ETHNOGRAPHY
OF THE SURPRISE VALLEY PAIUTE

BY

ISABEL T. KELLY

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ABBREVIATIONS USED

A	Anthropos.
l'A	L'Anthropologie.
AA	American Anthropologist.
AAA-M	American Anthropological Association, Memoirs.
ArA	Archiv für Anthropologie.
AES-P	American Ethnological Society, Publications.
AGW-M	Anthropologische Gesellschaft in Wien, Mitteilungen.
AJPA	American Journal of Physical Anthropology.
AMNH	American Museum of Natural History—
-AP	Anthropological Papers.
-B	Bulletin.
-M	Memoirs.
-MA	Memoirs, Anthropological Series.
-MJ	Memoirs, Jesup Expedition.
BAE	Bureau of American Ethnology—
-B	Bulletins.
-R	(Annual) Reports.
CNAE	Contributions to North American Ethnology.
CU-CA	Columbia University, Contributions to Anthropology.
FL	Folk-Lore.
FMNH	Field Museum of Natural History—
-M	Memoirs.
-PAS	Publications, Anthropological Series.
IAE	Internationales Archiv für Ethnographie.
ICA	International Congress of Americanists (Comptes Rendus, Proceedings).
IJAL	International Journal of American Linguistics.
JAFL	Journal of American Folk-Lore.
JRAI	Journal of the Royal Anthropological Institute.
MAIHF	Museum of the American Indian, Heye Foundation—
-C	Contributions.
-IN	Indian Notes.
-INM	Indian Notes and Monographs.
PM	Peabody Museum (of Harvard University)—
-M	Memoirs.
-P	Papers.
-R	Reports.
PMM-B	Public Museum (of the City) of Milwaukee, Bulletin.
SAP-J	Société des Américanistes de Paris, Journal.
SI	Smithsonian Institution—
-AR	Annual Reports.
-CK	Contributions to Knowledge.
-MC	Miscellaneous Collections.
UC-PAAE	University of California, Publications in American Archaeology and Ethnology.
UPM-AP	University of Pennsylvania (University) Museum, Anthropological Publications.
USNM	United States National Museum—
-R	Reports.
-P	Proceedings.
UW-PA	University of Washington, Publications in Anthropology.
ZE	Zeitschrift für Ethnologie.

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ETHNOGRAPHY OF THE SURPRISE VALLEY PAIUTE

BY

ISABEL T. KELLY

The following report is based upon field work among the Northern Paiute or Paviotso of northeastern California during the summer of 1930. The investigation was financed jointly by the University of California and the Bureau of American Ethnology.

The names Paviotso, Paiute,[1] and Northern Paiute are used interchangeably in this report, and unless otherwise indicated, all statements apply specifically to one band of such Paiute known as the Gidü'tikadü, or Groundhog-eaters. Some forty members of that band are now living at Fort Bidwell, Surprise valley, Modoc county, headquarters for the season's field work. As the result of a five-day visit[2] to the Klamath Indian reservation, some scanty material was obtained from members of a related band, formerly of Silver and Summer lakes, Oregon, but now living on that reservation near Beatty.

It seems likely that the account of material culture here contained is as complete as can be made at the present time, for there is little of the old life left. A few roots are dug in spring, and berries are gathered in the fall, but seed gathering and the old hunting methods have fallen into disuse. A few baskets, mediocre at best, are to be seen; some rather nice skin dressing is done; most infants are carried in cradles; but aside from this, statements by informants are the sole reliance. Little was obtained on political institutions, probably owing to paucity of development rather than to fragmentary information. Such is not the case with religion, which is still more or less flourishing. At least shamanistic cures are in vogue, and a number of the older people frequent the sweat-lodge upon occasion, there to pray to the sun. The meagerness of the data must be attributed to the very

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[1] Not to be confused with the Southern Paiute who are also known in the literature as Paiute.

[2] At private expense, borne by myself and by Miss Elsie Kober, of Fort Bidwell.

marked reluctance with which informants discuss religious topics. There is yet much to be obtained concerning beliefs and practices, but it will be a difficult matter to overcome the native reserve.

Comparatively little has been published on the Northern Paiute. Curtis has some material on the Nevada Paviotso as has Sarah Winnemucca Hopkins. A twenty-page paper by de Angulo and Freeland, partly linguistic, concerns the Fort Bidwell Paiute but is avowedly incomplete. For comparative material I have drawn on Lowie's Northern Shoshone and Notes on Shoshonean Ethnography. It is scarcely necessary to mention the very obvious debt to Spier's Havasupai Ethnography; and I am further indebted to Dr. Spier for the use of his Klamath material, still in manuscript form.[3] Dr. Kroeber has very kindly allowed access to the unpublished Walapai data which embody the results of the 1929 summer field course of the Laboratory of Anthropology.

Acknowledgment should be made to the residents of Fort Bidwell, who were uniformly helpful and sympathetic, but especially to Mr. Henry Kober and to Mrs. Chester Lowell, who with great kindness allowed specimens from their private collections to be brought to Berkeley for photographing; to Mr. L. Shotwell, of the local Indian school, for material assistance in procuring informants; and to Mr. and Mrs. F. J. Schmitz, of Beatty, Oregon, for extraordinary kindness in providing housing and in obtaining informants. I am indebted to Professor W. A. Setchell, of the University of California, for the examination of native tobacco specimens; to Mr. Morris Halperin, University Farm, Davis, for classification of several grasses; and to Mr. John Thomas Howell, of the California Academy of Sciences, for all other plant identifications and for incidental botanical information. Thanks are also due Professor E. O. Essig, of the University of California, for identification of insects and for use of manuscript material; and Mr. R. H. Rogers, County Surveyor, of Lakeview, for data concerning the geography of southern Oregon.

A list of informants is given below. Initials following the names indicate the key by which statements will be identified with certain informants. This has been done when evidence is conflicting, or of particular importance, or derived from a single individual. Statements in which the interpreter plays more than his part are jointly attributed. The ages given below are no more than crude approximations.

[3] Since published in volume 30, this series.

The following are Gidü'tikadü informants:

Piudy (P), born in Adel, Warner valley; aged about 75, perhaps more; the oldest and best of the Gidü'tikadü informants.

Joshua Brown (JB), born in Surprise valley; aged 65 to 70; also an excellent informant; blind.

Charlie Washo (CW), the present "chief"; born in Surprise; aged 65 to 70; remembers but little of the old life.

Bige Archie (BA), also of Surprise; aged 50 to 60; one of de Angulo's informants; unsatisfactory for ethnographic data but fairly well versed in tales.

Minnie Anderson (MA), of Cowhead lake, near Fort Bidwell; aged 75 to 80; chief informant on birth, marriage, crafts, etc.

Daisy (Limpy) Brown (DB), born near Plush, Oregon, and later of Fort Bidwell; aged about 60; good information supplementary to that of Minnie Anderson.

Nannie Ochiho (NO), of Fort Bidwell; aged 50 to 60; minor information, principally tales.

This completes the list of Gidü'tikadü informants. The following have different band affiliations:

Tom Anderson (TA), originally of a Nevada band (?) but has been in Fort Bidwell many years, aged 65 to 70; remembers virtually nothing of the old life.

Billy Steve (BS), also of Nevada (Summit lake, formerly of Pyramid lake); an occasional visitor at Cedarville; aged about 70; gave excellent tales and could doubtless have given good ethnographic material had time allowed.

Dr. Sam Wata (SW), of Beatty, Oregon; aged about 80; the best potential informant of the lot; a former shaman; vigorous, alert, intelligent, and willing to answer questions. Unfortunately his grandson was suspicious of exploitation and made it impossible to work with him more than two half-days.

Mettie Petty (MP), of Beatty, aged about 60; inconsequential information on a variety of subjects.

Nina Naneo (NN), of Beatty; aged possibly 50; principally tales.

Lizzie Godowa (LG), of Beatty, aged about 60; information on basketry techniques.

My interpreters were Nellie Townsend (NT) of Fort Bidwell, Susie Archie (SA) of Fort Bidwell and Beatty, and Nora Henderson (NH) of Alturas. They were all three intelligent women, averaging perhaps 35 to 40 years of age, and possessed of a good command of English. Their persistence and staunch support were largely instrumental in overcoming the well-known Shoshonean reticence, a characteristic which these people share to a marked degree. Joshua, Charlie Washo, and Bige Archie worked without interpreters; Nellie interpreted for the Andersons and for Billy Steve; Susie, for Nannie Ochiho and for Beatty informants, save for a half-day with Dr. Sam during which her brother, David Chocktoot, officiated. Nora interpreted for Daisy Brown and for Piudy.

An effort has been made to record native terms in the orthography employed by Waterman.

TERRITORY[4]

The band of Northern Paiute known as the Gidü'tikadü, or Groundhog-eaters, with whom this paper is primarily concerned, lived in the northeastern corner of California and adjacent parts of Oregon and Nevada, along the western fringe of the Great Basin. Their territory included the whole of Surprise valley and considerable of the hill country immediately to the east. Statements as to eastern extension are extremely vague, but their holdings included Coleman valley and probably Long valley, running well toward Summit lake in Nevada.

To the west Gidü'tikadü territory extended over Warner range to include the eastern shore of Goose lake, south as far as Buck creek. The Paviotso-Achomawi boundary fell somewhere between this point and Sugar hill, the latter being indisputably Achomawi (Izi'sa'wi). My informant claimed Fandango valley and Lassen creek for the Paiute but said that both they and the Achomawi used to fish in the last mentioned stream. Save for a slight overlap in the Fandango region, this statement is in substantial agreement with Kniffen,[5] who places the northernmost Achomawi village on Lawson (i.e., Lassen) creek. The Paiute regarded all this region west of the Warners merely as hunting province, thus, "We didn't own it; we just hunted there." Hunting parties crossed into the Goose Lake country via Bidwell canyon, coming out near the present town of New Pine Creek.

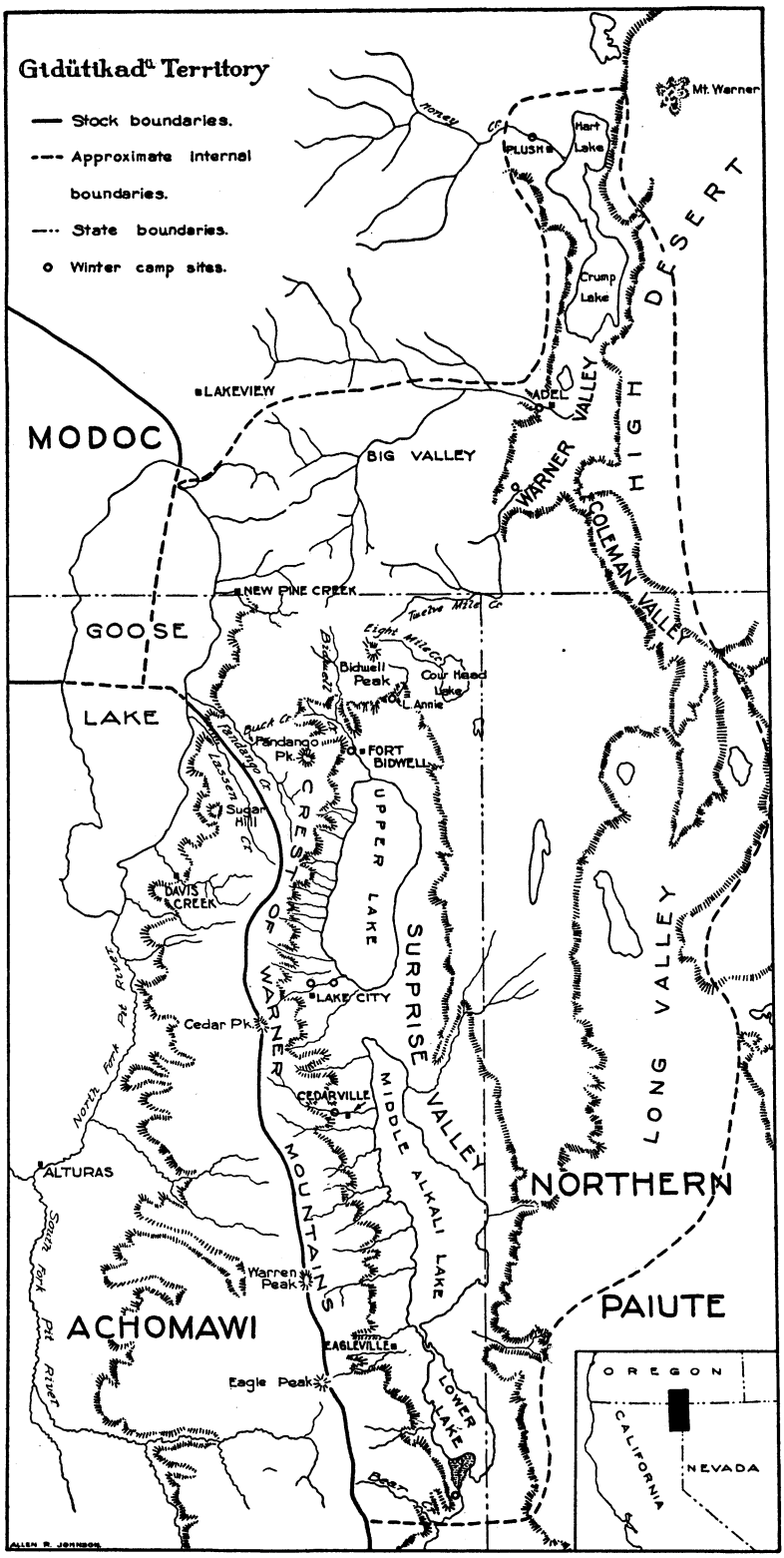
To the northwest were the Klamath (Modoc ?), known as Pama'ha sai'l[6], or, more commonly, Sai'l, given once as Sa'ibütikadü, Tule-eaters. Piudy gave Pakwi'tikadü, Trout-eaters, as the name for the Modoc; all other informants failed to distinguish between them and the Klamath. Piudy seems, however, to have reversed the two terms, agreeing with other informants that the "Klamath" hunted on the western shore of Goose lake and placing the Modoc in the Klamath marsh district, the heart of Klamath territory.[7] It seems likely, there-

[4] The bulk of this material is based on information given by P and JB.

[5] P. 308 and map 2.

[6] This is said to be a name given by the Yainax Paiute, and hence recent. My informant was not certain, but suggested that it might be derived from pa'mühab, water grass.

[7] According to Spier, Klamath, 8 and figure 1. See Bibliography for complete citations.



Map 1. Gidü'tikadü territory.

fore, that all references to the "Klamath" apply to the Modoc or to both groups rather than to the Klamath proper, although Spier reports summer settlements of the latter as far east as Sycan river. Informants placed the "Klamath"-Paiute boundary east of Bly and west of Gearheart mountain and it seems at this point to have run northwest, inasmuch as the northern shore of Goose lake was regarded as Klamath province. This northwesterly trend is substantiated by Spier's Klamath map, but his Modoc boundary might be shifted somewhat to include the eastern shore of Goose lake. Tradition has it that the Klamath once occupied all the present Gidü'tikadü territory, including Surprise and Warner valleys. At this time these Paiute were living east of Steens mountain, in Oregon, but eventually they drove out the Klamath and took possession.

To the north the Gidü'tikadü ranged more or less continuously through Adel and Plush in Warner valley, the northern extension of Surprise. They seem not to have wintered north of Plush, but in summer they probably reached the head of the valley. To the north, south, and east, they were bordered by other Paiute, although most of the country between Plush and Burns is said to have been alkali and uninhabited.

The names of some of the neighboring Paiute bands follow, but anything in the way of detailed geographical distribution is not feasible. Informants are unfamiliar with distant areas, especially to the east.

Dühü'tcyatikadü, Deer-eaters, Silver and Summer lakes, Oregon.

Go'ya'tikadü, Crawfish(?)-eaters, Yainax and Beatty, Oregon. These Paiute were brought from Silver lake in recent times and the name is therefore post-reservation.

Wada'tikadü, Wada'(seed)-eaters, Burns, Malheur district, Oregon; and Susanville, California.

Tübu'iuitikadü, (?) Berry-eaters, east of Steens mountain, Oregon.

Kwi'nadüva[a], Kwi'nodub, Smoke (?) Indians, McDermitt, Nevada. The country north of McDermitt is said to have been uninhabited.

A'ga'itikadü, Fish-eaters, Summit and Walker lakes, Nevada.

Kuyui'tikadü, Sucker-eaters, Pyramid lake, Nixon, Nevada.

To'itikadü, Cat-tail-eaters (from toibü, cat-tail), Fallon and Yerington, Nevada.

My informant did not know the name of the band immediately to the south but stated that their headman was named Sa'ihida[a]. Similarly he gave Wobi'ñnünabügai as the chief of the Paisley Paiute but did not know the group designation. Paisley is known as So'ho. He stated definitely that two bands, those of Burns and Susanville, were known as Wada'tikadü and that the Walker and Summit lake bands,

although distinct, shared the same name. The Summit lake group bounded the Gidü'tikadü to the east.

Two subnames were recorded. One, Saibütikadü, Tule-eaters, applied to Adel in Warner valley. This name was given any persons camped there; in other words, it was associated with the site rather than with the people. The word, Saibütikadü, is apparently in accord with the Handbook[8] which gives the Saidyuka as a group of eastern Oregon. Loud[9] has it "sai'i, short for sai-duka'a, 'tule eaters,' a mythical people formerly living in various parts of Nevada." It should be noted that this is identical with two of the three versions for Klamath. The other subname is said to be of recent derivation. As the Bidwell Paiute were ridiculed by their neighbors for eating the flesh of animals dead from natural causes, they came to speak jestingly of the Cedarville and Eagleville groups as Itsü'natikadü, they-eat-them-alive.

