbit tracks appear, and then holding his throwing stick in the smoke. All sit around the signal fire and smoke, and when no more men are seen in the direction of the village, the chief of the hunt sends two men in opposite directions around the edge of the ground to be beaten, and when these two pass each other, the others follow them, spreading about the circle at equal intervals. At the same time the chief covers the small fire with sand, leaving a little opening at the top of the mound. The circle completed, the hunters gradually close in, beating the bushes, poking their sticks into holes, and shouting, and when the space is narrowed down to about two hundred yards in diameter, the frightened rabbits run so close to the men that they may be killed with sticks.

On the occasion when a boy kills his first rabbit he is, or should be, initiated as a hunter. The following narration illustrates the custom.

"I was eight years of age, when one day in the cornfield my grandfather and I started for a small spring in an arroyo, having exhausted our supply of water. On the way I saw a jack-rabbit sleeping under a bush, and pointed it out to my grandfather, who threw a club and struck but did not kill it. I ran and seized it, and my grandfather held it up by the legs and made me strike it on the head and kill it. On the way home that evening he told me I must be initiated as a hunter. So he went at once to a man of the Bear clan and asked him to be my father in the initiation, and about sunset the Bear man placed me facing the north and bending over, and he held the rabbit behind me and drew it away toward himself. He turned me successively to the west, the south, and the east, and repeated this act.

During the next two days I was not allowed to eat meat nor salt, and each morning for four days my godfather, the Bear man, took me to the spring before breakfast and both of us bathed. On the evening of the third day was announced a rabbit-hunt, of which I was to be the chief, and the next day I was dressed and painted like an initiate into the Kachina order, and accompanied the hunters."

Before starting on an antelope-hunt or a deer-hunt, the chief of the party sent two runners to discover where the tracks of these animals were most numerous. At the first camp they made *naqáqusi* for Másôu, god of germination, and for Tíhkûyi, mythical mother of all the large game animals, for the Súmaikuli, mythical keepers of the animals, for the beasts of prey, such as cougar and those others that understand the art of hunting, for Tûtsqa ("land"), and for Táwa ("sun"). Not only the chief but each member of the party made a *naqáqusi* for each of these deities, and the offerings were arranged in six piles. Then, some hours after dark, five men, including the chief, carried five of these heaps of prayer-plumes from the camp, and standing in single file they deposited them on the ground and listened intently for what sound they might hear, as an indication of what would happen on the morrow. Invariably the five men heard as many different sounds. On the following morning the sixth lot of prayer-feathers was offered to the rising sun.

Antelope and deer were hunted in the warmest weather. Each man carried his bow and arrows and throwing stick, water in a small netted gourd with an opening in the stem stopped by a corncob, and a small bag of piki. A numerous party would visit the buttes or mountains and there form a large circle, with a few men inside for the purpose of keeping the animals constantly running, and thus they would drive the animals back and forth until the creatures were so exhausted that they either stood still and were easily shot, or else fell and were clubbed to death. Mountain-sheep were hunted like deer, and were more easily taken because they were found in such places as offered ready means for driving them into a *cul de sac*. Bears were never the object of a hunt, and the meat was used only when one happened to be killed. Such expeditions as these usually lasted three days, one of which was devoted to butchering the game and cutting the meat into strips convenient for drying.

Taboo of the flesh of the animal from which one's clan is named does not exist among the Hopi. There are however other taboos. Girls at the time of puberty, and initiates into the fraternities during the period of their confinement in the kiva, eat neither meat nor salt. A lifelong taboo derived from the Navaho is that which is placed upon a person subject to convulsions. Such a one is not to eat the heart nor the kidneys of any animal, for this disease is supposed to be inflicted

by the animals, which, if these vital organs were eaten, would be displeased. He must also not break the piece of fried bread, but must wait for some one else to do this before he takes a portion. Here the idea seems to be that the circular piece of bread with a hole in the centre represents a complete thing, and if he breaks it he will be destroying something, and hence by analogy will endanger his own life. A roll of piki, on the other hand, he is required to break before eating of it. The spirits of the animals are constantly watching such a person to see that he does not infringe any of these rules.

The Hopi have a considerable variety of games. The game *totólospi,* a name referring to the checkerboard marking of charcoal on a flat stone, is played by young men. Seven parallel lines are crossed at right angles by six lines, and two diagonals connect the opposite corners. At the narrower ends of the board, opposite each other, sit the two players, one of whom places twenty pebbles, his "men," on the perpendicular intersections at his side of the board, while the other similarly disposes twenty bits of wood on his own side. Thus two vacant intersections are left on the middle lines. Moves are made along either the rectangular or the diagonal lines, the principle of play being exactly that of checkers, except that there are no kings.

C*hómakinta,* a word referring to the casting of dice, is the name of a men's game very like parchesi. There are three wooden dice about five inches long and one inch wide, flat on both sides, with one face black and one uncolored. Around a stone disc are arranged in a circle forty smaller flat stones, divided into quadrants by four diametrically opposite openings. The players, two or more in number, are divided into two "sides," but regardless of the number of players there are but two "men," both of which start from the same opening and move in opposite directions. One "man" passing or coming upon the other while the latter lies in a gap "kills" him, and compels him to begin afresh. The three dice are thrown end downward upon the central disc. For one black face exposed the count is one; for two black faces, three; for all black, five; for all white, ten, with the privilege of another cast. Once around wins the wager, and in finishing it is not necessary to throw a number that would bring the "man" exactly to the last gap.

Sosótukpi ("guessing at it"), the cup-game, is played only during the winter moon Pá-mûya. Primarily it is a ceremonial game in which the masked Kachinas play against a number of women, but it is also

played for amusement by young or middle-aged men in the kivas. Four cylindrical cups of cottonwood about three inches in diameter and five inches high are called *tsósivu*. The game between Kachinas and women takes place in the open. Singing and beating a drum, the women sit closely together, one of their number standing before the others with an outspread blanket, and arrange the four cups in one of a number of geometrical figures, such as a square, a rhomb, a straight line extending either laterally or toward the opposing players, or a triangle with its apex toward the opponents and the fourth cup in advance of the apex. Under one cup a pebble or a grain of corn is hidden. Then the blanket is lowered, and the Kachina leader approaches and deliberately knocks over the cups, one by one. If the pebble is exposed by either of his first two guesses there is no count for either side. But if it is not under either of the first two cups, he then carefully knocks over a third one amidst the most intense excitement. If the pebble is then exposed, his side has won a point and takes possession of the cups; but if not, he has lost a point and the cups are retained by the women, who set them up in a different arrangement. In the space between the two opposing parties is a thin covering of ashes, in which two sets of four parallel marks have been drawn with the finger-tip. A small tally stick (*sóata,* his grandfather) lies at each end of the series, and when a point-is won, the winner lays his tally stick in the first finger-mark. If this side wins again the stick is advanced to the second mark, but the moment a point is lost the counter must be returned to the end of the series. In order to win a game therefore, eight consecutive points must be won. In this ceremonial form of the game the Kachinas are careful to permit the women to win, and at the end of the play the women give them the pahos they have prepared, and receive as their reward various kinds of seeds, which are regarded as symbols of abundant crops.

Táchi ("ball") is a form of shinny, in which a ball of wool covered with deerskin is placed in a shallow hole and covered with sand at the middle of a course about a hundred yards long. At each end of the ground is a little three-sided and roofed cell of stones, the *táchi-ki* ("ball house"), with the open side toward the centre of the field. One player from each side of three to ten men stands beside the buried ball, facing his opponents' goal, while the other players are scattered over the field. At a signal one of the two delivers a blow at the ball, then the other strikes, and so they continue until it is uncovered and driven

toward one of the goals. A point is won by sending it into the "ball house" of the opposing side. This game is played in the spring by men, and young girls sometimes play it among themselves. For amusement men build a small embankment at the base of a slope, and then drive a shinny ball up the hill again and again as it rolls down the embankment.