These band names must not be regarded as having serious economic significance. They are based, in fact, on natural resources rather than on staple foods and are certainly no more than convenient labels. For example, concerning the name given the Yainax Paiute, my informant said, "Go'ya'tikadü is a new name given since the Paiute were put on the Klamath reservation.[10] It is named after the crawfish (?). There are many there; I don't know if they ever eat them or not."

The only one of the above bands not named according to the "-tikadü" pattern is the McDermitt band. Informants could not explain this exception, nor could they give the exact meaning of the name. One translated it "Smoke Indians"; another said somewhat doubtfully, "It sounds like the word for smoke; I don't know why they call them that."

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[8] Handbook of American Indians, 1:932.

[9] Loud and Harrington, 152.

[10] Go'ya' is apparently a loan word as Spier, 15, notes a Klamath village called GoyEske'Egis, crawfish crawl out. It seems plausible that crawfish, foreign to the old Paiute habitat, were designated by the Klamath term.

PLACE NAMES

This is a convenient place for recording a few random notes on place names. One is struck by the fact that the Gidü'tikadᵘ do not, as a general rule, name the larger geographical features. Thus, they lack a name for Surprise valley as a whole, for Warner range, for the valley lakes, etc. There is no paucity of names for minor features, and such names are almost invariably descriptive or refer to some plant or animal formerly plentiful in the region.

Springs seem to have been named more frequently than streams. Bidwell creek, the largest stream in the northern end of the valley, was unnamed, and Buck creek, on the western side of the Warners, was also unnamed.

Gearheart mountain, Oregon, was called Pasi'akwo, from pasi'a, a large bird resembling an eagle;[11] Steens mountain was known as Tsütsüüdᵘ "because it was always covered with snow (apparently related to ütsü'ts, cold). Eagle peak was called Ma'ta'gan (from ma'ta', metate) because material for grinding stones was plentiful on its upper slopes. Bidwell mountain was unnamed, but a point to one side of it was called Tüba'-motsi'kia, pine-nut point. An unidentified peak up Bidwell canyon was called Tsa'na-tsu'ga, the name of an edible root which formerly grew on its slopes.

A small reddish hill on the road between Lake City and Fort Bidwell was called Atsa'-motsi'kia, red peak. Both Indians and whites observe that winter snows always melt there first, and by the whites it is called Red hill or Hot point. A series of rock cliffs along the same road[12] is known as Gidü'-motsi'kia, groundhog-point. A peak just south of Lake City projects at an upward angle and is called Hu'na'-na-mubi, badger-his-nose.

The three lakes which formerly covered a good part of the valley floor were not named, but the strip of land between Upper lake and Middle lake had a name which my informant could not recall. At Eagleville the break between Lower and Middle lakes was called Pü'hü-kanu, duck-catch. Lake Annie, a small body of water at the head of Surprise valley, was known as Sia'pa'ᵃ, gravel, from a deposit along its southern shore. Cowhead lake, somewhat larger and lying

[11] De Angulo, 330, gives pasia' as bald-headed eagle.

[12] On the Max Fulcher ranch.

five or six miles northeast of Fort Bidwell, was known as Toha'-kidü-panün (white-groundhog-lake) because a white groundhog was once seen there. Piudy knew no name for Goose lake, but Joshua said that it was called Paba'-panün, big lake.

Big valley, west of Warner valley, was called Guyü, the name of a food plant gathered there. Sugar hill, Toga'-pokwad (dark point or peak) gave its name to near-by Fandango valley. Fandango pass was called Padu'a'-agan from padu''a^{a}, grizzly bear.

ECONOMIC LIFE

SEASONAL PURSUITS AND WANDERINGS

For food these Paiute, like the bulk of Great Basin tribes, were entirely dependent upon hunting and gathering, and even proto-agriculture in the form of wild crop irrigation[18] was unknown. From an economic point of view, Paiute habitat seems to have been peculiarly uninviting, and only through literally unceasing toil could it be made to yield a livelihood. Whereas peoples dependent upon one staple, such as acorns, camas, or mescal, normally enjoy a season of plenty, often followed, to be sure, by one of privation, the Gidü'tikad^{ü} had no one product upon which they could rely. It follows, therefore, that their food gathering activities were extensive and continuous rather than concentrated and seasonal. Starvation was frequent, especially in late winter when the stores of cached food had been exhausted.

The geography of the Surprise region has been covered by Russell, but it may be well to call attention to a few general features. A large part of the valley floor is occupied by the playa beds of three lakes, now dry most of the time, but well filled within the memory of informants and early settlers. The remainder of the valley is said to have been meadowland in aboriginal times, but nowadays, owing to the introduction of sheep and to subsequent overgrazing, the meadow has been almost completely replaced by sagebrush, excepting, of course, land actually under cultivation. This means that the pre-white environmental conditions were definitely more favorable for the support of a non-agricultural population. In fact, it is difficult to see how a hunting and gathering people could possibly maintain themselves under present conditions.

[18] Which Steward, 149, reports for the Eastern Mono.

On either side, Surprise valley is bordered by steep rising ranges. The badlands to the east bear little apparent vegetation save sage, but they were the principal root-gathering grounds in the old days. The slopes of the Warners, to the west of Surprise, are covered with a juniper-sage growth, with pine and fir on the upper reaches. To the north of the valley the Warners break down and run northeast to bound Warner valley on the east. Here they are known as the High Desert, a region used today only for grazing. Warner valley, the northern extension of Surprise, differs markedly from the latter in that it is almost entirely tule swamp and lake country, although the ubiquitous sagebrush covers what dry land there is.

The Gidü'tikadü exploited this unpromising habitat to the best of their ability, wandering seasonally in pursuit of food. Perhaps the annual cycle is best introduced by the following:

> In the old days they used to dig food all summer—until it was gone. They gathered seeds and roots and buried them in the ground. In winter they stayed until the buried food was gone and then moved on to the next place. They hunted every day, all year. In those days there were many sage hens, ducks, geese, swans, jackrabbits, cottontails, deer, and antelope (NT).

Early in spring, when the snow was still on the ground, they fished in the creeks and streams. As soon as the snow melted sufficiently, those camped in Surprise abandoned their winter quarters and crossed to the hills along the east side of the valley, stringing from Cowhead lake south to Poison spring, there to consume food buried the previous year and to dig whatever roots they could find. All spring and well into summer they continued to wander about, gathering roots which they dried and cached for future use. Their wanderings did not follow any set scheme; they roamed wherever the food supply seemed most promising. A considerable range was necessary, however, for roots such as camas are essentially swamp plants, and others such as epos occur only in higher and drier country. In late summer they returned to the valley to pick berries and to harvest seeds. With the approach of fall, the season for plant foods terminated, and attention was centered upon hunting.

This activity, as well as gathering, groups itself into seasonal cycles. Deer, antelope, and rabbits were hunted the year round. Sage hens and grouse were got in spring. From May to July groundhogs, porcupines, and squirrels were available. In midsummer crickets and occasionally larvae(?) were gathered. In late summer and early fall, hunting of deer and antelope loomed as compared with other pursuits. Wildcat was hunted in fall, which was likewise the season for com-

munal rabbit drives and for hunting water fowl such as mud hens, ducks, geese, and swans. This very considerable range of activities implies residence from which the valley lakes and flats, as well as the hill country, were accessible. There seem to have been no set camp spots, but the Adel and Bidwell districts were particularly favored for fall residence.

Winter was the season of food shortage. At this time the Gidü'-tikadü returned to more or less permanent sites, there to consume the seeds, dried roots, and meats which they had cached. Hunting of deer, antelope, and rabbits continued. In addition, bear, wildcat, and otter were hunted because "then they were fat, and their skins were good." Winter was also the season of antelope charming.

When asked concerning the relative importance of animal foods, my informant replied, with an excellent display of logic:

> They ate more deer and rabbits than anything else because they hunted them all year round. Rabbits are not so good this time of year; squirrels are better now. It all depends on the season (P:NH).

WINTERING GROUNDS

The Gidü'tikadü had a number of established wintering grounds, and, as a corollary, recognized certain regions—such as the country west of the Warners, the area between Surprise and Warner valleys, Big valley, and the east side of Surprise—which were best shunned during winter because of heavy snows, insufficient resources, etc.

The northernmost winter camp was in the vicinity of Plush, Oregon. According to Piudy, it was known as Sa'ga'ªnamatsibui and refers in some obscure way to "the place where the river comes from the mountain into the open country." What is doubtless a different rendering of the same term was given by Joshua who called a Honey creek site near Plush, Saga'pamatsibua. He claimed that it was derived from saga', a kind of willow, and tsibua, canyon mouth.

Adel, farther south in Warner valley, was called Saibü and was a favorite wintering ground. A camp site just below the present MC ranch house was called Wa'habiⁱ (from wago'pi, pine tree, and habiⁱ, fall down) and was so-named from a creek into which a large tree had fallen. A site "southeast of Adel," described as a few miles east of Dugout,[14] was called Kusi'nütü.

[14] As the location of this wintering ground is highly doubtful, it has not been entered on the map. Possibly it should be southwest instead of southeast of Adel. In a letter, Mr. R. H. Rogers, County Surveyor, Lakeview, states that the locality known as Dugout falls within Township 40 South, Range 23 East. This would place it definitely southwest of Adel.

In Surprise, the Gidü'tikadü sometimes wintered on the slopes below Lake Annie. This site seems to have been unnamed; it was probably known from the lake, or, because of its proximity, may have been included in the name applied to the Bidwell vicinity. This whole latter district was known as Tusi'yamüs (from tusi''pi, a kind of grass, *Distichlis spicata* Greene, and yamü's, corner), and ample justification for the name may be found by glancing at Russell's map of Surprise valley surface types.[15] Tusi'yamüs was a favorite spot, and winter camps were strung along the foot of the Warners from the site of the present camp through the Indian School grounds, as well as along Bidwell creek from the fair grounds below town up the canyon to the old flour mill.

There were three wintering grounds about Lake City. One was in a juniper stand a short distance north of town and was called Wa''-dunu'ba (from wapi, juniper, and dunu'ba, bunch, stand). Another site was near the lake shore and was called Sawa'-dunu'ba (sawa', sagebrush). Informants state that it is now cleared and planted in wheat. Camps were scattered from below the peak known as Hu'na'-na-mubi, badger-his-nose, just south of Lake City, all along the range slopes south toward Cedarville and on to Eagleville.

Near Cedarville, the Gidü'tikadü wintered along the creek at the foot of Cedar pass, which place they called Pa-sü''bi, water-willow, "from a kind of willow growing in the stream." One informant claimed that this site had no name, but that "they knew it by Pa'ho'tü-wogodni (sand creek, canyon) on the eastern side of the valley."

The southernmost winter camp was near Bear ranch at the foot of Surprise valley. My informant could not remember its name but said that it was near the stream called Wi'gi-pa-hu'ü (sideways-water-running) which "runs sideways instead of straight down from the mountain." From inquiry, Bear creek[16] seems most nearly to answer the description.

According to informants, "Some stayed in the same camp all winter, but most had at least two camps, perhaps one here and one at Cedarville. When all their food was gone, they moved on to the next camp." There was certainly some travel during winter as camps cooperated in communal antelope and rabbit drives.

The winter site had perhaps five or six houses; the summer groups were still smaller, perhaps only two or three.

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[15] Figure 4.

[16] Spelled Bare's creek on the Alturas quadrangle of the United States Geological Survey.

DIVISION OF LABOR

Sexual division of labor was not ironbound but was sufficiently definite to permit of a general statement. Hunting was the male province, but women often assisted, as in communal drives and the capture of water fowl. Traps for small game, such as sage hens, might be set by women or even girls. All equipment connected with the hunt, such as weapons, snowshoes, etc., was made by the men. In net making women might twist the bark fiber, but men did the netting "because they knew how." Such stone working as there was seems to have been done by the men, although with a domestic article as the metate, women seem occasionally to have taken a hand.

Women were concerned with the gathering of roots, seeds, berries, and insects, but men occasionally assisted with the last mentioned. Women also prepared food, hauled wood and water, and generally concerned themselves with domestic tasks. Men, home from the hunt, are said to have done the grinding when women were out gathering. Handicrafts such as basketry and sewing were preeminently a woman's work, although it is interesting to note that a man sewed his own quiver.

Both men and women cooperated in house building, the men setting the frame, the women applying the covering. Both sexes also worked hides, although the skinning, as an adjunct of hunting, was always done by the man. Both sexes likewise made rabbitskin blankets.

It is quite apparent that the sexual division of labor followed normal cleavage lines, men engaging in the violent and sporadic tasks, women in the less active and more continuous pursuits.

HUNTING

A boy was eight or nine years old when he started to hunt. After a light snowfall he was sent out to track cottontails and often would bring a few home. A small boy was also directed to hunt wildcats as they climbed in the junipers. He stood beneath the tree and shot the animal with his bow.

When a boy was ten or eleven years old he learned to hunt deer. He accompanied his father and was given instruction in technique.

> If I have a boy I tell him how to hunt. I say, "Get up before daylight and go to the hill. Soon you will see deer. Get close and kill one. You must watch

the wind. Be sure to walk carefully. Watch the rocks where you step. Don't fall down or make a noise'' (JB).

My father said, ''You must watch the wind when you hunt so that the deer will not scent you. Track deer all day; then you will catch them easily. Get them early in the morning. Groundhog is the same way as deer. It is frightened if it scents you. But rabbits, ducks, and geese are not afraid; they do not smell'' (CW).

A boy was not allowed to eat his first game, otherwise he would never become a successful hunter. When he had shot his first deer, or possibly antelope as an alternative, he was required to go through a set procedure, after which the food taboo was removed and good luck assured him. An account of this performance[17] follows:

A man told his son, ''Do not eat the first deer you kill. Butcher it and hang it up. Then let me know. I will go with you to bring back the meat.''

Once I killed a deer up above Lake City. My father came and asked me, ''What kind of tree would you like? Service?'' I said, ''Yes, that is stout; maybe it will make me strong.'' Then we cut green service to make a ring. I pulled over the stem and my father cut it, saying ''I cut you.'' Then he sliced thin meat from inside the ribs and twisted it around that service ring.

Then my father told me, ''Take off your shirt, your moccasins. Take the beads from your neck.'' I took off my clothes. My father said ''Step in this ring. Do it carefully; be sure not to touch it.'' I did that, and he lifted the ring up over my head and then let it down, and I stepped out. Then he put it over my head and pulled it down. I stood still. ''Step over,'' he said. Every time my father did this he called all kinds of game—goose, swan, mountain sheep, bear, elk, and otter.

This is called natsa'-tiha'niu,[18] and afterwards a person will always be lucky. My father said, ''You can eat this meat tomorrow.'' I wanted some that day, but I waited (JB).

The account given by Piudy was in substantial agreement with the foregoing but differed slightly in detail. A willow was used in lieu of service, and the meat was strewn on the ground and the youth required to step over it. At the conclusion of the performance, the boy was allowed to eat any part of the animal he wished. Although he had previously killed small game, such as rabbits, he had not been allowed to eat them.

Success in hunting was a matter of luck and skill, but the former was not attributed to any particular factor. Continence, which seems to be a widespread requisite, was reported by one informant[19] but denied by others.[20] According to Piudy:

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[17] Cf. Hopkins, 50.

[18] I am not sure if this term applies to the whole performance, or to the ring, or to both. It is probably the first, as Piudy said, ''It is the same way they call skinning an animal,'' a neat case of imitative magic.

[19] DB.

[20] NO, JB, P.

I'm a deer hunter and I don't know any way to bring luck. Sometimes people dreamed of killing game and it brought good luck. I was a good hunter long ago when my eyes were strong, but I never had such a dream.

Charms were not ordinarily carried, but according to Daisy, "Sometimes they cut little things (fetlocks) from the legs of deer and carry them along. The deer can smell them a long way off and they come." In the old days a deer hunter took a sweat bath and prayed to the sun at dawn.[21] Nowadays persons who have hunted several days without success sometimes resort to the sweat-lodge.

ANIMAL FOODS

Deer (dühü'tc) and antelope (dü·na') were the two chief larger game animals. One informant had heard of buffalo (pagu'ts^{u}),[22] which he said were hunted on the other side of Eagleville. All informants knew of mountain sheep (koip^{ü}), although none had ever seen one. They were not found in Surprise but occurred beyond Plush as well as this side of Gerlach, Nevada. The hunter sighted his quarry and attempted to sneak close enough to shoot. He occasionally wore an antelope disguise, but this seems not to have been usual.

Deer.—Deer were hunted the year round. They were sometimes stalked, but this method was used principally in the north, around Adel and Plush, and but rarely in Surprise. The hunter wore an antelope head with ears and horns attached, but no body disguise.

One or two men might organize a deer hunt and on the following day the party would go forth, eight or ten strong. When five or six animals were located in the brush, two men would go in and frighten them, the others shooting as the deer ran past. The two or three brought down were skinned and butchered on the spot. The hide went to the one whose arrow had killed the deer; the head and back sinews went to the "boss"; the meat was divided evenly. It was cut with a six-inch obsidian knife which was carried about the waist in the same sack with fire sticks.

Deer were never taken in nets but were sometimes captured in pitfalls.[23] A hole, five or six feet in width and the same in depth,

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21 This point is of some interest as Dr. Lowie tells me that the Washo claim to use the sweat-lodge only in connection with deer hunting. Among the Wishram (Spier and Sapir, 180) men sweated preliminary to a hunt. The Navaho myth of the Mountain Chant (Matthews, 389–390) associates sweating with success in the chase.

22 From pa, water. These Paiute have the belief that the buffalo comes from the water.

23 The Achomawi are said to employ this technique.

was dug on a deer trail and covered with small sticks, pine needles, etc. The hunter came there at night and watched. Sometimes he caught two deer this way. The animals were not shot but were dispatched by a sharp jab with a stick. The pitfall method was "a little too hard" because of the time and labor involved in digging and was infrequently employed. It was never used for antelope.