Mûzíko-nanavö ("stick gambling") is played by men returning from the cornfields, when they divide into two parties, each man selecting a stick for throwing. One casts his stick ahead, and the players of the two sides alternate in throwing their missiles toward it, each endeavoring to place his own closer to the first stick than his predecessor's, until one fails to do so. When one side gains five consecutive points the game is won. A skein of yarn, a pair of woollen leggings, a piece of deerskin large enough for a pair of moccasins, are common wagers.

Hó-nanavö ("arrow gambling") is played by two opposing sides of about four men each. Through each of two small mounds of sand about fifty yards apart an arrow is thrust horizontally, with the point directed toward the other mound. A section of hollow, cylindrical bone is balanced on each arrow near the point. Taking their stand at one mound, the contestants shoot in turn at the bone on the arrow in the other, and the side which sends an arrow through the bone wins four points, after which all repair to that mound and one point is claimed by the side whose missile is closest to the arrow in the mound. Eight consecutive points decide a wager, and each member of the vanquished gives one arrow to one of the victorious contestants.

In the winter moon Pá-mûya, boys, and sometimes girls, play at whipping rather rudely shaped tops of piñon wood. A thong or cotton cord attached to a short stick is wrapped about the top, which is set spinning with a quick jerk and is whipped forward in a race about the village or around a group of houses.

At the time of the Nimán Kachina dance little boys not yet initiated into the Kachina order play a game with the arrows which they suppose the supernatural Kachinas to have brought them, but which in reality their fathers have made. A bunch of corn-leaves three inches in diameter and a foot long, wrapped with yucca-leaves, is thrown forward a short distance, and the boys shoot at it, the first who transfixes it taking all the arrows that have missed it. Then, the stalk having been thrown a little farther forward, the boy who has just won shoots at it

all the arrows he has taken, and those that pierce the mark he keeps for his own, but those that miss go back to their original owners.

For amusement, and not for wagering, young men in two parallel lines would throw at a rolling hoop of cornhusks wrapped with yucca-leaves a corncob with a sharp stick in one end and two flight feathers at the other. The hoop was rolled back and forth between the lines by two men, who stood at opposite ends.

Sönö-wûnpa ("corncob kicking") is a contest between men of the same kiva. In winter-time the men gather in their respective kivas to pass the time in spinning yarn, weaving cloth, and telling stories; and to break the monotony they sometimes divide into two parties and choose leaders, each side providing itself with a *sönö*, a bunch of four corncobs to which a cord is attached in such manner that there is left a loop into which the toes fit snugly. One *sönö is* black, the other white. Then the two leaders lie on their backs at the foot of the kiva ladder with their heads toward the fireplace and attempt to fling their *sönö* up through the hatchway. Usually many attempts are necessary before success is attained. When a missile goes flying out through the hatchway, those to whom it belongs rush after it, and the first one to reach it throws himself down on his back and kicks it over his head toward the beginning of the Stairway trail. In this fashion the two parties race down the trail, around Tawá-pa spring at the foot of the trail, and back into the kiva. It occasionally happens that on the return a *sönö* is accidentally flung over the edge of the cliff, and it must then be recovered and brought back in the usual way. Before the start they roll balls of blue corn-meal about small pebbles, making them the size of the fist, and place them in the fire to bake, and these "round piki" are claimed by the winners.

The "kicking race" (*wûnpa-nanámunwa*) is a contest between the members of the different kivas, and is held only in the spring. Each kiva has a ball somewhat smaller than the fist and made of stone, pinon-gum, or a micaceous mineral that has been calcined, powdered, mixed with urine, and formed into a ball before it hardens. The leaders of the respective parties take position near the foot of the western trail that descends from the Gap, and the other runners spread out ahead of them. At a signal the leaders throw the ball forward by means of the bare foot, and the other contestants run after the missiles, each party kicking its own ball forward along a course that encircles the southern

end of the mesa, crosses the valley eastward as far as the wash, follows the wash to the Keams Canyon road, turns westward along the road, and mounts the trail past the ruin Kisakobi to the first terrace. The distance is said to be about six miles. There is no ceremonial significance in the contest, which is merely a trial of endurance and fleetness between the members of the five kivas. Sometimes this race is run over a course of about fifteen miles, starting at the same place, but proceeding to the foot of the mesa that lies to the northwest, then southward to the arroyo between East and Middle mesas, to the foothills southeast of Walpi, northward to the Keams Canyon road, and back toward the village and up the trail to the first terrace. In these days few of those who enter the race are able to finish the course.

One hears remarkable stories about Hopi distance running, such, for example, as that familiar one of the man who used to run forty miles to his cornfield, hoe it, and return home for a late breakfast! But there is no doubt that the Hopi of former generations were stout-hearted runners. Létayu, now an old man, avers without apparent pride or boastfulness that he once carried an official letter from Keams Canyon to Fort Wingate in two days, spending the first night at Fort Defiance. On the third morning he left Fort Wingate before "gray dawn" and arrived at Fort Defiance before sunrise. Setting out again at sunrise, he reached Keams Canyon a little after mid-afternoon. The air-line distances involved are: Keams Canyon to Defiance, sixty-three miles; Defiance to Fort Wingate, thirty-eight miles.[25]

The belief in sorcery is firmly held by the Hopi, and though there are no persons openly accused of practising witchcraft, still there are sometimes vague rumors that some certain person, recently deceased, worked in magic. When engaged in their evil practices, these magicians are believed to go about in the form of various animals, such as cats, dogs, lizards, and owls, and usually they are in evidence only about the houses of persons whom they have afflicted with sickness. There are no self-confessed sorcerers, and it is perhaps doubtful whether any

25 See later in article, where a war-party travels from Walpi to Ganado, about fifty miles in an air-line, without a camp. Hough, in *American Anthropologist,* X, 36: "To my knowledge. an Oraibi man made a continuous run of 160 miles as bearer of a note and answer"

person among the Hopi believes himself to be a sorcerer. The healer who works by alleged magic is called*pósi-taka* ("eye man"), because by looking keenly at a patient he learns the nature and seat of the disease. Formerly the medicine men composed a fraternity called *pós-wimi,* the members of which met in a kiva at the end of the winter solstice ceremony to make pahos for all the supernatural beings, but especially for the Bear and the Badger, two creatures supposed to have special power over disease. Occasionally they permitted spectators to be present while they sang and ate the medicine that imparted power to see what sickness might be affecting the people as a whole.

When an individual patient was being treated, the medicine-man sang his own songs "in his mind"; but if disease was rife among the people, or if the medicine-man, fearing that an epidemic threatened, desired to "look into people," he had several singers to assist him.

In ancient times neither shamans nor herb doctors would take pay for their services. They would accept gifts of food, but not of property, and if a patient gave a healer an article of value, it was left on the ground and the first person who happened along took it for his own.

The subject of shamanism among the Hopi can perhaps best be discussed by quoting Lomá-si ("pretty flower"), the only surviving member of the fraternity at Walpi.

When I was a little boy my father died, and though my mother was living, I was a kind of outcast. Nobody paid any attention to me. Mymother had a cornfield northeast of Ös-teika [*ösvi,* promontory, near the place now called Five Houses], but some of our relatives wanted it for themselves because it was a piece of good land. I spent most of my time there, taking care of the field; and because the soil was good, my mother and I managed to come through the time of famine when so many people either moved away or died.