The only means of taking deer wholesale was by firing. This method was called kupi'tü and was practiced in late summer, about the middle of August. When deer were sighted on a hill, a group of hunters hastened there, some on either slope of the mountain. They started fires, working them around until the band was completely encircled. This accomplished, the fires were brought closer, constricting the circle until the animals were bunched on the crest of the hill where they could be shot conveniently. Deer firing was ordinarily executed without undue noise, but if a bear were accidentally caught in the fire, a great hue and cry was set up to warn the others and to inform them in which direction the animal was headed. Upon hearing the shouts, someone would sneak into the circle and conceal himself until he had opportunity to let fly. Deer were never driven into a corral "because they lived in the mountains and not in the open country."

Joshua Brown gave an account of deer hunting which is of particular interest because it involves individual hunting rights:

> Deer have a road; they go south for winter. My father had a place on a rock butte at the head of Buck canyon. He made a brush fence running downhill from each side of the butte where he left an open place like a gateway. He hid in a hole about ten feet from the road, and as the deer came through the gate, he shot. He killed one every night.
>
> One night my brother and I went there. My brother said I was too young to go, but I went anyway. I had a little bow and arrow. I went to sleep. When the deer came by my brother woke me and told me to keep still. He shot with a big bow which he held horizontally so the animals wouldn't see it.
>
> When my father went to Yainax he told his friend Ochiho he could use the place. Nobody else could go. When my father died anybody could use it.

Antelope.—Antelope were stalked, but, as with deer, this was more frequently practiced in Warner than in Surprise. The hunter wore an antelope head with the small horns attached and also a hide body disguise. The latter was not necessary for deer stalking, but was required for the more alert antelope. The hunter carried white paint in a sack, and when he approached the animals he smeared it on his face and arms and on his body and legs below the hide covering. He carried a stick about the length of the antelope's leg as an aid in

walking and gradually got within shooting range by imitating the movements of the animal, pawing the ground and simulating grazing in order to make the deception realistic. The antelope disguise was called düna'-dua.

In the fall of the year four or five persons cooperated in hunting antelope. One or two would hide and the remaining members of the party would go far around, approaching the herd from the opposite direction and frightening them toward the concealed marksmen.

According to Dr. Sam, a herd might start for the rim, pursued by the hunter. "Any kind of game" might be so caught, even elk (pa'dühütc; pa, water, dühü'tc, deer).[24] As Gidü'tikadü informants denied driving game over a cut bank, this statement may hold only for the Silver lake band.

In winter, when antelope ran in large herds, they were driven into brush corrals and slaughtered in great numbers. This is the so-called "antelope charming," several accounts of which follow.

Two men here and one in Warner could charm antelope. Charlie Washo's father could drive them into the corral like cattle.

One or two men were bosses, just as in the rabbit hunt. The headman (boss) sent one or two young fellows to look around for a band of antelope. In the evening they said, "We found one band." Then the boss called everyone; 15 or 20 camps came, maybe 100 men. In the evening that headman talked like a doctor, not like a common man: "We are going to have a song. We'll make them turn here." They had singing.

The doctor (headman) took a stick about so long,[25] and a string of horse hair (or other string before we got horses; maybe a deer string), and twisted this around the stick. Then he took off his coat, put it on a hide, and folded it into a bundle about four feet long like a body. He tied it tight lengthwise with a rope. Then he rubbed the rope with his stick, and made a noise on the string like a violin.

The boss faced the antelope; the young men faced him, and the other men sat around the fire in a circle, inside a brush fence. They sang maybe ten songs. They danced and made a noise like antelope.

The doctor (headman) stood up. The young men touched all the dancers and knocked them down. Then the boss sat down. All was quiet.

Soon there was talking, "The antelope come. Get up, boys. What do we know? The antelope are looking this way. They will come tomorrow. They say, 'If you do no wrong we shall come. You boys and girls, mind well.' "

We had a circular brush corral, two miles [*sic*] around, with an opening each side of which everybody lined up in a long wing. Four or five men went after the antelope. The boss stayed at the corral and directed the people: "The antelope are coming. Watch out. All steady; all quiet."

As the antelope galloped between the wings into the corral they never were frightened. If angry they would escape through a wing. The doctor stood

[24] Which seem to have been extremely rare.

[25] About 18 inches.

in the center of the corral with a married woman [not his wife], who knelt. He told her, "Don't move. The antelope will come to you. Don't be frightened." She kept still.

We camped in a circle and before sundown built campfires. The headman came to me and said, "Steady, take off your cap and scare them for about three hours until the sun is over there [indicating mid-afternoon]."

One man scared them around inside the corral until the headman said, "That's enough. They are tired already. When the headman said this, all the men tried to get one antelope apiece. The first man who shot a big buck put it in the center where the woman knelt (JB).

Just one man can charm antelope; I don't know how he learns. He is like a doctor. He sits with everyone in the circle and sings, making music on a doe hide (deer or antelope) that is stuffed with clothes and tied with string. If the people know how, they help him sing. A plain stick (unnamed) is wrapped with any kind of braid, and the charmer works it back and forth on the bundle. After a long time he says, "They haven't looked at us yet." Finally he says, "The deer are coming," and falls senseless on his drum and visions an antelope. Finally he recovers, sits up, says: "We are sure to kill antelope. I see them coming inside the corral. I see them lying there."

They have already placed sagebrush, root ends up, in a big circle, about as far as from here to camp.[26] There were many people so it didn't take long to pile the brush. Men and women line up in wings by an opening in the circle, the women nearest the corral, the men at the outer ends.

Then the fastest runner goes out, returning when he has sighted a herd of antelope. Then the men go out in 2 parties and circle the herd and drive them in. They close the opening of the corral and stand between the piles of sagebrush that form the corral. If an animal starts their way, they head him back.

The fastest runner chases the antelope around in the corral until they are tired and frightened, when he kills a doe and throws it on top of a sagebrush pile in the center, and then a buck. They eat these two first and everybody gets a share. Then the headman tells his people it is their turn to shoot. They shoot from the circle as the animals approach. A wife stands with each man and drags away his kill. A man (charmer or fastest runner?) stands in the center with a woman (maybe his wife), who takes the animals he kills.

When they stop for the night, the fastest runner guards the antelope. They set fire to that sagebrush[27] to frighten the animals.

The headman tells them to go ahead and kill. There are so many animals that they don't have to divide them; they never kill all of them, some escaping. Almost everyone kills one. Sometimes an antelope becomes so tired that it falls down, and a woman can kill it. A woman might even kill two or three.

The headman shoots too; he takes most of the buck horns, but not the does'. They put the horns on a pile of sagebrush in the middle of the camp circle. All the heads are turned toward the charmer's camp. He wants everyone to come. They cook the heads under the ashes and all eat, each person perhaps getting one head.

They butcher the antelope and dry the meat on sagebrush bushes. Coyotes and wolves never bother it.

When there is no sagebrush for a corral, they braid sagebrush bark and make a fence by tying it to posts about four feet tall. Loose strands of bark

[26] About a half-mile.

[27] These seem to be the only circumstances under which antelope are fired.

hang down the poles and when the antelope are in the corral the people pull the braid, and the loose strands wave.

I have done this kind of antelope hunting. In winter the antelope are in big herds and that's the time to kill them. This kind of hunt is called ku'a'; many camps join. They tell everybody to come.

It takes just one day to charm antelope (P).[28]

In the old days they made a sagebrush corral and danced around it. They did not smoke. The weakest woman knocked over each man in imitation of an antelope. As each fell, he said, "An, an, an."

Early in the morning when all the antelope were bunched, the people went out in two parties and drove them into the corral.

The antelope boss was a doctor. He wore an antelope head with horns and stayed behind in a corner of the corral.

Then the people took off their clothes, put them in a big bundle, and tied it with cord from the neck of an antelope. Then the doctor took a good straight (unnotched) stick and made music on that bundle.[29]

The first antelope killed was given to the boss. Sometimes two hundred were killed and divided evenly among all. If one person got more than his share the people would never be able to catch antelope again (TA).

When they were charming antelope, everybody stood up. The doctor made the antelope act as if they were poisoned. They got tired and ran slowly. Then the boss told one man to chase them. Every now and then the man would call out. Soon he caught one buck and threw it on a stack of brush, then another and threw it on top of the first. Then everybody went after them.

The boss got all the heads. They cooked them in the ground, covered with grass and dirt and with a fire on top. Then all the people came and ate them (BA).

Long ago many people were starving. My great-uncle told them to come to him and he would charm antelope for them. Many came. He made a big circle with piles of sagebrush and told a man and woman to stand at each pile of sagebrush. He said not to drop any clothing, or the antelope would run through the hole.

He went out alone on foot and drove in forty or fifty antelope. Then they had plenty to cook (DB).

One way to get antelope is to have a doctor do it. A doctor sent two men to sight antelope. When they returned he had the people stack sagebrush in piles (wa'i'ts) to form a great corral, leaving a wide gap for an entrance.

Then the doctor asked all the people to come. They put out the fires and gathered. The doctor made his things into a bundle and tied it with sagebrush-bark twine. He took a notched stick[30] and made music.

He picked out ten men to dance and these ran around making noises like an antelope. The doctor sang, "The antelope are coming; I scent them coming through the canyon." Then he fainted, falling to the ground, his body hot and smoking. Finally he got up and said, "We have two, a doe and a fawn."

Next morning everybody went to the corral and surrounded the antelope. They made noises like wolves, and the antelope came into the corral. One man was selected who walked up and caught a doe and a fawn which were called "first luck," and divided among everyone.

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[28] But the killing evidently continues into the second day.

[29] In other accounts the music comes before the animals are driven into the corral and this is probably a slip in sequence.

[30] Dr. Sam here reports the notched stick for the Silver Lake band, but it was explicitly denied by Gidü'tikadü informants.

They kept those antelope there all night. Nobody had to watch them. Just this man who caught the doe and the fawn killed the antelope for the people. It took him two days.

Sometimes they stretched a long rope of sagebrush around like a corral. To it they tied bunches of sagebrush which shook and frightened the animals as they moved about.

Afterward they had a big feast. The doctor got most of the heads. They roasted them in the ground. The hides were divided. The doctor gathered all the horns which he strung and wore about his neck. A doctor never hunted, but he went where they killed the game. He had just certain medicine for game (SW).

These several accounts have been included because, though two or three are obviously cursory, each contributes something novel in the way of detail and, at the same time, confirms the general features of the procedure. It is of some interest that the notched stick figures only in the account of Dr. Sam; Gidü'tikadü informants vigorously denied its use.[31] None had heard of charming horses[32] and the suggestion was received with great amusement. Now and then a certain person could charm bears. He could make a bear "so tame that it would come right up to him." Deer were not charmed "because they aren't in bands and aren't in open country," not, apparently, because of any innate incapacity.

Bear.—Piudy gave names for three kinds of bear: padu'a'a, grizzly oha'-paiyuna''a (oha', yellow, tan), brown bear;[33] toka'-kwatca''a, black bear. Pa'hwa', father's sister, is a term applied to any kind of bear; sona'a is also bear, perhaps only grizzly.

Bears were plentiful in Warner range and Fandango pass (Padu'-a'-agan) derives its native name from that fact. In the old days, before the Paiute had horses, they shot bears from ambush. Early in the morning one or two hunters would conceal themselves in thick brush near a plot from which roots had been dug and shoot the bear when it came in search of roots. It was skinned and butchered; the hide was taken directly to camp and the meat left for a subsequent trip. In more recent times bears were hunted from horseback. The hunter went forth early in the morning carrying a spear in addition to his bow.

In winter several men would hunt bear. They tracked the animal to its hole into which they thrust a dry tree. The hunters then stood to one side, calling, and shouting.[34] Eventually the bear emerged,

[31] See section on Musical Instruments for further discussion.

[32] Which Sarah Winnemucca Hopkins, 57, claimed her brother could do.

[33] De Angulo, 329, gives oha'yo'na as grizzly bear.

[34] Hallowell, 53, discusses the matter of address. Informants claim that they do not address a statement to the animal but only shout to attract its attention.

slowly, its progress impeded by the limbs of the tree. The hunters aimed at the jaw; two or three arrows were required to kill. There was no address of apology or other trait of the complex discussed by Hallowell; but the bear is said to pound on the ground and ask the earth if anyone is talking about it or ridiculing it. The earth gives such information, and the bear takes revenge on the offending individual.

Wildcat.—Wildcat (duhu'^{u}) was hunted with the bow. The flesh was considered edible and the hide highly prized. Small boys were sent out to shoot wildcats with bow and arrow. They stood beneath a juniper and shot the animal as it climbed in the tree.

Groundhog.—Groundhog (gidü') was hunted in summer. In the old days it was run down by the native dog. If it were caught before reaching its hole, the dog would hold it until the hunter arrived; but if he were too slow, the dog would kill the animal. If the groundhog were run to its hole, it was pulled forth with a stick, hooked according to one informant, straight according to others. It was given a sharp crack on the jaw and carried to camp in a bag slung on the hunter's back. Groundhog meat remains a fairly important item in Paiute diet even today.

Minor game animals.—Badger (hu'na) was not hunted, but if a person happened upon one he shot it. Raccoon (pata'kai'^{i}) was found along the creek and shot with the bow. Porcupine (zagwü'd^{ü}) was hunted in the junipers in summer. Sometimes at night a hunter attracted the animal by bearing a torch of juniper or sagebrush. Otter (patsu'gu) was shot with the bow. Both flesh and pelt were utilized. Skunks (poñi'tc^{ü}) were never hunted according to Piudy, but Minnie Anderson said that they were hunted at night. They were found in caves and smoked, because when death resulted this way there was no odor. They were extracted by twisting a stick in the skin and pulling on it. The hide was used and, according to Minnie, the flesh as well.

Squirrels.—Ground squirrels (kügwü'), *Citellus douglasii,*[35] were hunted with the dog. They were run beneath a rock and pulled out by twisting a straight stick in the skin. Charlie Washo said that they were hunted particularly in midsummer this side of Fandango.

Smaller squirrels (sipi'c^{i}), *C. oregonus,* were caught in great numbers. They were captured in traps which from description seem iden-

[35] This, as well as the identification following, is through the kindness of Mr. A. Hupe of the United States Biological Survey.

tical with the small one figured in Loud and Harrington.[36] A person might set such traps at twenty-five holes; often he set one either side of the hole. "Anybody could trap squirrels this way—a man, a woman, or even a girl."[37] Nowadays these squirrels[38] are shot with a gun, and a white family at Cedarville makes a practice of hunting them Sunday mornings and peddling them to the Indians for five cents apiece.

Rabbits.—In the fall and continuing into January, jackrabbits (kamü') were taken in communal drives. Nets (wa'na) about two feet in height and with meshes "just big enough for a rabbit's head" were strung in a straight line[39] perhaps four hundred feet long. There were at least two or three such nets, and their owners were the headmen for the drive. These men stood at the nets, a man at each intersection. Rabbits were driven in, one or two at a time. When a plot was exhausted they shifted the nets and drove in a different direction. Women stood by and watched; they also helped drive the animals into the net. Girls might stand at the net and twist the necks of entangled animals or kill them by pressing with the finger upon the soft spot on the head. Rabbits were carried by thrusting the head under the hunter's belt and allowing the body to dangle.

Joshua stated that one rabbit went to each participant, the remainder to the headmen. Piudy and Daisy maintained that the rabbits were divided evenly except in cases of unusual success, in which event the headmen received more than the others. Four or five camps might join in such a hunt. At least ten men participated and it is said that in the fall twenty or thirty might go to the brush flats near Lake City to hunt rabbits. On such excursions the women stayed home.

Rabbits were also tracked by dogs in the snow and shot with the bow. None of my informants had ever heard of the rabbit stick.[40] Both jacks and cottontails (dabu'u) were snared by catching their heads in a noose set on the trail. Cottontails were taken along the creeks, under the willows. Their flesh was preferable to that of the jacks; "they have good white meat."

[36] Fig. 25.

[37] Strangely enough, Piudy denied that squirrels were trapped.

[38] Other members of the squirrel family were doubtless eaten, as, for example, sawa'', described as a little larger than a chipmunk and having yellow and black stripes.

[39] Piudy alone asserted that the nets were placed in a semicircle.

[40] I am positive of this point. Cf. de Angulo and Freeland, 320.

Rats.—There are two kinds of edible rats, "tika"wa, which lives under the junipers, and ka"wa, which is smaller and lives under small rocks, but not in the hills." Neither was the object of much hunting, but if a person happened upon one he shot it. The smaller rat was sometimes taken by inserting a straight stick in the hole. The rat bit at this and was then pierced with a sharp thrust. If it died under the rocks, it was pulled forth by twisting the stick in the skin.

Birds.—On the whole, land birds figured slightly in Paiute diet. The sage hen (hu'dsi')[41] seems to have been the only one of any importance and was the only bird snared. A green willow or service shoot, about ten feet in length, was set in the ground and bent over and a string with a noose on the far end was attached to the top of the shoot. The noose encircled a slight depression in the ground and was there secured by a little rock or a small pin. When the sage hen walked into the noose, the cord slipped from the pin, releasing the willow and holding the bird fast by the leg. A man might set five or six snares of this sort every morning.

Sage hens were also caught by the hunter from a small pit screened by a brush or willows. On such occasions a man did not shoot; he merely reached out and captured the birds. In spring the sage hens have a "dance," at which time they are thick and easy to catch. In the old days a hunter sometimes wore an antelope disguise[42] and approached the dancing birds undetected. He carried a short stick with which he knocked them on the head.

In spring when the birds came to water, a net, ten or fifteen feet across, was spread horizontally about a foot and a half above the ground. One side was pegged down and the other was supported at the corners by posts. A central post, slit at the top to receive the cord, prevented sagging. The hunter concealed himself in a pit near-by and when a large number of sage hens were beneath the net, he pulled a string, releasing the supporting posts. The net fell, securing the birds, their heads protruding upward through the meshes.

Grouse (kahü'ü) were hunted in the spring with bow and arrow. The prairie chicken (pako'g°) was also shot with the bow. Other birds such as blackbird (pako'dop^{a}) and robin (su'gu) were undoubtedly eaten in the old days but seem to have been of slight importance. Valley quail are plentiful now but have been recently introduced. Informants could not remember mountain quail from the old days.

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[41] The generic term for bird is hu'dsi'-pa'^{a}.

[42] SW. Probably this holds only for Oregon where the antelope disguise was more frequently used.

Water fowl.—Water fowl, however, such as ducks (pü'hü), geese (nagü't^{s}), and swans (wahi't^{ü}), seem to have been hunted to a considerable extent. With the exception of the mud hen (sa'iyü), they were usually shot with the bow. Mud hens were gathered in fall by means of communal hunts headed by a "chief" who organized the expedition. Any man could become such a "chief" by gathering a party of eight to fifteen men. All of these proceeded to the lake where one of them embarked on a balsa while the others remained on shore. The man on the balsa frightened the birds, driving them toward shore into the hands of the waiting hunters. The birds were captured and dispatched with sticks; sometimes they were caught with dogs. Women occasionally assisted the men on shore.

Ducks were plentiful in the fall. The hunter concealed himself in a brush blind (pai"ka'ni) early in the morning. He shot four or five birds before startling the flock and continued shooting as they flew. According to Joshua, ducks were hunted with the aid of one or two decoys (pühü-dua') to which long strings were attached. The duck skin was stuffed with grass and could be dried and used again. He stated that these decoys were used on Cowhead lake, but the remainder of informants, both from Bidwell and Beatty, claimed that they were not used locally. Ducks were never taken in nets.

Swans are said to have approached of their own accord and without the lure of a decoy. Young geese unable to fly were captured on the lake from a balsa. Geese were also frightened to shore where the women grabbed them and dispatched them with a stick. Eight or ten geese were taken this way. Occasionally an individual trapped geese the same way as sage hens. There was no "chief" for goose hunting because only a few persons participated. In the fall, Goose Lake valley was visited by birds which informants called cranes (wasa'). The small birds, large enough to be eaten but too small to fly, were shaken from the trees.

Insects, etc.—Crickets[43] (ni'su') were found in late summer on the slopes of hills. They were collected early in the morning when cold and bunched. Women usually did the gathering, but men occasionally assisted. The insects were picked up in the hand and dumped into the carrying basket. All informants explicitly denied beating the brush and driving the crickets into a pit. One informant stated that "the whites did that when they wanted to kill them." Grasshoppers

[43] These were described as "two finger joints in length" and as "traveling in bunches." Professor Essig says they are almost certainly Mormon or Western crickets.

(hu''adada'^{a})[44] were never eaten but an unidentified insect similar to the grasshopper was considered edible. Ants (a''ni) were gathered early in the morning when they were bunched on the top of the hill. Ant eggs (a''ninoho) were also gathered. "Worms" or larvae of some sort, probably caterpillars[45] (called biü''gü), were gathered early in the morning. They did not come every year and nowadays are never found in this vicinity. My interpreter saw some this summer near Gerlach, Nevada.

Animals not eaten.—Coyote (iza''^{a}) was hunted with the bow but was not taken in a deadfall. Gidü'tikad^{ü} claim not to have eaten the flesh because it tasted badly, but they made use of the pelt. Wolf (i''sha') is said by Minnie to have an unpleasant odor. With exception of Piudy, all informants agreed that it was never eaten. He claimed that it was hunted with the bow and that the flesh was roasted on the coals.

Informants also denied eating fox (wañi''^{i}), dog (soko'puku),[46] lizard (kwida'mugus; kwida', excrement), frog (waha'tsa), snake (dogo'kw^{a}), and skunk (poñi'tc^{ü}). They stated that the Achomawi ate coyotes and that tribes to the east ate snakes and dogs. Several declared skunks inedible, but as I obtained an account of its preparation, I presume it was eaten by some; the Burns Paiute are said to have eaten it. Mice (puña'z^{i}) were declared too small to eat. Magpies (kwida'kagai^{i}; kwida', excrement; kagai^{i} from kai, kai, kai, the bird's call) and eagles (kwiña''^{a}) were not eaten.

Preparation of animal foods.—Meat was prepared by stone boiling or by roasting in the pit oven (dü'avida) or on the coals. It was sometimes pounded or given other sorts of special treatment to be noted below.

Deer flesh was usually boiled in a willow basket. The meat was added when the water was simmering and it was "boiled rare, not like white people boil meat." The Gidü'tikad^{ü} did not cook food in a paunch or hide sack, but when a person was traveling in winter and no water was available, he dug a hole and lined it with a deer hide. He then heaped snow on the skin and added hot stones. Such melted snow was called pa'sa'.

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[44] This term is said to be onomatopoeic.

[45] They are described as black with yellow stripes and as about four inches in length.

[46] Two informants had heard of eating dogs in time of great scarcity, but the others vehemently denied it. One gets the impression that dogs were much too scarce to have been of any dietary significance.

When a hunter was hungry and had no cooking equipment at hand, he boiled deer in the carcass. He cut the body at the neck and below the ribs, stood the thorax on a grassy spot, and added water, meat, and hot stones. Deer meat was also roasted on stones at the side of the fire; or if one were hungry, he might put the meat directly on the coals. Deer legs were impaled on sticks thrust into the ground at an angle to bring the meat over the fire.

Antelope was usually boiled or was roasted on the end of a stick. One informant thought that it could be cooked in the carcass as was deer, but this was denied by another. At all events, it was not the normal procedure. The fact that antelope were usually taken through a community of effort implies a certain amount of organization and presumably attendant equipment. After a drive the whole camp feasted on antelope heads which were roasted in a pit oven with a fire on top. Deer head was similarly prepared; the tongue was not cooked separately.

The hoofs of deer and antelope were dried with the skin on. They were then singed and boiled, or, lacking vessels, they were cooked under the ashes.

The Gidü'tikad^{ü} had no aversion to bear meat and no particular parts were tabooed. Minnie Anderson stated that bear flesh had to be boiled a long time, but Mettie Petty said that it was always cooked in the ground. She also said that bear "was eaten right away; it was not kept over night." According to Piudy, "Build a fire. Get lots of coals. Put grass on the coals and spread the meat on it. Then put on more grass and cover it with earth. Don't leave it all day or all night, maybe four or five hours will be enough. If you cut the meat thin it takes just a little while." According to Daisy Brown, bear was cooked differently from anything else. "They made lots of flat rocks good and hot and set them together like a pavement. Then they spread the meat on top. They took fir boughs and put them on the meat, and then they put on more hot rocks. They call this way of cooking padü'n^{ü}. Nothing else was cooked this way."

Flesh of the wildcat and of the raccoon was roasted on the coals. Groundhog was roasted in the earth oven with a fire on top. The hair was burned off before cooking and the intestines were discarded. Groundhog flesh cooked quickly; it is said to be salty and comparable to bacon in flavor. Badger was cooked in the same manner as groundhog but was probably skinned.

Skunk, otter, porcupine, squirrel, rabbit, and rat were cooked in the pit oven. Otter was skinned before being placed in the ground. Porcupine was edible save for the intestines and the membrane covering them. Minnie said that squirrels were placed head to tail in the oven, but Daisy said that "they were thrown in any way, just so they were not too close together and there were plenty of coals and ashes between them." Squirrels were cleaned, singed, and left in the ground one to three hours. One informant thought they were skinned before being roasted. The intestines were sometimes eaten. Rabbits were usually skinned and cleaned before being cooked.

Sage hens were cleaned inside by scraping with grass, the feathers were then plucked, and the birds roasted in the coals. Sometimes they were dried and stored. Grouse and prairie chickens were roasted on the coals. The latter were not dried; "they ate them right away; there were not enough of them to dry." Mud hens were prepared for roasting the same way as sage hens. Swans were usually boiled, but were sometimes cooked in the earth oven. Geese were skinned, not plucked. They were cleaned and cooked under the ashes or roasted on the coals. Sometimes they were dried but are said not to have kept very well. Small cranes were plucked, cleaned, and cooked beneath the ashes. They were not dried.

Crickets were gathered early in the morning. A fire was built in a hole some three feet in diameter and two feet deep. If many women participated in the gathering, the hole might be five or six feet in diameter with the piles belonging to different individuals separated in the pit by a few handfuls of grass. The live crickets were dumped on the coals and roasted from a few minutes to several hours, time varying with informants. After cooking they could be dried. Biü"gü (caterpillars, larvae?) were poured on the coals and covered for two or three minutes, then eaten immediately. Ants were gathered, parched, and ground on the metate. Ant eggs were likewise parched.

Preservation of meat.—Deer, antelope, or mountain-sheep meat was cut in strips and dried near the fire or in the sun. It was hung on sagebrush, any convenient tree, or on a rack. The latter, of recent introduction, consisted of two unforked poles stuck vertically in the ground with a cross-bar tied near the top of the uprights.

Meat was sometimes smoked in addition to being dried. In that case, willows were leaned together to make a frame and a small smudge fire of green willows started beneath. When the meat had partly dried, it was taken from the rack, and placed on the frame over the

fire. Here it was allowed to smoke until red when it was removed and turned, afterward being replaced on the rack for further drying.

Dried meat was pounded with tallow, stored in tule bags, and buried beneath rocks and earth. It could be eaten without additional cooking, but was usually roasted on the coals or boiled. In any event, it was softened by pounding. Jackrabbits were dried, but not so cottontails, probably because the latter were not caught in any quantity. Birds of all kinds, particularly sage hens and mud hens, were dried and boiled. Swans were also dried but did not keep well.

Special dishes.—Eggs (noho) of various sorts were gathered, principally those of mud hens which were formerly plentiful in Warner valley and near Paisley. Goose, meadowlark (pa'tsi'don°), and blackbird eggs, as well as those of a large crane, were utilized. The eggs of a bird[48] frequenting the Warner valley lakes were also eaten, but never those of the magpie. Eggs were cooked beneath the ashes or boiled, the latter possibly due to white influence.

Deer guts (asi')[49] were dried, boiled, and eaten. The fat from deer buttocks was dried and eaten raw with any kind of uncooked dried meat.

"Lard" (düza') was made from marrow. Bones were broken over a cavity in a rock, pounded, and water and hot stones added. After the mixture had cooled, the grease which had risen to the top was skimmed off with the hand and squeezed into a container. Fat which had been pounded, heated, and made into rolls was called yu'hu-zo'ho (fat-pound). It is said to have kept well.

Meat was not mixed with berries but was sometimes pounded with tu'nu'yu roots, dried, and stored in a skin bag. Joshua described a sort of pemmican of deer meat, bone, and fat. The ingredients were pounded and shaped into rolls,[50] eight or ten at a time, and then stored for winter use. Rabbit backbones and adhering flesh were pounded and fat added. This kept well and might be eaten without further preparation or made into soup. Mashed meat (zoho'-tuku'; pound-meat) and tallow were cooked with dried kuyi roots and the mixture eaten immediately.

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[48] "This bird was called oha'itü; it was about the size of a duck and was red around the eyes. The body was reddish brown" (DB).

[49] Asi' is also the word for umbilical cord.

[50] "Just like head cheese" (JB).

FISHING

Fish were of slight importance to the Paviotso of this region who fished almost exclusively in early spring when the snow was melting and before roots were ready to be gathered.

It is surprisingly difficult to identify the native names for even the commonest fish. It is certain, however, that a'gai served as a generic word for fish and was applied also to salmon procured in trade.[51] Two informants[52] gave a'gai as trout. Pakwi', which Dr. de Angulo[53] regards as trout, was identified as minnow by Susie Archie. According to Joshua, pakwi' was "small like a sardine" and was found principally in Warner valley. It may be what is known locally as a chub. A fish a little larger was called sigu'^{pakwi} and was found in creeks running through open country, especially near Beatty and Burns and across from Adel.

Ha'wa'gu and tütsi'^{pakwi} (tütsi', scales?) were both translated as sucker. They were found in small streams in Warner, especially around Adel. Mu'su'hi-a'gai (mu'su'hi, whisker) and doda'na were given as names for catfish. They were known from the Achomawi country near Alturas.

Fish were never taken in nets[54] or by means of poison,[55] but this is not surprising in view of the fact that local fishing was done entirely in small creeks. There were no fish in Lake Annie[56] nor the Surprise valley lakes, and, although fish were caught in creeks tributary to Cowhead and Goose lakes, no effort was made to fish in the lakes themselves.

Fish were scooped from creeks by means of a twined tray or a handled basket. Inasmuch as these were not distinguished by name from the regular open twined tray or the seed beater, it is probable that they were not made especially for fishing. The true fish trap

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[51] SW:DC gave zia'nasi as an alternative word for salmon. Kroeber's data (Shoshonean Dialects, 96) show pakwi to be the generic term for fish among the Pueblo and Plateau Shoshoneans, save for two groups, the Walker Lake Paviotso and the eastern Oregon Wihinasht. Of these two, the former has both akai and pakwi, the latter, axai alone. The Surprise Valley Paiute seem to apply a'gai to fish in general, pakwi more specifically to small fish.

[52] JB, SW:DC.

[53] P. 330.

[54] "They used nets at Nixon (Nevada) because they had big rivers there" (DB).

[55] In a Pyramid Lake tale Wolf catches fish by putting grass in the water. Lowie, ST, 215.

[56] It has been stocked in recent years.

(wi'ha') with constricted neck was known; it was described as a stiff willow "sock-like" basket, five to eight feet long and three feet in diameter at the mouth. Piudy noted that it was used especially by the Malheur Paiute. A woman held the contrivance in the stream while the men or boys frightened the fish toward her. When she felt a fish enter, she snatched the basket from the water, knocked the fish with a club, and placed it in a burden basket. Fish were not allowed to struggle because they would tire and taste badly.

The bone gorget (wina'in^{ü}) was described by Dr. Sam for the Silver Lake band, but Gidü'tikad^{ü} informants were openly doubtful or definitely denied its use. The gorget, usable only in lakes or deep streams, was unsuited to the Surprise valley small-creek fishing.

Piudy described a double-pointed fish harpoon (hu'ü) of willow, as long as the stick allowed, possibly eight feet. The point consisted of a forked stick to which bone points were fastened with sinew. This forked point, said to have been detachable, was tied to the shaft with wiha'b^{i} twine. The instrument was thrust, not thrown, and did not leave the fisherman's hand. Piudy said that it was used in Buck creek because "there was more water there." Dr. Sam gave a similar description but added that trout were caught in this manner from a tule blind constructed near the spawning grounds. According to Nannie Ochiho, the fish spear (harpoon?) had a single point of greasewood. It was used for winter fishing through a hole hacked in the ice, presumably of Warner lake.

Fish were not shot ordinarily, but according to Piudy this was sometimes done in small streams near Adel. "If there are many suckers, make greasewood arrows without feathers and shoot the fish."

The same informant described a combined dam and trap which was used about Malheur. A frame was made by placing two rows of sticks together lean-to fashion with the series of projecting tops on the downstream side somewhat lower than on the other. The lower part of the frame was filled solid with willows and formed an effective dam. Fish proceeding upstream tried to jump the barrier and were caught in the trough formed at the top by the projecting crossed rods. This dam was called wa'ma and was used for "fish that were pretty big, but not salmon."

Red paint and roots, such as ya'pa', hapi'i, and hu'nibui, were given the Achomawi in exchange for fish which had been split and dried. My informants[57] expressly denied that dried fish had ever been

[57] JB, SW. Piudy denied any traffic in fish.

received in powdered form.[58] Joshua listed the fish obtained through trade as kuyu'i (a kind of sucker), a'gai (salmon), yüani, tsia'ns, and tsowa'm.

Preparation of fish.—Fish were usually cooked in the ashes of the fireplace, although they could be boiled. They were dried on a rack or hung from the boughs of a juniper, but were never placed near the fire to dry as was meat. Usually fish were slit before drying but sometimes not, doubtless depending upon size. As a general thing, fish were not smoked.

Dried fish were packed in an open-twine tule or sagebrush-bark sack "like those the Modocs use only not as well made." These bags were called mago"o (general word for container) and were possibly four feet in length and two in width. Their size argues considerable quantity. Minnie Anderson said that fish did not keep very long; "they tasted funny." Dried fish were prepared by boiling or by roasting but were not pounded.

Fish eggs (a'gai noho) were dried and ground.

VEGETABLE FOODS AND THEIR PREPARATION

The Gidü'tikadü, like other non-agricultural peoples, gathered such seeds, berries, and roots as their habitat offered. All informants stressed the great plenty of these foods in the early days, and their statements are corroborated by those of the first settlers, who maintain that, although now sage-covered, the whole valley was formerly meadowland. Plant specimens are difficult to obtain and on the whole the data are pretty meager. Surprise valley itself yielded little, but a number of specimens were procured on the southern shores of Cowhead lake, a few miles northeast of Fort Bidwell; some were also gathered west of the Warners and a few more near Beatty, Oregon. The seed material is particularly sparse; the list below probably includes less than a fourth of the original number. It does appear however, that the most important seed plants are represented. The list of berries and roots is somewhat larger and seems relatively complete.

Seeds.—In late summer women gathered seeds in a twined conical basket or in a light sack of deer or antelope hide. For ordinary seeds, such as grasses, the woman held the container in her left hand and knocked the seeds into it with the twined beater which she wielded in her right hand. She gathered other seeds, such as those of sunflowers, by pulling the dry blossoms and depositing them in the burden basket.

[58] Cf. de Angulo, 320.

A standard procedure was followed in preparing seeds of all sorts. They were placed in a fan-shaped willow tray and parched with coals from a sagebrush fire. The hulls were then winnowed from the same tray, either by working them to one side with a rotary motion or by pouring and allowing the chaff to blow off. The remaining seeds were ground on the metate and the meal thus produced was ready for immediate use or for storage. In the latter case, it was placed in a buckskin bag and buried. Sometimes seeds were stored as gathered and were not parched or ground until needed. Seed meal was mixed with water and boiled in a willow basket by the addition of hot stones. These stones were handled by means of two sticks "of any kind," a flat stake some two inches in width, or by a willow bent into a loop. Boiling food had to be stirred constantly lest the stones burn the basket.