There was a certain man named Káni, a member of my father's clan and therefore my brother, who was *pósi-taka.* He befriended me, and when he had won my confidence I went to live with him. I was arriving at manhood when one night he said: "I have been studying the people, and I have been studying you, and I cannot find anyone else worthy of my secrets. Tell this to your mother and see what she says." But when I told my mother, she said very little, only: "*Haó!* It is a difficult thing to be a medicine-man, for one must endure blame and accusations." She did not wish to encourage me. When my rela-

tives knew what Káni proposed, they made objections; nevertheless in a short time he sent me again to my mother, who merely remarked, "*Haó!"* I contined to live with Káni, and during this time he assured me that it is not difficult to be a medicine-man, only that the people make it hard. My relatives, he said, were trying to frighten me, and unless I consented to be a medicine-man they would always oppose me on account of the land. "But if you will be one of us," he said, "they will respect you and will give you no more trouble." For the thrid time then I asked my mother for her permission, but still she said only "*Haó!"* My relatives however kept actively opposing me, while Káni continued to urge me to accept his offer so that I might get out of trouble. For the fourth time he sent me to my mother, and at last she consented.

At that time there were three *pówustû* [irregular plural of *pósitaka*]. My relatives on my father's side still opposed my purpose, but they could do nothing, and it was understood that at the coming celebration of the winter solstice ceremony I would become one of the medicine-men. When the ceremony was over, on that very night they called me into Wiqálvi kiva, where they always assembled. With the three medicine-men were five men who sang for them when a patient was being treated. They knew nothing about the secrets. I was placed before the three medicine-men, and after the singers had been dismissed, three smooth crystals,each somewhat larger than a bean, were laid in a row beside the fire. They told me to remove my clothing and sit beside the fireplace, and Káni, the leader, took one of the crystals, and while singing he slapped it against my breast over the heart. This was to give me a heart as hard and strong as the crystal. He rubbed it about over this spot and then asked if I felt something, and though I answered no, he nevertheless said aloud, "It is well done!" Then the next man did the same thing, and thus I received the heart of a *pósi-taka.* This ceremony they called *unán-vana* ["heart put-in"]. At the conclusion káni told me that at the next winter solstice ceremony I would have my head washed and would take *náhû* ["medicine"], and that before that time my mother and my female relatives on her side were to fill four new baskets with cornmeal, to procure a new cooking-pot, a new jar, a deerskin without holes, and a new piki tray, all of which were to be given to him in return for making me a medicine-man in his place.

During the next year my uncles kept trying to make me afraid of

being a medicine-man, and when winter came, on the night my head was to be washed all relatives in the Badger clan assembled at my home to dissuade me. "It is not well for you to be *pósi-taka*," they said. "You will have a hard time all through your life. If you do this, one of our family will die." For it was believed that when a man joined the medicine-men one of his relatives would soon die, and that by means of the life of this person the medicine-men accomplished their cures. Káni said nothing, and after they had talked for a time, I became afraid, and declined to go further in my initiation. So the next day I did not go to the kiva for the headwashing.

A little while after that Káni explained to me that this discouragement by the relatives was always a part of the initiation, and he took the blame upon himself in that he had failed to warn me to sit quietly and let them talk. But he said I could complete my initiation at the next winter solstice ceremony, and at that time he would have another medicine-man talk for me and answer the objections of my relatives. In the course of the year, however, the man who was to talk for me died, and Káni began to tell me the secrets of his order, fearing that he and the other medicine-man might die and the secrets be lost forever. He said: " Do not go among the people to cure them. Wait until they come to you and ask you to help them in time of sickness. If the first one is of the Bear clan, that is best, and if he is of the Firewood, that is all right. But the Bear is first. If a Bear clansman is the first to come to you, make every effort to cure him, and if you succeed you will always be successful; for the Bear is a very strong medicine-man. It is by thinking hard and constantly of curing the sick man that you will succeed. Thinking of nothing else, you will cure him." Káni died before the next winter solstice ceremony, so that there was no *pósitaka* living at Walpi, as the remaining one of the three lived at Shongopavi, he having been in the habit of joining with the Walpi medicine-men in their meeting because there were no others at his own village. Though my initiation was never completed, nevertheless I was a medicine-man.

From that time on I waited according to the advice of Káni, and nobody came to be cured. At last all the other medicine-men in all the Hopi villages were dead. I began to wonder about the sayings of Káni. One day I was chopping wood, when somebody spoke to me. I turned and saw one of the Bear clan of Hano, a woman, who said: " I have brought this little boy to you. He is very ill." I took the boy into

my house and looked at him, rubbed him with my hands and blew on them to dispel the sickness. Constantly I was thinking of healing the boy, and soon he was well. Since that time I have been practising this constantly, curing many people. For twenty years after my initiation I was silent, but since that boy was brought to me I have been healing the sick. All the medicine-men among the Hopi have died, except me.

The Hopi herb doctors (*tûhikya*) make use of a very large number of roots and leaves, as well as some earthy substances and animal excretions, practically all of them empirically. Open sores and inflamed eyes are treated by the application of crushed green leaves of *mööntoshave (Poliomintha incana),* a small brushy shrub. Pulverized *tokótoti'ka* root is spread around the edges of a cut, and a small bit is eaten. It is not put into the cut, lest the wound grow together before it has healed inside. When the cut is very bad, the roots of *tsozó-si* ("bluebird flower," apparently larkspur) and *wíhqapi* are pulverized and placed about it, and if the cut is slow in healing, pulverized beans are used. Incipient boils are treated by applying the root of *ánchiaivi,* previously warmed on a hot stone. This checks the boil (*pïnö*), which does not "come to a head." If however the remedy is not employed in time, a leaf of the large prickly-pear cactus *(Opuntia)* is split and one-half is placed on the boil. This draws out the pus. To aid in bringing the boil to a head a very hot poultice of cornmeal is sometimes applied.

The leaves of *siváp,*. rabbit-brush (*Chrysothamnus graviolens*), are moistened and applied with heated stones to swellings and bruises, and crushed leaves of *máövi* (*Chrysothamnus filifolius*) are used in the same manner for swellings and sprains. Bruises are sometimes treated by the application of a warm stone, which in some cases is wet with urine. When a bruise swells, juniper-leaves are applied. To reduce a swelling of the legs, *kûnya, kawík-na (Croton texensis),* and *pámnavi*, snakeweed *(Gutierrezia juncea),* are used. A heated stone is placed in a clay vessel and water is poured in. Then the herbs are added and the vessel is set under a blanket which covers the bare legs of the patient. This is a Cloud clan secret.

For broken bones the flesh is bathed with a decoction of the roots of *masí-latsi* (*Solidago missouriensis*), and water in which crushed roots of *palá-na* have soaked is drunk. The bones are set and bandaged with splints, and a root of *palá-na* is tied to the splints to allay inflammation. After the fracture has knitted, a decoction of the roots of *tokótoti'ka,*

kösna, and *pasíp-na* (*Astragalus pictus filifolius)* is drunk, in order that the "flesh may fill up again." It is said that until very recent years there were among the Hopi some skilful bonesetters, who were exceedingly well acquainted with the human anatomy as regards the bones, tendons, and ligaments. They treated nothing except fractures and dislocations, and were known as *öká-tûhikya* ("bone doctor").

Máövi (*Chrysothamnus filifolius*) is a yellow-flowering herb, the boiled roots of which yield a liquid that is drunk to cure constipation, an ailment known as *qitá-tsûni* ("excrement sticks"). The decoction of the roots of *mûyítka* and *wíhtaiinwa* (*Psoralea micrantha*) is taken as a physic. *Máövi* root is chewed to overcome indigestion (*unán-tûya*, heart sick), and in combination with the root of *kotóksûlvi* (*Parryella filifolia*) for belching caused by overeating. Diarrhœa (*pá-qûtsi,* water running) is cured by the decoction of the root of *pámnavi (Gutierrezia juncea)*. The roots of *pámnavi*, *poáwi* (*Eriogonum effusum), návû (Opuntia),* and *yönö* (a small *Opuntia),* are mixed and boiled with cobwebs found in the burrows of mice, and the decoction is administered for diarrhœa and vomiting, a condition called *naqámyama* ("both ways comes out"). This medicine is used also for measles, because diarrhœa accompanies this malady. There is no name for measles, the diarrhœa and not the eruption being regarded as the serious thing.