Seed gruel was served in individual willow bowls and was either drunk or scooped up with the first and second fingers. Young boys "who wanted more mush" used three fingers. The Gidü'tikad^{ü} did not manufacture horn spoons but used instead a basketry spoon, a piece of bark, a split stick, or a rabbit or deer scapula. Most persons ate with their fingers, but men used spoons more often than women.

Edible seeds included wüdü', zugü',[59] and magu'g^{u}, which are unidentified, and also the following: atsa' (*Sisymbrium sophia* L.) (?)[60]; gu'ha' (*Mentzelia albicaulis* Dougl.); wa''da (*Suaeda depressa* var. *erecta* Wats.); wa''ta' (*Chenopodium album* L.); üyü'p (*Chenopodium nevadense* Standley); a'gü' (*Wyethia mollis* Gray); pa^{hü} (*Helianthus annuus* L.) (?).[61]

A few observations may be made on the seeds listed above. Atsa' (red, so-called from its color) was mixed with snow, making a "sort of ice cream."[62] In the old days the principal gathering grounds of the ubiquitous a'gü' were in Goose Lake valley. Plate 17*c* shows a field of it in that region, along the western foot of the Warners. Stems as well as seeds of a'gü' were edible; they were pulled and eaten raw.

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[59] One informant thought this was a root, saying it was "like epos but grew only in the mountains."

[60] Which is intrusive in northeastern California. Mr. Howell tells me that two superficially similar species are *S. incisum* Engelm., and *S. pinnatum* Greene, both native to the region. I have evidently collected the wrong species, and atsa' is undoubtedly one of the two indigenous ones here suggested. *S. incisum* is used by the Klamath (Spier, 166).

[61] Which botanists consider native to the Middle West.

[62] Chamberlin, 340, notes that the Gosiute mixed ground seeds of a *Sisymbrium* with snow to make a "kind of confection."

Seeds were sometimes mixed with berries but never with meat. Informants had not heard of eating sage seeds. They considered cat-tail (toib^{ü}) seeds edible, although the root was a more important food. Cat-tail stalks were spread on the ground, fired, and the seeds gathered. These were shelled by being worked lightly on the metate and after this were prepared like other seeds.

Identified grass seeds include the following: waha'b^{ü} (*Hordeum nodosum* L.); sopi'b^{ü} (*Poa nevadensis* Vasey)[63]; mono'p^{ü} (*Sitanion histrix* J. G. Smith), foxtail; waiya' (*Elymus condensatus* Pres.), rye-grass; ——— (*Alopecurus aequalis* Sobol); so'pi' (*Glyceria borealis* (Nash) Batchelder).

Pine-nuts (tü'ba) were of minor importance to the Gidü'tikad^{ü}. Aside from a few nut-bearing piñons near Bidwell mountain, they are quite lacking in the whole territory. Informants knew them from Pyramid lake and several described methods of preparing them. Minnie Anderson said that the cones were beaten from the trees with long sticks and dumped into an earth oven. They were roasted for an hour or so, after which they were removed, picked, and the nuts spread to dry. The latter were then shelled on the metate and winnowed. They were further dried, then ground on the metate, and made into gruel. As the gruel cooked, it was stirred with a willow twig, one end of which was looped back and tied with the outer bark of the twig. Nannie Ochiho gave substantially the same procedure except that the nuts were ground unshelled. According to Joshua they were successively parched, shelled, winnowed, ground, and made into mush.

Fruits and berries.—Chokecherries (*Prunus demissa* Dietr.) (do''-icabui) were eaten fresh or dried. Preliminary to drying they were broken lightly with a stone, molded into cakes, and placed in the shade to harden. Such dried cakes were ground to powder on the metate and then boiled. Nowadays dried cherries are mixed with water and flour, possibly with seed meal in the old days. Chokecherries and wa''da seeds were sometimes combined. A beverage was made by pouring hot water on the fruits and a tea was made from chokecherry stems.

Wild plums (tuyu) were gathered in an open-twine burden basket. They were pitted but not crushed and dried in the sun. The dried fruits were "pretty strong" before sugar was available. Wild plums are quite plentiful in the Warners and are still gathered in late summer.

[63] And probably *Poa gracellima* Vasey as well, for which I have no native term.

Black haw (*Crataegus douglasii* Lindl.) (kwinü'pc) is a berry which was formerly, but is no longer eaten. It was used either fresh or dried. Service berry (*Amelanchier venulosa* Greene) (ti'gabui) was eaten fresh or dried, boiled or uncooked. Such berries were always kept overnight; otherwise they would give one a stomachache. They were crushed before being dried. Daisy said that ground a'gü' seeds were mixed with mashed fresh berries (particularly ti'gabui), or with dried berries which had been soaked, and the compound eaten without further preparation. It was called düma'iyu (mixture of any sort) or tütza'kiü (also mixture, but applying only to fruits and the like).

Mogu'tsiabui (gooseberry; mogu', thorn), boko'pc (wild currant), and atsa'pui (*Ribes cereum* Dougl.) were eaten fresh and uncooked. Before gathering atsa'pui, a person had always to throw a handful of dust on the bush, otherwise he would surely have a headache. Dust was also thrown on a berry bush to prevent birds from eating the fruits.

Buffalo berry (*Shepherdia argentea* Nutt.) (wi''yüpui) called for special preparation. One might eat the berries fresh, but if a person were going to dry them, he covered them with rye grass to which he set fire. While the grass was burning he stirred the whole well in order to cook the berries. After this preliminary cooking, the fruits were dried. Dried buffalo berries had to be "washed hard" to remove the accumulated charcoal. Afterward they were boiled, drained, and crushed. My informant said that nowadays buffalo berries are mixed with flour and sugar and made into a pudding.

Elderberries (*Sambucus glauca* Nutt.) (hubu') were eaten fresh or dried; they were not cooked before being dried.

The Gidü'tikadü used to manufacture a beverage from juniper berries (wa''pui). The fruits were picked, broken in the hands, and water added. After a thorough stirring, the pitch rose to the top and was skimmed off with a blade of grass. The beverage was served in individual willow bowls and drunk immediately. Sometimes it was mixed with pounded deer liver to make a "gravy." Juniper berries were never kept any length of time.

Roots.—From early spring well into summer root gathering was an economic activity of great importance. Women went each day to dig ya'pa', tu'nu''yu, mu''a', hu''nibui, pa'si'go'°, and other roots. These they prepared by boiling or by pit-roasting,[64] or sometimes preserved

[64] Spier (Havasupai, 119) is probably mistaken in thinking pit-roasting absent in the Basin. Although Lowie does not mention it in Shoshonean Ethnography, he does report it for the Northern Shoshone (188); for the Gosiute, Chamberlin (337, 339) speaks of it as "the usual method of cooking" certain roots; and among these Paviotso, it is a standard method of food preparation.

by drying in the sun. Nowadays there is little root gathering, one very good reason being that the plants are no longer to be found. In May of 1930, however, a party of older Gidü'tikadü women crossed the Warners to Davis creek[65] and there spent several days digging ya'pa'.

The digging stick in use today is a straight iron bar about three feet in length, pointed at one end, the other end turned in a loop or else provided with a wooden cross-piece as a handle. The old digging stick (bodo') was a straight piece of mountain mahogany (tu'pi) sharpened to a point with a stone knife or by being rubbed on a stone and hardened in the fire. Sometimes a limb at right angles made a handle of sorts, but ordinarily the stick was unhandled and the butt bound with buckskin to protect the hand. In digging, the butt rested against the body, one hand on it, and the other part way down the shaft. From demonstrations, the technique was one of pushing rather than of thrusting.

Roots of various members of the parsley family figured prominently in Paviotso diet, particularly ya'pa' (*Carum oreganum* Wats.), commonly known as epos. Quantities of it were gathered from the hills east of Surprise, and from the flats near Bear ranch in the south end of the valley. The roots were rubbed on an open twine tray to divest them of their skins and were subsequently prepared in a variety of ways. They might be eaten immediately, raw or boiled, or else dried in the sun and stored. Dried ya'pa' was boiled and sometimes pounded. Most kinds of dried roots were soaked and eaten without being either pounded or cooked.

Ha'pi'[1] was a root of some importance and was formerly plentiful in the hill country east of Surprise, although today it is difficult to find a single specimen. It is a *Lomatium*, probably *L. canbyi*, a species known from eastern Oregon. The roots were cooked in the earth oven, either fresh or dried. Ha'pi'[1], like ya'pa', was skinned on a basket tray and dried in the sun. Tu'nu''yu (*Lomatium leptocarpum* C. and R.) was also found east of Surprise as well as near Bear ranch and in Fandango valley. The flat west of Bear ranch derived its native name, Tu'nu''yu-kama''[a], from this root. Tu'nu''yu was eaten uncooked, either fresh or dried, and when stored, was mixed with ya'pa'. The roots are said to have spoiled if they became damp.

Hu''nibui (*Lomatium macrocarpum* C. and R.) also was eaten either fresh or dried. Charlie Washo thought it could be eaten raw

[65] Achomawi territory.

but that it was usually cooked. A related form known as pa-ya''p^{a} (explained as water (pa) ya'pa') has been doubtfully identified as *Sium cicutaefolium* Gmel.

Camas, called pa'si'go'^{o} or tapa'kog^{i} (*Camassia quamash* Greene), was plentiful in certain districts such as Fandango and Big valleys. The roots were gathered in large quantities and dumped into an earth oven with a few handfuls of rye grass separating the piles of different individuals. They were allowed to cook overnight with a small fire on top of the pit. When cooked, the roots were either eaten directly or else dried, in which condition they are said to have kept well.

The roots of mu''a' (*Allium pleianthum* Wats.) were gathered in great numbers, two to five sacks at a time. Fire was kindled in a pit and small stones added. When there were sufficient coals, the mu''a' was placed in the oven, covered with grass and earth, and left overnight. The seeds of this plant were never eaten, but the green leaves were regarded as a sort of relish. Leaves of gü'ka' (*A. acuminatum* Hook) were similarly regarded. The bulbs of this onion were sometimes roasted, but I was told that "we don't care much about the roots." The seeded heads of gü'ka' were gathered in bunches and placed in the hot ashes for two or three minutes, then the seeds were extracted and eaten. Badi's^{i} (*A. bisceptrum* Wats.) and pani'zi (*A. platycaule* Wats.) were treated the same as gü'ka' but their bulbs were more highly regarded. Wini'da (*Brodiaea hyacinthina* Baker) furnished bulbs which were roasted; the seeds and leaves were not considered edible.

Joshua stated that the digging stick was not required in gathering wild onions; "they just pulled them up with the hands." He said that such bulbs were cooked in small quantities by being placed between two heated rock slabs until soft. According to him, "They were all fresh. They never made your belly ache, your tooth ache, or your head ache; no, nothing. They all ate them." My notes do not mention drying the *brodiaea* or any of the wild onions, and in view of Chamberlin's observation,[66] it seems likely that they were not so treated.

Bulbs of ko'gi' (*Calochortus macrocarpus* Dougl.) were skinned and eaten fresh in spring, but they were never plentiful enough to be dried. Bitter root (*Lewisia rediviva* Pursh.) (kañü'tc^{ü}) was pulled and boiled "like macaroni." It could also be dried. Informants asserted that the Warm Springs Indians ate bitter root.

[66] P. 360.

One informant spoke jestingly of kuyi (*Valeriana edulis* Nutt.) as "Indian Limburger."[67] She said that the tops were broken off and the roots left overnight in the pit oven, in this instance with no fire on top. In the morning when the mess was uncovered, it was "black as coal" and smelled bad but was sweet to the taste. An unidentified root called guyü is probably the same thing. It was gathered chiefly in Big valley (which derived its native name from it) and at Twenty Mile, between Warner and Surprise valleys.

The roots of bikwa'ida (*Balsamorhiza terebinthacea* Nutt.) were eaten raw, either fresh or dried. Sometimes they were roasted in the ground and pounded. Ko'tciü', another sunflower (*Cirsium acaulescens* Sch.), furnished roots which were eaten raw, or if plentiful, were roasted in the earth oven. The roots of yet another composita, kwanü'pic (*Scorzonella* sp.), were similarly cooked.

Unidentified roots include iza"^{a}bui (coyote's eyes),[68] which is said to grow extensively near Paisley and sporadically in Warner valley. It was cooked in the ashes and had a sweet flavor. Tsu'ga is a root which grows only in Oregon. Tsa'na-tsu'ga (sweet tsu'ga) is a root which used to grow in the high country east of Surprise and on the hills of Bidwell canyon. It was cooked in the ground and sometimes dried.

Miscellaneous.—The leaves of tübu'hi (*Crepis occidentalis* Nutt.) were eaten raw; the stem and root were not used. The peeled stems of young iza"^{a}kwasi' (coyote's tail) (*Cirsium occidentale* var. *candidissimum* Macbr.) were eaten raw. Roots of young tule and cat-tail were gathered, broken open, and the white meat eaten uncooked. It was not dried. Haws of the wild rose (*Rosa pisocarpa* Gray) (tsia'b^{i}) were pounded with deer tallow and eaten.

Salt was not known to the Gidü'tikad^{ü} before the coming of the whites. They had a sugar substitute in honey-dew which was deposited on leaves by a "little black bug," doubtless aphis. The syrup was gathered and used without any preparation. Sugar was not secured from cottonwood or from cat-tail.[69]

Fermented beverages and intoxicants were unknown. A tea was produced by pouring hot water on the dried leaves of a species of *Mentha,* possibly *M. arvensis* L., and by boiling the stalks of wild rose

[67] Fremont (160) notes that the "Snakes" near Fort Hall ate the roots of *Valeriana edulis* which they called kooyah.

[68] Bui is the term for berry, root, and eye.

[69] The Pyramid Lake Paiute are said to make a candy-like substance from cat-tail pollen.—Loud and Harrington, 158.

and chokecherry, either separately or mixed. Berry beverages have been mentioned above.

A "chewing gum" was derived from sigu'p[i] (*Chrysothamnus nauseosus* var. *consimilis* Hall). The root at surface level was chewed until gummy, and as one informant put it, "The stuff is just like rubber. It has no taste, but it sounds good when you chew it." Pine pitch was also chewed, but "it wore out quickly."

Moss was not considered edible, although Mettie Petty had heard that the Warm Springs Indians ate it. Wild iris and wild parsnip (ha'kinop[ü]) were known as poisonous.

HOUSES

The winter house was a conical mat-covered lodge said to have replaced an earlier dome-shaped structure. Informants claim that the conical form (ka'ni) came to them from the north, "from Idaho, from the Bannock,"[70] but beyond the memory of any person now living.[71] Some lodges were large enough to accommodate eight or nine people and of sufficient height to enable a man to stand upright within. The framework consisted of a series of willows spaced about an unexcavated circle some twelve feet in diameter and brought together at the top. The poles did not project beyond their point of intersection, and when Billy Steve was shown the Wind River lodge figured by Lowie,[72] he remarked, "The grass is all right, but those poles ought to be cut off." Transverse willows were lashed about the frame, and mats of rye grass or tule applied according to availability.

Houses in Surprise were usually grass-covered; those near Adel, tule-covered. With the latter tules four or five feet in height were pierced with a bone awl (more recently a greasewood needle and nowadays a sacking needle) and twine run through. Six rows of such threading can be seen on the tules which Minnie Anderson prepared for a woodshed (pl. 19*a*). As the plate shows, the lower edge of the mat was sometimes finished with a row of simple twine.[73]

[70] P, DB. The latter volunteered the additional information that the Bannock lodge was covered with buffalo hide.

[71] Informants appear to be mistaken about the antiquity of the conical lodge. Mr. E. W. Gifford has brought to my attention a photograph (in the University Museum files, 13–797) of a domed, brush-covered lodge near Cedarville. The photo is on the back of a postal card, mailed the summer of 1910, although the card may actually date some years earlier. The conical lodge may be classed as one of the several Plains traits which filtered in from the north during the last half of the nineteenth century.

[72] SE, figure 8*b*.

[73] Cf. Klamath tule mat figured by Barrett, Klamath, pl. 24.

Seven or eight mats were required for a lodge. They were wrapped tightly on the frame, overlapping like shingles. Considerable space was left at the top for the smoke to escape; the smoke hole was unnamed; in very cold weather it was covered by a blanket. The doorway was "about the height of a man's eye." At night it was closed by a grass or tule mat or by a deer skin or old blanket fastened outside. Sticks were attached at the top, bottom, and along one edge of the mat to give it body and to enable one to open and close the door (natzakuna) at will. The tule-covered lodge was called sa'i-nobi (saib^{ü}, tule; no'bi, house). I was assured that it was a good house—entirely impervious to rain and snow and never smoky. The aboriginal house has been replaced by a frame packing-box structure, but an excellent photograph of old Chief Ochiho's tule-covered lodge may be seen in Kober's Reminiscences.[74]

When grass-covered, the house was called waha'-nobi (from papa'-waha'b^{ü}, rye grass). The grass, four or five feet in height, was cut near the ground and twined into mats which were applied to the frame the same as those of tule. Plate 18*b* shows a house somewhat in the manner of the old style. It was occupied until recently, and the exterior was completely swathed in canvas and sacking. At the lower left can be seen the remains of the grass covering held together by strips of cloth in simple twine.

Men erected the framework. Women applied the mats except at the top, where men took charge. The winter house always faced away from the prevailing wind.

The fire was in the center under the smoke hole. The spot was not enclosed by stones, but there might be a depression of a few inches. All cooking and eating was done in the house. Persons slept on the grass-covered ground, their feet toward the fire.

In spring, the winter house was abandoned; occasionally the mats were removed, rolled up, and cached. From spring until the following winter, "a week was about as long as they stayed any one place. Sometimes they built a shade. They either built a shade or just went around under the trees."

Summer structures seem to have been of two principal types, the shade (haba') and the brush enclosure (dü'a-nobi; dü'a, round). The former, illustrated in plate 18*c*, is frequently seen at the present time. It serves as a porch or as a shelter for vehicles, etc., but during warm weather many move from their wooden houses into such shades. The

[74] 1:248.

sagebrush enclosure was even less formal than the shade, consisting of an unroofed circular enclosure about chest high. The single entrance was closed with a tule mat. The fireplace was in the center of the circle. An enclosure used for shamanistic treatment at the Bidwell camp seems to accord with the above description. Young willows were stuck in the ground to form a fair-sized circle. At the entry they were bent and turned back either side, overlapping with the adjacent willows. The bending was continued around the circle, making a neat top finish.

Several informants insisted that in the earliest times they had no shelter other than the shade and the enclosure. "In the old days they had no wickiup. When it was snowing they just kept on traveling. Some froze to death because they had no rabbit blankets. In the old days they had only two kinds of shades" (DB).

DRESS AND ADORNMENT

CLOTHING

The Gidü'tikadü of both sexes wore skin clothing of Plains type. It seems probable that this style was introduced at a fairly recent date[75] but beyond the recollection of oldest informants. The survival of an earlier California-Basin costume is suggested by the use of the fiber skirt by widows and poor women and by the occasional use of the loin cloth in lieu of the breechclout.

Women's clothing.—A widow or a woman whose husband was not a successful hunter would fashion for herself a knee-length skirt of sagebrush bark.[76] She braided it into a belt from which the bark hung loose in front and back but not at all on the sides. This is evidently the familiar California double apron. It was called nakwi', skirt; the front and back sections did not have separate names.

A more prosperous woman wore a buckskin dress (kwa'sü). Antelope hide could be used, but "it was pretty thin." Some women had two dresses, some three. All were alike; there was no "best dress." Two of the largest hides were required for the woman's garment, which hung from her shoulders. According to one informant additional pieces were used for sleeves, but this is doubtless a recent innovation. The head end of the hide was at the bottom of the dress;

[75] De Angulo, 318, and Spier, Klamath, 207, feel that the Plains costume is late.
[76] "Just like the Hawaiians wear" (SA).

the tail was cut off, not turned down. The skirt hung evenly around the bottom; it was not cut in points. The dress reached halfway between knee and ankle; the sleeves were about elbow length.

Sewing was done with an awl (witiü') of mountain-sheep horn and sinew (ta'mu) from the back of the deer. Seams ran down the sides and on the shoulders, leaving a central opening large enough to admit the head. Joshua stated that in order "to look pretty," the side seams were fringed about an inch in depth and that the bottom was sometimes fringed, but never the sleeves. According to Daisy, the lower edges of the sleeves and skirt were fringed. Fringe was applied across the breast and encircling the hips as in the modern dress shown in plate 20*a, b*. The chief difference from that seems to be that in the old days the fringe did not extend across the shoulders in the back. Beads were sometimes strung on the fringe. The dress shown in plate 20*a, b* has been lengthened by the addition of a flounce.

Informants[77] were unanimous in averring porcupine-quill decoration, but unfortunately it was not possible to determine the exact nature of the work. Of course, no specimens have survived. All agreed that the quills were dyed yellow by being boiled with a lichen (*Evernia vulpina*) found on dry junipers. The quills were soaked in warm water until soft and the points broken off to make all a uniform length. They were flattened before being attached with sinew. I understood from several accounts that they were caught at one end only and were allowed to hang like fringe, but this is probably incorrect. Daisy Brown said that one obtained two colors by dyeing some quills and leaving others natural color. The quills were arranged in the desired design and stitched. Protruding ends were cut off and raw edges covered with a narrow strip of buckskin. The woman's dress bore extensive quill decoration. According to the different versions it was placed around the bottom and down the shoulders; on the sleeves and down the side seams; down the shoulders but never along the side seams; around the bottom, down the shoulders, and on the breast; around the bottom and in a yoke extending from the chest over the shoulders and around the back.

Beneath the buckskin dress a woman wore a belt with a strip of skin passing between the legs. It was similar to the man's breechclout, but somewhat wider, and bore the same name, nati'.

In winter a woman added a blanket of rabbit skins or of sagebrush bark. It was worn cape-like across the shoulders and was pinned on the chest with a small twig.

[77] JB, MA, TA, DB, NO, MP.

Men's clothing.—A man wore a buckskin shirt similar to the woman's dress, but shorter, reaching just above the knees. It was called kwa'sü, the same as the woman's dress; even nowadays there is no distinction in name between the two garments. In the old days the sleeves of the man's shirt seem to have been short but recent specimens have long sleeves. Dr. Sam told of punching holes in the lower edge of the long sleeve and threading a string through these and around his thumb to prevent shrinkage. In the old days a man had "no coat, no vest, just a shirt and no underwear." According to one informant, men's clothes were "pretty tight." A man had one shirt for hunting deer and one other shirt; some men had three shirts.

Two doeskins were required for the shirt; a skin was never cut in two. The hide was smoked thoroughly so that the garment might be washed and still remain soft. A man sometimes decorated his shirt by applying red paint along the seams. He himself did this. Some shirts bore inch-wide fringe on the sleeves and around the bottom. I examined a boy's garment[78] which had a sack-like body to which sleeves had been added (pl. 20*c*). The juncture of body and sleeve was fringed as was also the sleeve seam. The bottom of the shirt and the lower edge of the sleeves were pinked and the neck bound with buckskin. A small tuft of eagle feathers and down was tacked at the back of the neck.

Men ordinarily wore the buckskin breechclout (nati'), although the loin cloth (pitsa'paho) was occasionally worn. Most informants denied knowledge of the latter, but one had seen it in use, and another knew of it from hearsay. According to one informant, "some men never wore much pants."

In winter men wore rabbitskin or sagebrush blankets the same as those worn by women.

Children's clothing.—Children wore few clothes, even in winter. Their garments were made of wildcat hide, never of coyote.[79] They wore a badger-skin cap and "shoes and stockings," presumably leggings and moccasins, of sagebrush bark.

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[78] In possession of Bob Foster, Beatty, Oregon.

[79] Cf. Lowie, SE, 217.

Leggings

There seems to have been a considerable variety of legging styles which in native terminology fall into two types, the full length (kusa′) and the knee length (witsa′wasa′konüp^{ü}; witsa′, calf of leg; wasa′konüp^{ü}, tied below the knee).[80] Full length skin leggings attached to the belt were worn when hunting. They were seamed on the outside of the leg and "if a woman had time and wanted her husband to look nice, she might fringe the seam."

The shorter legging sometimes consisted of a mat-like piece of buckskin wrapped about the leg and tied on; sometimes of buckskin strips wound puttee-fashion and tied with string. Still a third type of short legging was of tailored deer skin with the seam on the outside. These various knee-length styles all bore the same name and were worn by both sexes.[81] Women wore them in winter and when digging roots, but not about camp. When at home a woman substituted a "long moccasin" which reached about half-way up the calf. A man wore leggings the year round. For him the short legging must have been inadequate under most circumstances, for he wore no covering between it and the buckskin shirt.

Footgear

The soft-soled deer-hide moccasin was the usual foot covering for both sexes, either traveling or at home. I do not recall seeing a single person, child or adult, barefooted.[82] Sandals were not worn; in default of hide, a moccasin was twined of tule or of sagebrush bark. Charlie Washo could remember old people who wore "tule shoes," but sagebrush bark seems to have been preferred. As Minnie Anderson put it, "Tules are no good for shoes. Sagebrush is nice and warm even if it gets wet." Sagebrush moccasins (watsi′-moko′; watsi′, sagebrush-bark, moko′, moccasin, nowadays shoe) were worn when going after water. Except for material, the model (pl. 27*b*) made by Minnie is identical with a Klamath specimen figured by Barrett.[83] When traveling or when hunting afoot in winter, grass or shredded sagebrush bark was stuffed inside the moccasin.

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[80] Translation by NH.

[81] Although Lowie, SE, 217, states that Paviotso women did not wear leggings.

[82] Informants repeatedly said of the Achomawi, "They were poor dressers. They never even wore shoes." When they killed a Paiute they are said to have taken his moccasins for their own use.

[83] Plate 17, figure 2, and plate 19, figure 2.

The moccasin was usually of deer skin, and a pair made from the thick neck part would last all summer. When the sole wore through a new one was added. Moccasins of badger skin lasted a little longer than those of deer skin; they were made with the hair side out and were especially good for winter wear. Dr. Sam mentioned moccasins of raccoon hide.

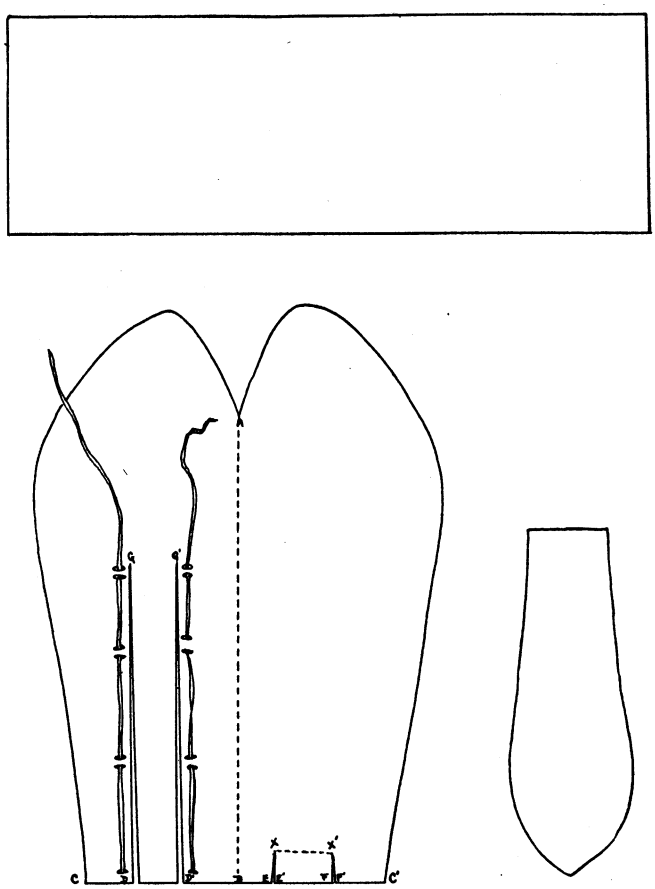

Fig. 1. Moccasin pattern.

It will be seen from figure 1 that the cut of the moccasin corresponds to Wissler's Pattern 8.[84] Informants deny having made a front-seamed moccasin. The hide is doubled on line *AB*, and the foot is placed on top with the folded edge of the hide along the inside of the foot. The outline is then traced, following the contour of the foot except at the back where the heel is cut straight across. A full inch

[84] Blackfoot, figures 78 and 142.

margin is left. Still doubled, $A|C$ and AC' are stitched together. Two parallel slashes are then cut down the upper face, producing a very long and very narrow tongue, and two short slashes are made in the sole-half at EE' and FF'. The back seam is next sewn by joining $D'E$ and $DCC'F$ (C and C' already merged by virtue of the first seam). This leaves trailer $E'F$ which is stitched along the dotted line to $XEF'X'$. It is caught from the inside and allowed to hang free as shown in the sketch[85] (fig. 2). Next, a straight strip four or five inches in width is cut. It is twice the length of the tongue slash and

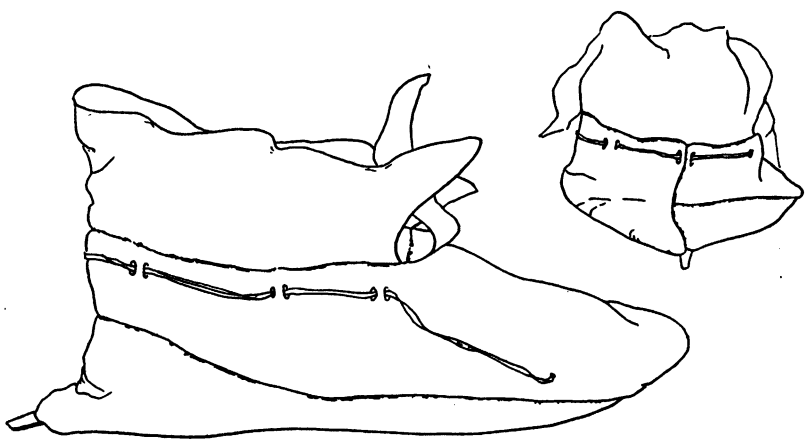

Fig. 2. Buckskin moccasin.

is sewn as a cuff to $GDD'G'$. A wider cuff was cut for the "long moccasin" sometimes worn by women. It is said to have reached about halfway up the calf. The cuff might be pinked around the edge, although none of the specimens I noted was so finished.

The narrow tongue formed by slashes DG and $D'G'$ is normally replaced by a wider U-shaped one. It will be noted that the sole and upper are cut identical in size[86] and that the insertion of a two-inch tongue provides the additional width required over the instep.[87] In order to accommodate this tongue, the slash in the upper is cut lower and wider. The tongue (called muti'kwispaka[a], on top) in figure 2 is not U-shaped, but is cut straight across the base. In this case, it does not give additional fulness.

[85] Nannie Ochiho was wearing moccasins without trailers but stated that she had cut them off.

[86] De Angulo, 319, states that the upper is cut wider than the sole.

[87] "When the moccasin is tight, put in a tongue" (DB).

Slashes are made in pairs just below the cuff and a thong[88] run through. When putting on the moccasin one pulls on the tongue and wraps the cuff about the ankle, inside over outside. The thongs are crossed on the instep and caught through the first loop on either side. They are then brought back to the instep, crossed again, and caught through the next side loops. They are finally returned to the instep, recrossed, and wrapped about the ankle once or twice and tied. Sometimes there is but one perforation at either side, just below the cuff and alongside the tongue. A thong is run through these holes (under the tongue), crossed on the instep, carried back and around a couple of times, and tied at the back.

The two right sides are placed together, sewing is done on the wrong side, and the moccasin turned when finished. Some specimens have welt seaming, that is, a narrow and discrete strip carried in the seam between the two surfaces which are being joined. This gives a ridged effect which is well shown in the skin cradle-covering, plate 30*a*. The cuff, sole-upper, and back seams of Nannie Ochiho's moccasins were all welt sewn. Daisy Brown thought that this technique was unknown in the old days.

Welt seaming seems to be fairly general but has attracted relatively little attention. Teit[89] mentions it for Thompson; and Mason,[90] for Kutchakutchin, Naskapi, Sitka, and Shoshone specimens. A Klamath-Modoc moccasin[91] collected by Barrett has welt seaming, and Dr. Spier tells me that it is also found among the Okanagan. Although Wissler does not mention it for the Blackfoot, his figure 78, and possibly figures 90 and 91, suggest a welt seam. Judging from the few Plains specimens available, it does not seem characteristic of that region, a fact which may or may not be of significance. A check of museum specimens would determine if the distribution is primarily northern and if the welt technique tends to associate itself with any particular moccasin pattern or patterns.

The analyses of Wissler and Hatt leave little to be said concerning moccasin patterns, but their distributions may be extended somewhat. Wissler[92] notes Pattern 8 for the Western Cree, Thompson, Nez Percé, Sarsi, Assiniboine, Blackfoot, Gros Ventre, and Northern Shoshone.

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88 One selected at random measured 62 inches in length.

89 Thompson, 210.

90 Primitive Travel and Transportation, 346, 348, 352, 353.

91 Cat. no. 1–12447.

92 Blackfoot, 128, 142, and distribution table, 151; also Wissler, Costume Decorations, 106.

To these, Hatt[93] adds the Chippewa, Arapaho, Cheyenne, Salteaux, and Sioux of the Upper Missouri. He also notes a specimen from northern Utah. By virtue of Teit's recently published paper,[94] the Plateau distribution can be extended to include "all the interior Salishan tribes," and specifically the Coeur d'Alene, Okanagan, Flathead, and Spokan. For the Shuswap, Teit[95] states that "a few people of the southern bands wore moccasins sewed on one side like the most common kind used by the Thompson tribe." Spier and Sapir[96] note Pattern 8 for the Kalispel and state that it is the prevailing style on the Yakima reservation today. Pattern 8 is also known from the Klamath,[97] and de Angulo[98] reports it for the Modoc and Achomawi as well as for the Surprise Valley Paiute.

The above distribution is a northerly and westerly one but the situation is complicated by the presence of several different moccasin types and by chronological considerations. The absence of Pattern 8 among certain Plateau groups, namely Lillooet, Chilcotin, and Wishram,[99] also requires explanation. The style is traditionally old among the Blackfoot, Thompson, and Coeur d'Alene, and recent among Spier's Klamath and Okanagan.[100] Unfortunately I have no data concerning its age among the Paiute. When asked, informants invariably replied that it was the old-time form. I do recall being shown a modern specimen which, as nearly as I can remember, accorded with Wissler's Pattern 10. In response to a leading question, my informant said that it was probably a "white man's moccasin." At the time I was not aware of the situation to the north and did not press the point further.

Mittens

Gloves were unknown in the old days, although at present they constitute one of the principal articles of native manufacture. Dr. Sam said that when women were traveling they sometimes wore buckskin "mittens." Piudy said that women tied a rabbit skin, fur side in, on either hand. A similar arrangement of wildcat hide covered the whole of both arms, muff fashion. Neither the "mitten" nor the "muff" has a native name.

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93 P. 179.

94 Salishan Tribes of the Western Plateaus, 72, 234, 334.

95 Shuswap, 506.

96 Wishram, 207.

97 Spier, Klamath, fig. 21*b*.

98 P. 319.

99 Teit, Lillooet, 219; Teit, Shuswap, 777; Spier and Sapir, 207.

100 Wissler, Blackfoot, 128; Teit, Thompson, 209; Teit, Salishan Tribes, 72; Spier, Klamath, 209; and Spier, in conversation.