The decoction of the roots of a small, gray-leaved plant called *chachák-tavotka* (*Eurotia lanata*) and the roots of *piván-na* ("weasel medicine") is administered to those suffering from inactive kidneys, a condition believed to be caused by cruelty on the part of the sufferer toward the rabbits. The malady is called *sisí-ûtste* ("urine shut-up").

After childbirth women drink a decoction of the roots of *ösvi* (*Ephedra torreyana*), *poáwi (Eriogonum effusum), wíhtaiinwa* (*Psoralea micrantha*), and *chachák-tavótka* (*Eurotia lanata*) to check the hemorrhage (*ûnchavoti*, blood flow). Juniper-leaves also are boiled, and the water is taken internally to heal the inflammation and stop the discharge. A decoction of the roots of *paláksö-na and poáwi* is used for the same purpose. If the patient catches cold, a decoction of the entire plant *tsó-si* is drunk. For swelling of the womb a decoction of *wíhtaiinwa (Psoralea micrantha)* is administered internally. To increase the flow of milk *tuwûpki (Boerhaavia purpurascens)* and *pí-na (Asclepias verticillata)* are boiled and the liquid is drunk. Roots of *tótimu* ("boys") and *kötsátótimu* ("white boys") are boiled to make a medicine for ste-

rility.

For rheumatism (*napálni*) the Hopi employ a decoction of the root of *napál-na* (*Artemisia tridentata),* and for gonorrhœa (*qasí-tûyû*, penis sickness, and *löwá-tûyû*, vulva sickness) a decoction of the roots of *napálna, masí-tûsaka (Artemisia bigelovii), kotóksûlvi (Parryella filifolia),* and *ûyôû-na* is drunk. The Hopi have the belief current among the Kwakiutl and allied tribes that a woman afflicted with this disease gets rid of a small portion of it each time she has intercourse, and that finally by this means she can entirely rid herself of the malady.

For fits (*tûskyavû*) the pulverized roots of *tanûna* and *wih-tanûna* ("greasy *tanûna*") and the pulverized leaves of *pasómi and wikyaí-mûtsi* are dissolved in water, which is taken internally. When the case is very serious, the roots of *náksöpsiwi, hési (Calochortus aureus), palána,* and the mosses *tûwá-si* ("earth flower") and *owá-si* ("rock flower"), are all crushed and mixed with water, which is drunk. When the patient is very ill with this affliction, the healer takes the leaves of six plants, fills a pipe and gives him four puffs, which usually cause fainting. Then the healer smokes the pipe and blows the smoke on the patient. These six plants are two varieties of sage, *chachák-viva* ("small tobacco"), *wûhákwûts-viva* ("large-leaved tobacco), *kûtsípsö* (*Dithyraea wislizeni*), and *sûovi (Atriplex canescens). Kûtsí-psö* (*kûtsípsi,* armpit) is so named because children sometimes in play place the leaves of this plant under the armpit. It produces a stinging, burning sensation like the sting of a bee. When the sufferer from fits falls back in a faint from the smoke, yellow cornmeal is sprinkled on a live ember held on a potsherd, which is placed beneath the patient's nose' and this restores consciousness. Occurring in women, the malady is believed to be caused by some man who takes this means of causing a woman to become irresponsible, so that he may take advantage of her and seduce her. If, however, he is unsuccessful, the disease will react on him. Therefore when a man is thus afflicted, it is thought to be the result of his failure to control and restrain the woman's will-power after he has by magic obtained influence over it. The belief as to the cause and the proper treatment of fits is derived from the Navaho.

Yûp-na root is pulverized and mixed with food and thus administered to children suffering from *yûvi,* a condition supposed to result from inhaling the breath of a pregnant woman. Women in this condition carefully avoid breathing into the face of a child.

Fat of the bear and of the cougar is eaten and is smeared over the body in cases of smallpox (*páyôu*, sores). Mumps (*qáp-osanû,* neck swelling) is treated by binding on the jaws and neck a hot poultice of the spongy contents of a gourd *(nösípta-na)* or of squash-blossoms.

Pa-mööntoshave (*Mentha penardi*), *mööntoshave* (*Poliomintha incana),* and *tûítsma* are crushed and soaked in water, which is then used both internally and as a wash for the head in cases of headache. Urine also is employed as a head-wash. *Máövi (Chrysothamnus filifollus)* root is crushed and inserted in the cavity of an aching tooth. *Tanáqita* ("rainbow excrement"), a greasy, waxy substance, usually blackish, covered with pebbles and sand and found adhering to the surface of a rock, is sometimes rolled into a cornhusk cigarette, the smoke of which the healer blows into an aching ear. This is a secret of the Cloud clan. The gummy substance is supposed to be decomposed pollen of all kinds, the excrement of the rainbow, and to be found wherever the foot of the rainbow has rested. The rainbow must never be pointed at, for this causes a sore finger. To heal such a sore, sheep-dung is warmed and applied. Fresh human excrement is smeared on the side to counteract sharp pains in that region.

Letting, of blood is practised as a remedy for severe pain, the incision being made directly over the seat of the pain. Formerly a sharp piece of flint was used, but more recently the instrument has been a sliver of glass bound between the ends of two bits of wood. The sharp point of the lancet is held just touching the skin. and the operator gives the other end of the instrument a smart thump, causing the point to penetrate the flesh. The cut is permitted to bleed until it ceases naturally.

Snake bites are treated with four roots, the identity of which is known only to the Snake chief, who gathers and prepares them for use by his fellow Snake priests.

Snow-blindness (*chámoki*) is treated by covering the head with a blanket and placing beneath it a pot containing a few live embers and some pieces of honeycomb. Similar treatment, with paint scraped from a Kachina mask substituted for the honeycomb, is employed against ophthalmia.

It is evident that the Hopi pharmacopœia is extensive. More than sixty vegetal remedies, besides several animal and one mineral product, are mentioned, and some thirty-five maladies. Fantastic remedies

and imaginary ailments are remarkably few.

Women are never herb doctors, but there are a few women who treat stomach cramps by massage and assist at childbirth. If parturition is easy, no professional assistance is summoned, but in the few difficult cases either an old man or an old woman may be called in. The midwife gives assistance by placing the arms around the woman's chest from behind, and half lifting her, and sometimes at the same time pressing the knees into the small of her back. The woman sits upright on the floor. Hot applications and hot drinks are not administered. As a rule delivery is easy, the woman simply sitting on the blankets until the infant is born.

Albinism is very common at Middle mesa and Oraibi, but does not occur at the East Mesa villages. The Hopi attach no particular significance to the phenomenon.

There are twelve clans, as follows:

Clan totem
1. Chûa, Rattlesnake
Clansman, clanspeople
Chû-wunwa,Chû-nyamu
Synonyms, or alternative names
Tóhoû, Cougar; Höwi, Dove; Návû,

Clan totem
2. Ála, Horn
Clansman, clanspeople
Ál-wunwa, Ál-nyamu
Synonyms, or alternative names
Opuntia Cactus; Pívani, Weasel Léna,[26] Flute; Sowíinwa, Deer; Tsöviou, Antelope; Pánwu, Mountain-sheep; Tsaíizisa, Elk; Ánu, Red Ant

Clan totem

26 Fewkes calls this Lengya, which apparently is a mispelled form arising from the derivative collective term Léna-nyamu.

3. Pátana, Squash[27]
Clansman, clanspeople
Pátan-wunwa, Patan- nyamu
Synonyms, or alternative names
Atóko, Sandhill Crane

Clan totem
4. Pátki, Cloud[28]
Clansman, clanspeople
Pátki-wunwa, Pátki- nyamu
Synonyms, or alternative names
Káö, Corn; Píhkyasa, Green Corn; Pamösi, Fog; Páqaa, Frog

Clan totem
5.Tûwa, Earth
Clansman, clanspeople
Tûwa-wunwa, Tûwa- nyamu
Synonyms, or alternative names
Kûkûtsi, Lizard

Clan totem
6.Píva, Tobacco
Clansman, clanspeople
Píp-wunwa, Píp-nyamu
Synonyms, or alternative names
Távu, Cottontail Rabbit; Sówi, Jackrabbit

Clan totem
7.Ása, Tansy-mustard[29]
Clansman, clanspeople
Ás-wunwa, Ás-nyamu
Synonyms, or alternative names

27 The Squash clan is the only one not represented at East mesa, although the Bear is practically extinct there.

28 Pátki, literally "water house."

29 *Sisymbrium canescens.*

Hóspoa, Roadrunner; Pósiw'û, Magpie; Qínvi, Oak

Clan totem
8.Katsína, Kachina
Clansman, clanspeople
Katsína-wunwa, Katsína- nyamu
Synonyms, or alternative names
Sihövi, Cottonwood; Kyázo, Paroquet

Clan totem
9. Kókop, Firewood
Clansman, clanspeople
Kókop-wunwa, Kókop- nyamu
Synonyms, or alternative names
Ísôu, Coyote

Clan totem
10. Pákavi, Reed
Clansman, clanspeople
Pákap-wunwa, Pákap- nyamu
Synonyms, or alternative names
Qáhû, Eagle; Táwa, Sun; Masí-qayo, Gray Hawk; Koyúnu, Turkey

Clan totem
11. Hónôu, Bear
Clansman, clanspeople
Hónô-wunwa, Hónô- nyamu
Synonyms, or alternative names
Hékpa, Hemlock

Clan totem
12. Honáni, Badger
Clansman, clanspeople
Honáni-wunwa, Honáni- nyamu
Synonyms, or alternative names
Póli, Butterfly; Wisóku, Buzzard; Mûnyôu, Porcupine

These clans have heretofore, as by Fewkes and A.M. Stephen, been

described as phratries with numerous subdivisions, or clans, some of which correspond to what are here termed synonymous names. Many of the so-called clans of these early investigators, however, cannot be called even alternatives of the actual, primary clan designation, but are merely the names of objects employed by members of the clan as bases for some of the personal names bestowed by them. Kroeber,[30] has already called attention to the patent impossibility of seventy-eight clans in a population of a little more than three hundred; and as the Hopi population was never vastly greater than it is now, it cannot be said that this long list of names represents ancient clans.

The simple fact seems to be that the use of what are here called alternative names for the clans arose from the Hopi custom of bestowing personal names referring not only to the clan totem but to associated objects as well. In the course of time some of these name-objects, those that appeared most frequently in personal names, became more or less synonymous with the true clan designation. The qualification "more or less" is made advisedly; for the Hopi themselves do not know just where to draw the line between these alternatives and those less frequently used words that are employed in the invention of personal names. And of course in the very nature of the case no hard and fast line could be drawn.

It must be admitted that on the subject of clans there is a good deal of confusion and vagueness in the Hopi mind. Asked to repeat the names of the clans, some informants mention Rabbit in addition to Tobacco; Coyote, as well as Firewood; Flute in addition to Horn; and even Cottonwood, Hemlock, Roadrunner, Corn, Lizard, and other names seldom heard as clan designations. Almost invariably as the conversation proceeds the informant grows more and more uncertain and ultimately finds himself off the trail and completely at a loss to explain discrepancies which he can readily see when they are pointed out to him.

As a matter of fact, many persons, questioned as to their clan affiliation, reply "Is-wunwa [Coyote]" and not "Kókop-wunwa [Firewood];" or "Táp-wunwa [Rabbit]" and not "Píp-wunwa [Tobacco];"or

30 *Zuñi Kin and Clan,* American Museum of Natural History, 1917, XVIII, II, 136.

"Léna-wunwa [Flute]" and not "Ál-wunwa [Horn]." On the other hand it is doubtful if one would ever, except by dint of pressing and leading questions, be told that an individual is a Buzzard, a Porcupine, a Corn, or a Crane clansman. The explanation of this situation seems to lie in the statement that in recent years those who call themselves Rabbit people have been striving for recognition as a clan distinct from the Tobacco people, asserting that they were so in ancient times. This contention, that the Tobacco and Rabbit were once distinct, is in line with Kroeber's argument in the work previously cited, that "a characteristic and remarkable feature that runs right through the Pueblo clan system is the grouping of clans in pairs, or perhaps a tendency toward polarity within what is really one clan." The origin of the connection between Tobacco and Rabbit is shown in the statement of the Tobacco clan legends, that when the Awatobi Tobacco women came to Walpi after their sojourn among the Navaho, their sons married into the Rabbit clan. And in this connection it should be noted that the Tobacco clan legend definitely states that the Rabbit people were still in the south with the Cloud people at the time when the Tobacco clan lived at Awatobi; and the Horn, as well as the Snake legend, describes the Flute people as a group long entirely distinct from the Horn clan.

It has been intimated above that these names upon which personal names are based came into usage by a natural association of ideas. The reason for the association with Cloud of Corn, Fog, and Frog is obvious. Lizard is naturally linked with the Earth, so close to which he lives, Coyote is found where Firewood is obtained; Bear frequents Hemlock forests. Cougar and Weasel are predatory, like Rattlesnake, and move swiftly and stealthily; and Cactus not only has a thorn resembling a snake's fang, but is found in the same localities as Rattlesnake. The association of Dove with this predatory group is not so readily explained; but in the light of the native elucidation of the connection between Buzzard and Badger, we may be confident that there was good reason for it. Because of the digging proclivities of Badger, men of this clan are believed to understand better than others the use of medicinal roots, and hence are frequently shamans. In exorcising disease, a bit of ashes is placed on a buzzard's feather, which is waved about the patient's head before the ashes are tossed away; hence the appearance of Buzzard as a Badger totem.

Hopi clans are strictly exogamic, and descent is matrilineal.

There are five village officials. The position of chief (*mónwi*) is always filled by the head of the Bear clan, while *kík-monwi* ("houses chief")[31] is the principal man of the Flute division of the Horn clan. *Lavaíya* ("talker") is head of the Firewood clan, *chaák-monwi* ("crier chief") of the Rattlesnake, and *kalétak-monwi* ("warrior chief") of the Reed.

These five compose the council. That this is not a modern institution we have proof in the narrative of Castañeda, historian of the Coronado expedition in 1540-1542, who says that the Hopi village visited by Pedro de Tovar and the Franciscan friar Juan de Padilla was "governed like Cibola [Zuñi], by an assembly of the oldest men. They have their governors and generals."[32] The Houses Chief is a deputy of the Chief, and is charged particularly with the close supervision of the affairs of the village. Any matter to come before the council is usually presented by him. The duty of the Talker is to advise the Chief. If the latter agrees to the proposal before the council, the question is regarded as settled, provided the Warrior Chief does not object; if he protests, the proposal is not carried. If the Chief himself, however, first objects to the proposed action, nothing more is to be done, except that the Talker may endeavor to persuade him. The Crier Chief makes public the decisions of the council, and gives notice of impending ceremonies as well as of other public functions.