Headgear

One would rather expect the basket hat from analogy with surrounding groups such as the Nevada Paviotso,[101] the Achomawi, and the Klamath, but informants, both from Bidwell and Beatty, flatly denied its use.[102] Joshua said that a few women wore basket caps secured from the Achomawi, but that other than these, they were not worn. Women either went bare-headed or covered the head with buckskin the way in which the bandana is worn today (pl. 21*a*). When a heavy load was slung from the head, a pad of sagebrush bark prevented chafing.

Men wore a fillet of deer, otter, or coon skin to which feathers were sometimes tied. As far as I could determine, the eye shield[103] was unknown, but visored caps were made of badger, wildcat, skunk, or mink skin. A man who did not wear such a cap had to shield his eyes with his hands "in order to see any distance." Children sometimes wore a badger-skin cap. There was doubtless much individual variation in headgear; some men made hats from wildcat heads.

HAIRDRESS

Both sexes wore the hair long. According to two informants,[104] men and women wore the hair in two braids, one over either ear. At chest level the braids were tied together with a buckskin thong and thrown back over the head "out of the way." Minnie Anderson of Bidwell and Lizzie Godowa of Beatty still preserve this mode of hairdress. Daisy said that women wore two braids, one over either shoulder, and that men dressed the hair similarly save for the fact that they twisted instead of braided it. It was twisted for a distance, wound with buckskin, and the ends allowed to hang loose. Nowadays all men wear the hair clipped short. Dr. Sam said that the Silver Lake women wore their hair in two braids while the men had three, one either side of the head and one down the back. Men cut bangs and combed them into a pompadour. Nannie Ochiho reported a three-braid coiffure for women.

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101 Lowie, SE, 217.

102 Tom Anderson did report the basket cap, but he was born in Nevada, and the information presumably applies to his own band.

103 Which is of tule among the Klamath. Barrett, plate 17, figure 6.

104 MA, JB.

All braiding was three strand. I was unable to verify the statement that women wore the hair loose over the shoulders.[105] Matrons and girls were not distinguished by hairdress.

Deer tallow was frequently used as a dressing, particularly by unmarried youths. Skunk grease never served this purpose.

Two kinds of hair brush (wuna'ts^{u}) were used, grass root and porcupine tail. The former was made of some kind of roots gathered in the creek or of rye-grass roots. Roots long enough to be doubled on themselves were selected, bunched, wetted, doubled over, and tied. When dry they were cut even at the end and the butt wrapped with hide. The porcupine-tail brush was called zagwü'd-wuna'ts^{u} (zagwü'd, porcupine). The skin was removed, stuffed with grass or shredded sagebrush bark, and allowed to dry. It was bent slightly and the edges sewn together. The quills were evened by burning.

A brush illustrated on plate 32*a* is about seven inches in length. The stuffing is untwisted sagebrush bark, doubled lengthwise, and wrapped with the same material. The filler is held in the skin covering by a cat-stitch lashing of sagebrush bark in two-ply twine. The sewing strand is knotted at the start and at the finish is secured in the transverse bark wrapping.

Youths and girls plucked the eyebrows for aesthetic reasons.[106] Ordinarily they used the finger nails. One would lie down and ask a friend to perform the service. The beard was also plucked. Informants insisted that men were beardless in the old days.

TATTOOING

Tattooing (naba'wits; also pawi'ts, the verb) was indulged in by both men and women but primarily by the latter. Nowadays the Paiute rarely tattoo the face,[107] although they may have done so in the old days. I have seen but one woman so tattooed; she bore four or five vertical marks on the chin and a diagonal line running down from each corner of the mouth. Informants state that Paviotso at Nixon and Reno tattoo the face, usually with vertical chin markings; the Gidü'tikad^{ü} more frequently decorate the upper arm or forearm with simple motifs such as straight lines. Young girls and women may be seen today with initials, etc., on the arm.

Children were not tattooed; tattooing apparently had no connection with puberty and might take place either before or after mar-

[105] Reported by de Angulo, 319.

[106] "They learned this from the whites" (P).

[107] "The Gidü'tikadü didn't like that kind; they said it spoiled them" (DB).

riage. A person tattooed himself, which meant that a paid functionary was eliminated. The desired design was painted in charcoal from a sagebrush fire and the skin punctured with porcupine quills or with a rabbit-bone splinter.

FACE PAINTING

Both men and women painted the face; it was "just like powder with white people." Pigment was applied to the cheeks in stripes or other simple designs and was used on any dress occasion, particularly for dances but also for war. Red or yellow paint was most common; one or two old women still use red paint (picü'pi), apparently as an article of daily toilet. White paint was prepared but was not used for facial decoration prior to the Ghost Dance.[108]

Red paint and yellow paint (oha'^{pi}) were derived from yellow ochre. A deposit is said to occur on the bare hill behind the Harrison Brown ranch at Beatty; Bidwell informants state that it can be found in Big valley to the north of Mount Bidwell, or far to the southeast. When collected the earth was yellow and was used raw as a paint of that color. It was also rubbed on discolored hides to restore the original shade. Yellow paint was obtained from various other sources as, for example, yellow spots (?) on the wild rose. It was simply gathered and smeared on. My informant had not heard of using cat-tail pollen for yellow paint.[109]

For red paint, the ochre was placed in a hole in a rock and a fire kindled on top. The coals were raked off, and after the ochre had cooled, it was brick red. It did not require pounding but was placed directly in a small buckskin storage container (pl. 32*d*). Red pigment was not mixed with fat; grease of any kind was smeared on the face and the paint then added.

A soft brownish-tan material which appears to be chalk rock was used for white paint (tüho'ño^{bi}). The Surprise Valley source was a deposit on Bidwell mountain. The rock was crushed, soaked in water, and drained, whereupon it appeared white. It was stored in cake form and resembled tailor's chalk. It was moistened with the tongue before being applied to the face.

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108 "They used white paint on the face at the time of the Ghost Dance, not before. They painted the face red and put white designs on top. They knew red paint before that" (P). This is of particular interest in that the use of red and of red and black paint seems to have spread with the Ghost Dance. Spier, Havasupai, 207.

109 Cf. Loud and Harrington, 158, for the Nevada Paviotso.

Piudy and Daisy had not heard of blue paint, but one informant stated that it occurred in the same place as red paint; another, that it came from the water (a mud ?). Certainly it was not in general use. One or two mentioned a black paint, possibly to be identified with the blue. Joshua stated that it was made from pine pitch. When asked concerning it, Daisy said, "We didn't use pitch. That's what the Achomawi used when they were mourning."

ORNAMENTS

Beads (tzomi'bi) were made from swan-wing bones, fawn hoofs, deer-toe bones, and rabbit-foot bones. Rabbit feet were placed in hot ashes in order to dry the bones for bead making. Beads were either attached to the dress or strung and worn about the neck and wrists. A necklace frequently consisted of alternate beads and juniper berries. Women wore beads more than men.

Flat disk beads, apparently clam shell, were highly prized. "Beads like this are called kwinü'ga[a], and we had them for beads a long time ago. They are high priced beads. I paid fifty cents apiece for these, and they even traded a horse for a short necklace of them. The Warm Springs Indians used to come here and bring them" (DB). Piudy spoke of "beads which came from the northeast. If a man thought he was rich he wore some around his wrist."

Finger rings were unknown in the old days. Piercing the nasal septum seems to have been unusual even in early times, but in a Paviotso tale[110] Coyote sticks an ornament through his nose. Minnie Anderson could recall having seen "just one old man with feathers in his nose."

Ear lobes were often pierced in infancy in order to secure health and longevity for the baby or, according to another account, to prevent its crying.[111] The piercing instrument was a sharp stick of rabbit brush, not a bone awl. Deer grease was smeared on and a small stick worn in the aperture to keep it open. Later this was replaced by a clean stick. A small strip of deer hide was tied in the hole; for some reason or other Minnie thought that shells and beads were never worn pendant from the ear. The Gidü'tikad[ü] pierced the ear only once, but Piudy could remember having seen a Paiute named Egan from "up north" who had holes all along the rim of the ear.

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[110] Lowie, ST, 209.

[111] "Not all persons had the ears pierced. I don't know any reason for punching a baby's ears. I'm a man; you had better ask a woman about that" (P).

"Shells from the ocean" (haliotis), called naka'goabi (naka', ear; goabi, shell), were secured from the Warm Springs Indians. The shell was filed into shape by being rubbed on a stone and was pierced with a bone awl. The shell was attached to the ear with sinew. Daisy Brown asserted that nothing else was ever worn in the ear, but complete reliance on a foreign product seems unlikely, and Joshua is probably correct in his contention that "stuff for earrings could be found on the edges of lakes. It was broken and worked with sand or rubbed on a rock."

MANUFACTURES AND INDUSTRIES

SKIN DRESSING

Skin dressing is one of the few old arts which flourishes today. Practically all the work is done by women, although men are acquainted with the process and are said to assist upon occasion. Virtually all the middle-aged women and most of the younger ones are thoroughly versed in the art. There is considerable traffic in buckskin gauntlets, but these are the only articles produced commercially. Buckskin dresses and other kinds of clothing are sometimes made for wear at the fairs, but they are scarce and bring very fancy prices.

The skinning is always done by a man; "women don't know how." According to Piudy, the belly is first slit from mouth to crotch and the insides of the fore and hind legs cut upwards to meet the ventral cut. The hoofs are sometimes left on. A cut is made around the back of the neck, eliminating the face parts altogether.

My most complete account of skin dressing follows:

To skin[112] a deer, cut up the inside of the legs, starting with the back legs. Then cut up the belly. When you are going to use the hide for gloves, cut from the lower lip to the ear, around the ear, and around the back of the head. Indians cut around the ears and horns and leave them on the head.

Soak the hide in water which covers it. Lean a smooth stick against the house, and put the hide over it, catching it between the pole and the house. Clean the inside of the hide with a draw knife (horse ribs used formerly). Work the knife with both hands, downward, toward you. Then turn the hide and scrape off the hair the same way.

Next put the hide in water and work it to get off the blood. When it is white, tie it to a post or tree and wring it. Then hang it on the clothes line.[113] It is

[112] Piudy's account should be taken in preference to this, because feminine informants are less familiar with the skinning.

[113] "They didn't peg down a hide; they dried it from the limb of a tree" (P).

now ready to tan any time. When Indians dry a hide for tanning, they always dehair it; white people don't do that.[114]

Soak the skin again (for about a week if not fresh). Put any kind of brains,[115] beef, hog, or sheep in the water and leave for about a half day. If brains are put between white cloth, hung outside, and dried, they can be kept a long time. If fresh brains are used, they are boiled first. Stretch the skin in the water until the brains are absorbed and the water is clear. Then wring it by tying it to a tree or post.

Now start pulling. If the hide is big it may take all day. If you aren't strong enough, you have to stand up. I never saw anyone catch the skin under his heel and pull it over his shoulder. They do it different ways, but usually they sit down, catch one corner under the heel, and pull.

Now smoke the hide. Double it lengthwise and sew up the sides and across the head like a sack. Build a fire[116] with chips of good clean wood. Have the coals in a bucket and hang the hide over it until yellow. We smoke the skin only on the right side. It would be just the same if it were smoked on both sides[117] (NT).

Formerly, an elk rib or possibly a deer rib[118] served for scraping. A deer cannon bone[119] sharpened on one edge with an obsidian knife was also used for dehairing.

I watched Daisy and Nora wring hides (pl. 21*a*, *b*). The skin was folded lengthwise with the hair, or right side, out; and a rope was run through slits along the neck and fastened to a post. The legs were tied together and a stick put through. If the legs had been cut off, it would have been necessary to slit the hide to receive this stick. The skin was wrung dry by twisting the stick and pulling. Piudy said that in former times a stick instead of a rope was run through the slits; it was placed on the far side of a tree crotch and the hide pulled through between the two branches.

Bear and other skins were tanned with the hair on according to the following procedure:

Skin the animal and hang the hide to dry. Then dampen it, hang it from a post, and scrape the flesh side with a stone. Smear on the brains and work them into the skin by scraping (DB).

Occasionally the hide was buried to make it soft. Daisy said that it might be left in the ground from a few hours to a whole day.

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[114] "I shall dehair this old hide that some white people gave me, then work the knife on the other side" (NT).

[115] "In the old days they used marrow from the spinal cord as well as brains" (P).

[116] "Dig a hole about a foot across and a foot and a half deep. Put coals and dry willow in there" (JB).

[117] "Smoke the hide so that when it gets wet it will always be soft" (JB).

[118] "Just one deer rib could be used and that was the largest one" (DB).

[119] Described as the foreleg bone, with one end larger than the other, and as sharp on one side.

BASKETRY

The Paiute of this region manufacture both twined and coiled ware, but the latter is said by some to be of recent introduction.[120] Basketry is one of the few crafts still practiced and this only to a limited extent. The old-style seed beaters, conical burden baskets, and water jars are rarely seen, but twined cradles and baskets in single and double rod coil are encountered now and then. Until recently oval coiled laundry baskets have been made for sale to the whites.

My data come primarily from two informants, Lizzie Godowa of Beatty and Minnie Anderson of Fort Bidwell. Virtually all the complete specimens figured are the work of the latter. Although Minnie is not conscious of being lefthanded, her coiling progresses the opposite of the norm, and specimens made by her must not be used for comparative purposes. Her twining, however, proceeds in normal fashion. In the absence of another Bidwell informant, one from Beatty was substituted, a shift involving a different band. Available specimens show no appreciable difference between the basketry of the two groups.

Materials.—Willow is the only material used in basket making. It is said to be best in fall; during the summer growing season it is brittle and not easily worked. Straight young shoots are gathered in fall, scraped or split as the case may be, and stored. Rods are kept straight, tied in bundles; strands are kept in coils, tied with willow bark. Before being used, they must be soaked until soft and pliable.

Preparation of willows.—Peeled but unsplit willows furnish the foundation material for both coiled and twined ware. Formerly the rod was scraped with a black obsidian knife; nowadays, with a small butcher knife. The knife is held in the right hand with the blade across the palm; the butt is held between the thumb and first finger with the handle extending out to the worker's left (pl. 22*a*). The willow is grasped in the left hand and the leaves and bark removed by scraping away from the worker toward the tip or the butt, according to the hold. The shoot is then reversed and scraping directed toward the opposite end. Willows so prepared are now ready for use as warps or as foundation rods.

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120 "They learned that kind from the whites. In the old days the sticks (rods) always stood straight up" (P). Nellie Townsend had heard the same thing. Minnie Anderson thought that coiling was made in the old days and that a splintered deer leg served as an awl.

Strands for sewing or twining are obtained by splitting such rods in thirds or halves. In halving, the process is as follows: The tip is split in two with the teeth and the lower half retained in the teeth. The upper half is pulled with the left hand, the right hand following the split down the stalk (pl. 22*b*). The half rod thus obtained is further split by being stripped of its inner wood, which process is identical with the one just described. The inner pulp is discarded and the remaining strand is complete, provided the outer bark has been scraped off at the outset. If this is not the case, the stripping process is once more repeated, this time to free the strand of the bark.

Larger willows are split in thirds. During the procedure, one strand is clenched between the teeth, and both hands are held at the juncture of the splits (pl. 22*c*). The three strands thus obtained are subject to the treatment previously described in order to rid them of the inner wood and to remove the outer bark, providing this has not been done at the start. If the willow is long, it is necessary, as splitting proceeds, to shift the hold with the teeth from the tip down the stalk toward the butt end.

Decoration.—Decoration, in the sense of pattern design, is conspicuously absent from the modern basket work. A row or so of color darker than the body (pl. 24*b*) seems to be about the most ambitious decorative scheme attempted. My informant stated that in the old days "women who knew how made nice designs on their baskets," but that these craftsmen were all dead. Coloring may be produced in a variety of ways; the most frequent seems to be by burying the willow in damp earth. Lizzie stated that sometimes the strands were colored by being soaked with willow bark; sometimes they were steeped in crushed ripe currants.

Coiled ware.—The quality of the coiling seen today is mediocre, if not worse. There is only single and double-rod foundation, with the latter after the manner of the former. The two rods are arranged in a vertical plane, and the sewing strand includes both of them and the upper rod of the previous row. The effect is similar to that of single-rod coil, but a given stitch encloses three rods instead of two.[121] I did see one nicely worked three-rod basket,[122] said to have been made by a Nixon Paviotso. It ran clockwise as seen from above and had non-interlocking stitches.

Oval shapes are at least as common as round ones and are said not to have any special function. One might suspect their popularity to

[121] Mason, Basketry, fig. 188. [122] In possession of Daisy Brown.

lie in the greater ease with which the start is made, but informants do not seem conscious of such a bias. The foot or rim (pl. 23*a*, *b*) is a point of interest. In the case figured, it consists of a row of three rods whipped to the base-wall juncture. I have noted at least three other specimens similarly equipped.[123] With one, the foot is considerably deeper, consisting of several superadded rows. This foot device, utterly foreign to aboriginal coiling, together with the prominence of the oval form, lends credence to the contention that the coiled technique here is of recent introduction.