The council deals with all questions of any possible public interest, such as the problems arising from the contact of Indians with white men. It was this council that discussed the question whether the Spaniards should be permitted to enter the country, and what would be the probable effect on the Hopi. Traditions indicate that, before the arrival of white men, the Houses Chief, observing in his rounds the behavior of the people and noting that they were becoming uncontrollable, would call a meeting of the council and there propose that, inasmuch as the people were becoming so demoralized, runners should be sent to the Navaho or to the Ute and invite the enemy to raid the village, in

31 The name has almost the same meaning as Zuñi *Kyáqe-mosi* ("house director"), and the similarity in sound is suggestive. The *Kyáqe-mosi* is the principal one of the six rain priests.

32 Winship, *op. cit.,* page 489.

order that the shock might bring the erring ones to their senses. Then the Talker would speak on the question, and the Chief and the Warrior Chief would decide it one way or the other.[33]

Kalétak-monwi is not only the Warrior Chief and the head of the Warrior fraternity, but also the peace officer of the village. Formerly it was his duty to intervene in any quarrel, and to bid slandering, garrulous women cease their trouble-making. If he were resisted, he could use force, beating and whipping the offender. At the present time he very rarely plays the rôle of peacemaker, and only when the other officials direct him to do so. Even in ancient times he had little occasion to perform this duty because of the peaceable disposition of the Hopi. At intervals of a few weeks he would go about the village, usually preceded by the Crier Chief, who would exhort the people to live in harmony and happiness. Then the Warrior Chief would assemble them in the plaza or some other enclosure formed by the walls of the houses, and address them forcefully on the same subject. The most common burden of such harangues was the evil of adultery. In times long past the Warrior Chief at the solicitation of any person could punish a man or a woman accused of sorcery by beating on the back with a war-club made by inserting a wooden handle in the rawhide of a cow's tail weighted with a round stone.

As the special guardian of his fellow villagers, the Houses Chief every morning arises before sunrise and offers a prayer to the sun as it appears, asking for the good health and prosperity of all. When he scrupulously performs this duty, he is regarded as a careful and a satisfactory *kík-monwi*.

The council is supposed to have complete knowledge of the tribal laws as they have come down from the ancients, and consequently when there is any dispute regarding land boundaries, land ownership, or rights to the flood water with which the Hopi irrigate their fields, the council settles the question, for they know what those rights were in the beginning.

The council confirms the choice of a fraternity's members for the position of leader of the order. After making their choice the members

33 See the traditions of the destruction of Awatobi and Sikyatki, and the reasons assigned for these acts, pages 188 - 190.

send word of their action to the council, who discuss the matter and confirm the selection. The confirmation however is practically perfunctory, as is the election itself; for the members never fail to elect the man whom the deceased or retiring chief has for years been training to become his successor, and the council never fails to consent to the choice. In a similar manner they confirm the selection of that Cloud clansman who has been selected by his predecessor to become the Sun Guardian. This priest is called *táwa-twi'ka* ("sun bring-along"), in allusion to the fact that it is he who watches the course of the sun and determines the date of the summer and the winter solstice, thus figuratively bringing the sun back from the north to the south, and vice versa. When a Sun Priest dies, his successor is summoned by the council, who expound his duties and fill him with advice. At the summer solstice the Sun Priest and the Cloud clansmen assemble in Món-kiva and make prayer-sticks for the Sun. This is the last day on which corn may be planted.

There is scant political relationship between the villages of the different mesas, but on occasions of great public calamity, such as a long drouth or an epidemic, the chiefs of the various villages sometimes meet secretly at some remote place in the lowlands and discuss the situation, its probable or possible causes, and the manner in which it is to be met. Then they pray, and separate.

The five village officers individually choose their successors, who are confirmed by the council itself, which thus is a self-perpetuating body. Each chief, looking about among his clansmen, and studying especially his nephews, selects one who seems to be most fit for the position, and as he begins to age and to feel that his time is approaching, he instructs the younger man in the duties of his office.

Sichomovi has no council and recognizes the officials of Walpi.

In case of war, offensive or defensive, the Warrior Chief had full authority, and every member of the Warrior society of fighting age was expected to join him; but others of course were not barred from participation. A hostile expedition having been organized, the Warrior Chief was expected not to turn back until he had found and defeated the enemy or met his death; and so long as he went forward, every other member of the party was bound to follow. He had authority to demand warrior service not only from his clansmen, that is, from theWarrior society, but also from the fighting men of the Tewa and of

the Ása clan, because these two peoples had been given permission to build on the mesa with the understanding that they would act as guards in time of danger.

Anyone who desired to lead a war-party into the enemy's country had first to secure the consent of the Warrior Chief, who in ancient times, it is said, always accompanied the expedition. Before starting he made *naqáqusi,* which he offered to the two images of the war gods in his house, at the same time addressing them as one man another: "Now I am going to fight in your name. Give me strength and courage, and let me be successful. Go with me and help me." At the first camp he sang his songs in order to make his men courageous. For the Warrior Chief possessed many songs: one for a great wind, another for cold weather, another for bravery. Bad weather was desired in order that the Navaho might be surprised in their hogans, and that the wind might obliterate the Hopi trail. If in the attacked camp everybody was killed, the party remained there until the next day before moving on to another place, but if only a few were killed they departed at once in order to protect themselves from the survivors and possible reinforcements.

When any man secured a scalp, he would shout, while tearing it off his victim's skull: "In the name of - [here naming any member of the Warrior fraternity], I scalp this Navaho!" It then became his duty to join the Warrior society, if he were not already a member. After the party had started homeward, each one who had taken a scalp chose some female relation in his father's clan, usually an unmarried girl, to meet them at the foot of the mesa, and the runners sent on to the village from the last halting place took the news of the expedition and the names of the women so chosen. When the warriors arrived at the foot of the mesa, they were met by these women, ceremonially arrayed. The Warrior Chief then drew on the ground with meal four parallel lines extending toward the village and capped with an arched line - the symbol of a cloud and falling rain, - and each woman received from her warrior relative the scalp he had secured and cast it forward upon the symbol, while the scalp-takers themselves walked slowly behind them in single file. All this was repeated a short distance up the trail, and the procession made its way slowly up the trail and into the village to Mónkiva, into which the scalps were cast.

On the floor of the kiva the cloud symbol was made four times, and the women still threw the scalps upon it, after which they with-

drew; but the men who had taken the trophies had to remain in the kiva twenty days, leaving it only for necessary physical reasons and, once each morning, under the guidance of the Warrior Chief, to make offerings of meal at the spring Tawá-pa. Each night they danced for a while, and people gathered in the plaza to dance at the same time. On every fourth day each man washed in a bowl of yucca suds the scalp he had secured, just as newborn infants are treated during their first twenty days. Similarly on the nineteenth day a feast of meat and piki was prepared, the piki being spread on the baking stone with the left hand, and on the morning of the twentieth day the men themselves had their heads washed by the warriors in whose name they had taken their scalps. The clanswomen of each scalp-taker then carried meat and *píkami* to the house of the warrior in whose honor he had secured the trophy.

Then the Warrior Chief carried the scalps to the plaza and there set up a pole, at the top of which he hung them, and the scalp-takers, each one followed by the females relative whom he had named, danced around the pole, one behind another. After a while they all retired to the kiva for a rest, and then emerged for another dance; and so it went throughout the day, until finally the Warrior Chief took down the pole and carried the trophies down the trail below the ruin Kisakobi to Sivíp-teika ("skunkbush promontory"), where he cast them into a certain fissure.

Thereafter every night so long as he lived, each scalp-taker was expected to visit the house of the Warrior Chief, where they all would sit waiting for the people to retire; and in turn they would go singly around the village to note when all had gone to bed. Finally one would report, "All our children are in bed." Then after waiting a while for all to fall asleep, one of the men would be sent to the fissure in which scalps were deposited, there to throw meal upon them. The offering of meal was simply carrying out the idea of according to scalps the treatment given to newborn infants. This duty fell to them in turn, evening after evening. So arduous was this enforced watching every night during a man's life that in the later years of intertribal warfare no Hopi would take a scalp. It is said that when the membership of the Warrior fraternity became reduced the Warrior Chief would make a personal canvass of the members of his party, trying to find one who would consent to take a scalp, if an enemy were killed, and then join

the fraternity.

The ancient enemies of the Hopi were the Ute and the Navaho. About the year 1860, when the Navaho became so active, the Hopi and the Ute, and sometimes the Apache, would combine against the common enemy; but after many of the Navaho had been removed to the Bosque Redondo in New Mexico, and later to San Juan river in northern Arizona, and the country near the Hopi left comparatively unoccupied, parties of Ute would roam about the region searching for ill-defended hogans, and they would occasionally visit the Hopi villages for information concerning the location of Navaho camps. Sometimes the Hopi would learn of a proposed ceremonial assembly of the Navaho, and they would then send word to the nearest Apache or Ute, and the allies, guided by signal fires, would meet and swoop down on the enemy.

Attacks on the Hopi villages have been made by each of the two tribes mentioned above. Occasionally war-parties of Hopi encountered Ute in the Navaho country. About 1860 the Navaho even made an attack on the very top of the mesa. A Navaho slave, having escaped with a war-party of his tribesmen, returned, leading another band against his former masters. Leaving their horses at a water-hole in the valley two miles distant, they climbed the Stairway trail and lay in wait until two men passed on their way from Sicho-movi to Walpi. At the little water-hole in the rock between the two villages, the Navaho fired, and shot one of the men through the body and the other through the wrist. The former fell unconscious, but the latter fled, and they pursued him and forced him over the edge of the cliff. He did not fall far, however, and came off with a sprain. About 1895 this escaped Navaho slave visited the mesa, and was invited to play the clown in a Kachina dance at Hano. As the days of tribal hostility were past, the Hopi could not take the measures they would have liked to employ, but they retaliated by playing various pranks on him. They placed him, naked, in an iron wheel-barrow that had been standing all day in the glaring sun, and wheeled him about the village. Then the young men personating Kachinas drove him about, whipping him with yucca-leaves, throwing water on him, and otherwise harrying him until the old man wept aloud. Finally they caught a huge bullsnake and wrapped it around his neck, and tried to thrust its head into his mouth.

Within comparatively recent years, since obtaining horses, the

Hopi have made trading expeditions to "Paso" (El Paso), where they dealt with the southern branch of the Isleta people; to the Kiowa in Oklahoma; to the San Carlos Apache; to the Ute and the Paiute in Utah; to "Peski" (Prescott), where they met other Indians assembled at that town for the purpose of trading; to the Walapai and the Havasupai at the Grand cañon; to the Mohave and the Pima, Zuñi and the Rio Grande pueblos. Woven goods, principally the robes worn by Hopi women, were the principal commodity of these traders, and deerskins one of the things most desired. Even before they had many horses the Hopi made considerable journeys on foot. They visited Prescott, and once, at the time of the great famine, many of them walked to the Rio Grande pueblo of San Juan.

The character of Hopi warfare against the Navaho is illustrated by the following narrations.

On a summer morning about the year 1870 while hoeing corn in the valley south of the mesa, we were preparing to remove the ears of green corn from the roasting pits and eat our midday meal, when, discovering that a party of Navaho were surrounding us, most of us hid among the bushes, but three ran toward the mesa. Two were overtaken and killed, but I [Nûvá-oyi] outran the enemy, and when men from the village came hurrying out to meet me, the Navaho withdrew.

At once the Hano men planned a raid into the Navaho country. They were joined by many of the Hopi, and going by way of Shipaulovi to Oraibi they stopped at the place now occupied by the new village Hotavila, northward of which were some hogans. But finding that the Navaho had gone, they returned home. On the way a Walpi man, Siléwtiwa, uncle of one of the two that had been killed in the cornfield, said, "I will lead another expedition."

They arrived home the next day, and in the evening he went to the Warrior Chief's house where the members of the Warrior society were as usual assembled to talk and smoke. The Chief gave him a pipe, and the others did the same, one after another. Then Siléwtiwa said, "My fathers!" And the Chief answered: "My son! What do you wish?"

"Yes! I have come for permission to lead a war-party."

"*Háo!*" said the Warrior Chief. "We do not want to lose our children."

"Yes, but I want to go."

The Chief was silent. Then again Siléwtiwa said: "I want to go,

because the Navaho have killed my nephew. This is why I am angry in my heart."

And the Chief answered, "You must take good care of the men who go with you, and bring them back, safe and unhurt."

"Anchaaí ['all right']! I will do so." And having thus obtained permission to lead a war-party, Siléwtiwa informed the Warrior Chief that he would start in four days.

When he returned to his house he performed *nátuwanpi* ["experiment"], a magic practice borrowed from the Navaho, who call it *nadíhlni*. A woman was placed in the middle of the room, sitting with one arm outstretched. He sprinkled fine ashes on her arm, and a line of it down her breast and along her legs and the other arm. Then a Navaho song was chanted for the purpose of placing some magic power in the woman. Her head drooped. The second song commanded her spirit to start out, the third to go, the fourth to speak. At the end of the fourth song the woman's arm and head began to tremble, and she made signs, the import of which was that some Apache coming into the Hopi country to trade had been attacked by Navaho at Como springs and had been driven back, and that the Navaho had then gone northward from that place.

The next morning it was announced that on the fourth day,following Siléwtiwa and Hóyo, uncles of the two slain men, and Ísôu, a warrior, would lead a party against the Navaho, and when the time came about forty men departed, each one having made pahos for Másôu and the war gods, and having planted them at the appropriate shrines. We wore moccasins, knee-length leggings, shirts, and blankets, and each carried a small quantity of food and a deer-skin pouch of sacred cornmeal, which was used in praying to the stars, to the spirits at various springs on the march, and every morning to the rising sun, that we might have success and a safe return. Food and tobacco were used sparingly. In preparation for fighting we wrapped the shirt and blanket about the waist, so as to leave the arms unencumbered.

On the first day after marching about twenty miles we camped, and sitting in a circle we smoked while the warrior encouraged us. The second day's march was about thirty miles, and again we smoked and were encouraged by the warrior. During the night two scouts brought in a horse, and said they had found sheep tracks, and about daylight we heard a lamb bleating. We knew a Navaho camp was close, and we said

to one another that the sheep were ours.

Our attacks were always made at sunrise, because the Navaho watched their flocks all night, and then fell into a sound sleep from weariness. One division of the party went around to the south, the other to the north, in order to surround the enemy, and just as the sun rose we rushed in with shouts. Small groups of about ten men surrounded each of the several hogans and shot down the Navaho when they ran out. Three young men and an old man who was wounded got into a hogan, the sides of which were very strong, and we could do nothing with them. So we left them and drove away the sheep and several horses, having killed a few people, I do not know how many. No scalps were taken, because, when a scalp was taken, it was necessary to initiate the scalper into the Warrior fraternity, and at that time initiation into the society had ceased.

Our last halt on the way home was on a mesa about six miles from the village. After we had eaten at noon, we saw five Navaho on horses, each with a companion behind him, and a fight occurred, in which one of them was wounded. We were too many for them and they withdrew, but as they were mounted we could not follow them.

About three miles from Walpi we sent a runner into the village to ask permission to enter, and one of the Warrior fraternity said to him "Yes, if you have taken no scalps, you may come in." When a war-party returned with a scalp it was necessary for them to wait outside the village before entering. So we went in. Five sheep were apportioned to each house in the three villages, and the remainder were rushed upon and slaughtered, and the meat was taken by those who could get it. The horses were killed, and the flesh distributed equally. Captured horses were never kept alive, because there was no way of dividing them equitably.

On the next three days there was dancing for a short time about the middle of the afternoon by the members of the war-party, each of whom was followed in the dance by a woman of his father's clan. We wore only loin-cloths and ceremonial kilts, and were daubed with perpendicular stripes of white, like the members of the Warrior fraternity, and each carried bow and arrows, while the women wore tabletas [symbolically painted boards worn upright on the head] as in the Butterfly dance, and white, ceremonial blankets, and had an arrow in each hand. We danced forward in a circle, singing to the time of a large

drum.

On the fourth day the dance occurred at sunrise. Each warrior took a pinch of ashes, moved the hand in a circle before his face, and cast the ashes over the cliff toward the east, the country of the Navaho. Then the Warrior chief took a reed arrow and stuffed into the hollow of it bits from the clothing and the accoutrement of a Navaho, and shot it toward the east, thus ending the victory dance. Both of these acts symbolized the wish that the Navaho might be destroyed.

Six days later two of the men who had been left unharmed in the Navaho camp came to make peace, and the Hopi assembled to determine whether the two should be killed or merely driven away. It was decided to kill them. So the two were caught, tied up, and shot, and the bodies, filled with arrows, were rolled over the cliff. Several male Navaho slaves took fright at this and ran away, but they were pursued, caught, and killed.

In another council it was determined that it would be well to send another expedition against the enemy, in order to kill any more of this group from whom the messengers had come, lest they avenge the death of the two. The same three leaders organized this party, which late in the afternoon of the very day on which the messengers had been killed set out unobtrusively in twos and in threes for the entrance of Keams cañon [Pónsikya, round cañon], to which the trail led. At dark a start was made from Keams cañon. There were about sixty of us. At midnight we were in Steamboat cañon [Wûpasikya, long cañon]; and at daybreak, about three miles west of Wûko-vakavi ["big reed place"], where Ganado is now, we smelled fire.[34] Scouts were sent out, and they soon returned with the news that some Navaho were encamped about one mile west of Wûko-vaka-vi. We attacked the four hogans and killed all the people, about eight in each hogan, except a little boy, whom we kept for a guide. I myself killed three. The boy conducted us to a camp of two hogans, and we killed the nine occupants. Then he led us to a third place, and after killing two men, three boys, and two women, we captured a number of horses and cattle and drove them homeward. But at night while we camped in the mountains east of the

34 In an air-line the party had travelled, from dark to daybreak, about forty miles.

valley, the Navaho drove off our stock, and though we followed them in the morning we could not overtake them, mounted as they were. There was no dancing after the return of this expedition.

In the autumn of the same year ten Mexicans one day pitched camp near the mesa and enquired if we knew where any Navaho could be found. They said they were going, into the country north of San Francisco mountains for slaves, horses, and trinkets, and without delay the same three leaders raised a party of thirty men and joined the Mexicans. Our first halt was near Bill Williams mountain, where the scouts found two hogans near the foot of the mountain. We killed two men, a woman, and three children, and spared an old woman until she had given us information about other camps. Some were in favor of letting her live, but in the course of the argument some one struck her on the head with a club and killed her. We found another camp and killed the few who were there. One man hid in a treetop, and when the combat was over he shot a Hopi in the back with an arrow. We then killed him, and he tumbled down out of the tree. By this time the other Navaho in the neighborhood had been warned by signal fires, and we could not surprise any others in their hogans.

A party of Hopi returning from Fort Defiance were attacked by Navaho at Wûko-vaka-vi, near the present Ganado, and five were killed. Háni, one of those that escaped, bears the scars of many wounds received there.

Some time after this Nûvá-ti (the narrator), at work in his cornfield, decided to lead a war-party against the Navaho. Returning to the village, he was told that his wife had gone to Kanél-va spring, so he followed her, and found her at the spring with the peach gatherers. Here he announced his intention, reminding the men, "If we do not retaliate on these Navaho, they will become so bold that they will not be content with raiding our cornfields and camps, but will attack our village." Some at once agreed to accompany him, and he sent a runner back to Walpi with the message that a war-party would start out that very day.[35] When Nûvá-ti returned to Walpi he found some already prepared, and the others soon got their bows and arrows ready, and

35 It will be observed that Nûvá-ti did not first interview the Warrior Chief to obtain his permission.

with a small amount of food they all started toward a thin column of smoke, a signal which they sighted to the south of Keams cañon. At the fire they found Wíki, chief of the Antelope fraternity, whose uncle, his predecessor, had been killed by the Navaho in the recent encounter. It was his intention to accompany this party and exact revenge, and he was taking the Antelope *típoni* in order to bury it with the body of his uncle. Too angry and restless to wait for the others, he had started as soon as the announcement was made.

When the leader and his men arrived, he refused to let Wíki go on with the *típoni*, because if it were buried with the body of the slain chief the Antelope ceremony could not be performed again. Wíki therefore drew out of the *típoni* two eagle wing-feathers and gave them to Nûvá-ti, and he himself turned back. The other ten went on at a dog-trot.

When they were south of the place where Keams Cañon school now stands they saw far away in the east a great many buzzards soaring in the air, and they judged that this meant they were too late to bury the bodies of their friends. They went on past the ruin Ákuka, which the Acoma people are said to have built in their migrations, and at sunset were at Wûko-kaha-vi ("big willow place").[36] Still they did not stop, but went on up Steamboat cañon, running as always, and about midnight they were on the ridge of hills west of the present Ganado. Here they waited for daylight, having travelled from Walpi to Ganado, nearly fifty miles as the crow flies, without a camp.

During the remainder of the night they took turns at watching. It was not long before day broke, and leaving a sentinel on the hill with instructions to walk westward if he saw an enemy to the east of the Hopi party, and *vice versa,* the others started down the slope. Soon they came upon the scattered remains of their friends, and saw the spot where they had camped, with the cobs of roasted corn and bits of pumpkin rind. There were five bodies. Beside the corpse of Masále, the former Antelope chief, they placed the two feathers from the Antelope *típoni;* on it they laid some piki, and then covered it with brush. After sprinkling crumbled piki on the other bodies and piling brush

36 Now called Pete's spring, from a Navaho whom Keams, the trader, named Pete.

over them, they returned to their sentinel in the hills, and all proceeded northward. At Chinlee, the mouth of Cañon de Chelly, they discovered several mounted Navaho, who easily eluded them. Scouring the country west of Chinlee for Navaho, they found an old man, so helpless that they would not harm him.[37] Then they came upon a camp where an old man, pounding green roasted piñon cones, said that all the Navaho in that vicinity had gone southward, to attend a "sing." Numbering but ten, the Hopi were afraid to attack so large a camp as there would be at such a ceremony.

Later they saw a Navaho horseman in a valley, and one went alone as if to parley with him. As they talked, he seized the Navaho, and the others dashed out of their concealment. Still on his horse, the man struggled mightily with them. He snatched an arrow from a Hopi and thrust it into the back of one of his enemies, and at the same moment another Hopi let fly an arrow, which accidentally struck the same man in the head. Then while one on each side held the Navaho's arms, another shot two arrows through him. He spat at them, and the spittle was bloody, They threw him from his horse, still fighting, and killed him with his own spear, a staff with a piece of metal bound to the end, and two remained to loot their victim of his arrows and his silver belt, his coral beads, and a little pouch, the others fleeing in a sudden panic lest there be other Navaho lurking in the neighborhood. This was the only man killed by the expedition.

On the way home, encamping at the spring Pöpsû, they opened the little bag taken from the Navaho and found a quantity of turquois. It was at the meal eaten in this camp that Nûvá-ti, mixing water with a double handful of piki and eating out of his hands, noticed an unusual taste, and saw that he was eating out of bloody hands, a circumstance to which he attributes his present baldness. He thinks that as he is only seventy years of age his hair should not fall out.

37 Considering the savage treatment of helpless Navaho described in the preceding narrative, one must conclude that the condition of this old man was sad indeed!

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