Coiled ware is called nana'zoanadü. Work is from right to left, clockwise from above. Plate 23, made by Minnie, is the reverse, left

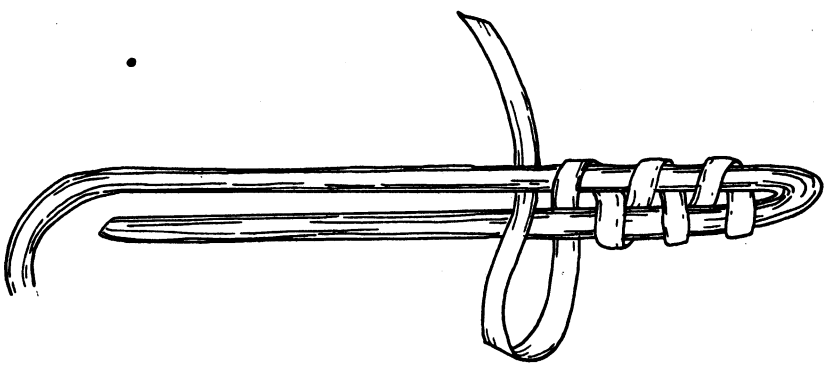

Fig. 3. Start of oval coiled basket, seen at the home of Mettie Petty, Beatty.

to right and counterclockwise. I did not see any round baskets started, but figure 3 shows the manner in which Lizzie commences the oval type; Susie Archie says that her grandmother used to start baskets this way. The specimen got from Minnie (pl. 23) does not show this kind of start; the rods are simply whipped together.

While work is in progress, the materials are constantly dampened so that they may remain pliable. They are periodically immersed in a basin of water, moistened in the mouth, or water sprinkled on with the hands. The sewing strand in particular must be kept damp. It is pulled from the back, or inside of the vessel, and is then brought over the top toward the worker, turned, and pushed through the hole made by the awl. The right or convex side of the basket remains toward the worker throughout. Stitches are not interlocked or consistently split.[124]

[123] One in possession of Nannie Ochiho; the others belong respectively to Mrs. E. C. Lowell and Mrs. May Seegins of Fort Bidwell.

[124] An exception noted below has interlocking on the rim finish.

Joining rods is called pita'kwin. A new rod (u'a'p) is pointed, but the terminating one is not shaved or beveled. When a new sewing strand is required, the old one is left protruding on the wrong side and the new one pushed through from the work side with an inch or so left dangling. The stray ends are broken off after the willow becomes dry and brittle.

In one or two specimens the rim receives special treatment. A small single-rod basket owned by Nannie Ochiho has the top rod caught to the preceding one at intervals of an inch, and along the intervening areas the rod is wound with the sewing strand. Mettie Petty of Beatty has an oval two-rod basket with a fairly involved finish. The top row is sewn by two alternating strands, one black and one white. The black and the white strands respectively interlock with every third stitch of the preceding row, leaving thereby a free stitch after each white overcast.

This same basket has the foundation rods unsewn at either end and twisted to serve as handles. Another large oval basket has handles of twisted rawhide.

Twined ware.—The generic term for basket is tsi'da.[125] Twining (nagwi'c) was made in a variety of forms including: conical burden basket, close or open twine (kudu's[1]); grater, fan-shaped, open twine (ya'ta'); parching and winnowing tray, fan-shaped, close twine (tsamü'n[ü]—said to come from the verb to roll); seed beater (tsi'ku'); dipper (tsoko''[0]); spoon (kwasi'tsoko''[0]); cooking basket (ü'pü'); mush bowl or cup (si'woboi); water jar (si'o'sa'); fish trap (wi'ha').

Informants claim not to have made plaque-like baskets.

Of the above list, the last six have not been manufactured in many years and it was possible to obtain only the most cursory description of them. It will be convenient to dispose of these now and then pass to forms for which there are more data.

The dipper and the spoon are probably one and the same. The former was described by Daisy, who said:

> It is made of willow. It is like the seed beater only smaller and pitched on the outside. Use this when you cook seeds, and serve food with it.

Piudy mentioned the spoon which he said was shaped like the seed beater but small, tightly woven, and unpitched. It was used for stirring seed mush. It differs from Daisy's description only in the matter of the pitch and in name. The latter difference is more apparent than

[125] Nowadays it signifies crockery as well. De Augulo, 332, has evidently recorded names of special forms, i.e., mush bowl and parching tray.

real, as the terms are identical save for the descriptive term, kwasi', meaning tail or handle.

The cooking basket was "round and had an open mouth." Nannie Ochiho remembered it as six or eight inches in height. It was watertight by virtue of close weaving, not through the application of pitch or gum.

The willow cup (si'woboi; si, said to be from süb[1], willow) was unpitched and was used for individual servings of food as, for example, pine-nut gruel. No further details could be procured, but presumably it resembled the Paviotso specimen figured by Lowie.[126]

The water jar (si'o'sa'; o'sa', any kind of jar) had a conical base. Piudy said that "it was easier to carry that way"; Minnie, that "in the old days they didn't know how to make flat bottoms." The jar was either set on its side, or a small hole was dug to allow it to stand upright. According to Minnie, such jars had willow handles; Piudy thought they were of deer hide; neither had heard of hair handles. A specimen (pl. 21*c*) made by Nina Naneo's grandmother, however, does have hair woven in the handles.

The jar just mentioned is made in diagonal twine. Several local specimens, all of unknown provenience, are in this same technique. In view of these facts and considering the Nevada data,[127] it seems safe to assume that the old Surprise Valley water jar was of similar construction. The Naneo specimen is an upward twine, provided progression is left to right as usual. It does not have the conical base;[128] the bottom is dented and in cross-section would resemble figure 6*f* of Spier's Havasupai. At the neck the warps have been cut short and the top overcast.

The basketry jar was made watertight with juniper or pine gum put on a flat stick, held over the fire, and then rapidly applied to the exterior. For the inside, four or five small stones were heated and dropped in with some pitch. The container was shaken vigorously until the whole interior was coated. The woman tested the basket by holding it to her lips and blowing to see if there were any holes. If there were none, she filled the jar with water and, if it did not leak, considered it finished. Such a jug lasted "a long time."

According to Joshua a family ordinarily had two basketry jars, a small one for the children and a larger one for the adults. On journeys, a woman carried the water jar. The neck was usually plugged with green grass; the Naneo specimen has a wooden stopper.

[126] SE, fig. 13*b*. [127] Lowie, SE, 234 and fig. 20*a*, *b*.
[128] In this respect resembling fig. 20*b* in Lowie, SE.

Of the fishing basket, there is only the most meager description. It was of stiff willows, five to eight feet in length, long, "like a sock," and had a constricted neck. It was presumably in open twine.

For the remaining types of twined ware, there are fortunately a few specimens for guidance. Twining proceeds from left to right. With non-circular specimens (such as the grater and the parching tray) it is impossible to tell from the specimen alone in which direction the work goes. It seems safe to assume upon the basis of models made by Lizzie and Minnie, and from the uniformity of direction in

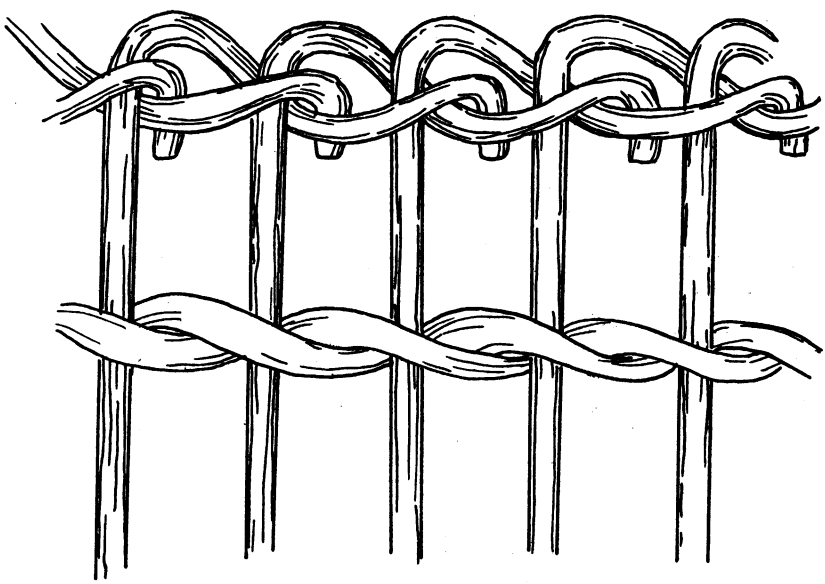

Fig. 4. Rim finish (exterior) of open twined burden basket, 1–28203.

spirally worked baskets, that the progress is from left to right in these as in other forms. The slant of the stitch is discussed at the end of the section on twining.

The utility container, the conical burden basket, may be in open twine or close diagonal twine, the latter for seeds and berries, the former for wild plums and objects of like size. I have examined six burden baskets, three in open and three in close twine, but two of the latter are incomplete models made by Minnie and Lizzie.

Plate 24*b* shows an open twine conical basket. The start is on a pair of warp sets, each consisting of eight rods. The first few rows are twined on double warps. At the start the twine is solid; after two or three inches it becomes simple open twine with the rows spaced an inch or more. The rim finish is shown in figure 4. A willow hoop is lashed to the turned down warps and another hoop applied on the interior about halfway down. There is no

evidence of a tump line. Lizzie Godowa has a similar basket which is started on warps crossed in fours. A somewhat smaller basket of the same order seen at the home of Nina Naneo is said to have been made by her grandmother. As can be seen from plate 21*c*, the twine is both diagonal and open, giving a zigzag effect.

The close diagonally-twined burden basket shown in plate 24*a* starts with warps crossed in sixes; the diagonal stitch starts from the first row. At the top the warps are clipped close and a hoop lashed on. A model (fig. 5) starts

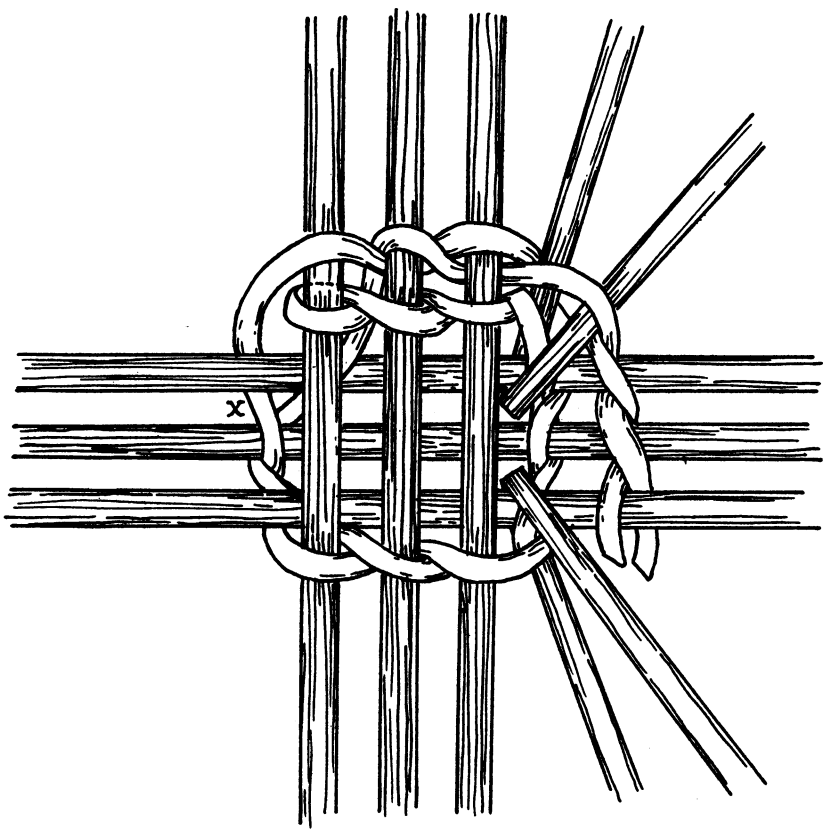

Fig. 5. Start of twined burden basket showing one method of introducing new warps.

in simple twine on warps crossed in threes. The sketch shows Minnie's method of introducing supplementary warps. A rod is inserted and doubled back to make two warps. Other rods are added singly.

The model made by Lizzie is started on warps crossed in fours. Eight rods are twined together in pairs and the last two pairs turned at right angles to the first, thereby producing warps crossed in fours (fig. 6). After three rows the twining on double warps is changed to simple twine and later to diagonal twine.

Both Minnie and Lizzie start the basket on the convex side, twining from left to right. After a few rows the warps are sprung down and the basket worked apex up. With increase in size, the apex

is turned downward and work continued left to right on the near side. These shifts in position occasion no change in the direction of the twine or in the work side.

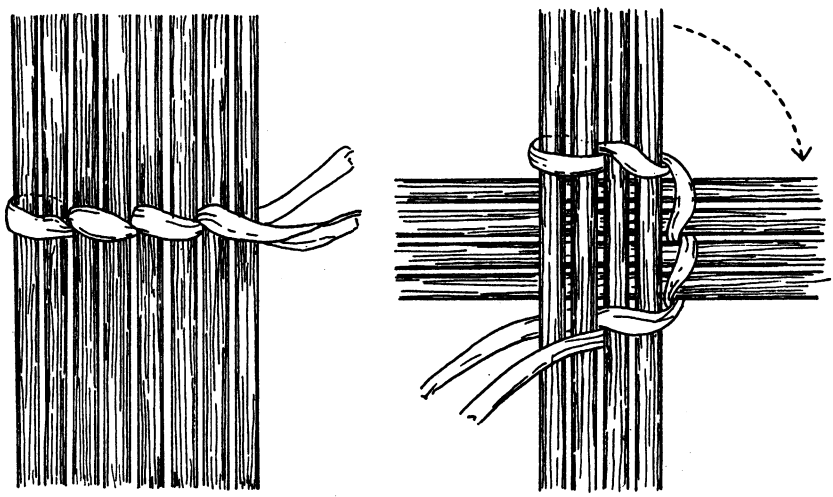

Fig. 6. Start of twined burden basket.

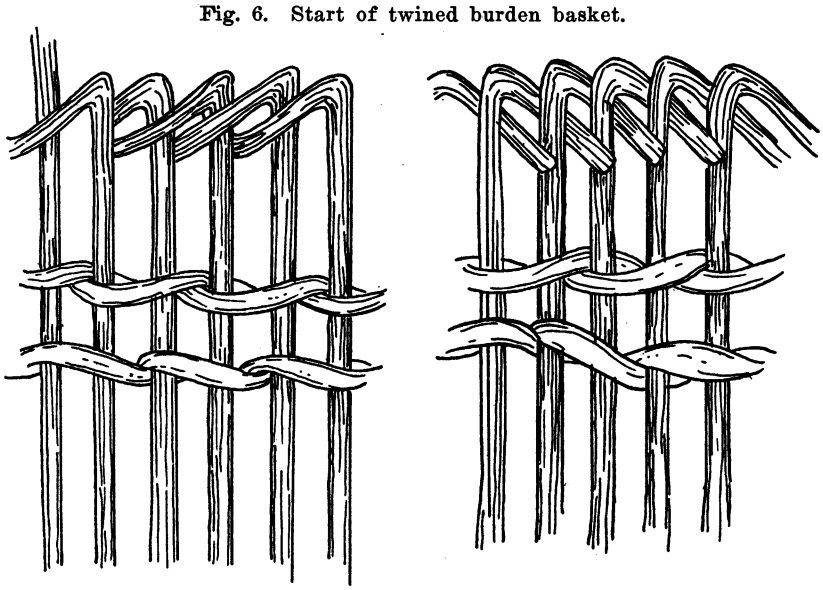

Fig. 7. Rim finish of twined grater, 1–28205. Left, upper or concave face; right, back or convex face.

Burden baskets become flattened through use, not deliberately. Minnie volunteered, "This basket is no good; it's all flat on one side." Seed gathering baskets were not coated with pitch as among the Gosiute.[129]

[129] Chamberlin, 341.

The open twine fan-shaped tray was doubtless put to many uses,[130] but is here called a grater because roots are rubbed on it to divest them of their skins. It is kept in shape by being placed in a damp spot, weighted with stones.

The dilapidated grater shown in plate 25*a* is in open twine, the rows paired at inch intervals and running horizontally. The stitch is uniform until the last three inches where it becomes diagonal twine, with rows still paired. The warp finish is diagrammed in figure 7. An encircling willow is lashed about the outer edge of the tray.

The start of all non-spiral specimens, such as the grater, the winnowing tray, the seed beater, etc.,[131] is at the base. The grater may serve as an example, and its initial rows are diagrammed in figure 8.

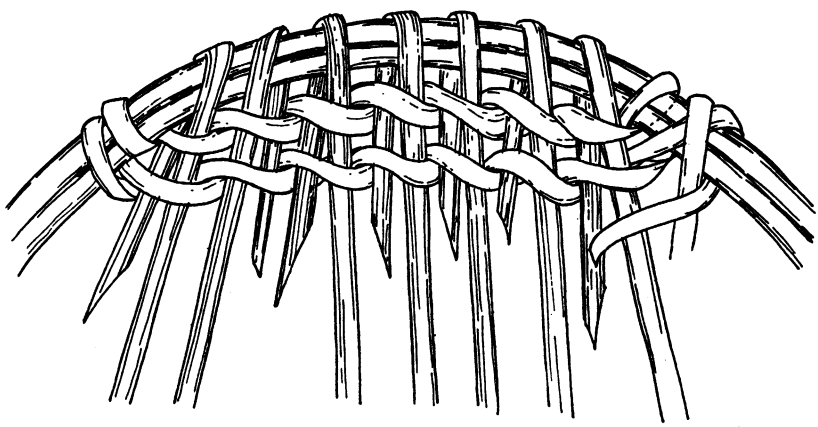

Fig. 8. Start of twined grater, 1–28205, showing back or convex face.

Warps are placed at right angles to two rods and bent back on themselves, enclosing the two outlining rods. In this instance, the short ends of the lapped warps are on the right or concave face of the tray. They are chewed thinner at the tip so as not to bulge. Work begins at the lower left on the wrong, or convex, side. The two outlining rods are caught in a stitch; then the first warp and its lapped tip are enclosed, and so on. Until one is past the range of lapped tips, twining is on two rods. New warps are inserted singly to provide the fan-like shape. Lizzie works from left to right across the back or convex face. At the end of the course (lower right of sketch) she turns the specimen right face up and works from left to right across it, and so on. The turning from one face to the other means that the

[130] Some authors speak of it as a sifting basket.

[131] Excepting "first cradles."

stitches continue to have a uniform slant on either face which they would not have if the work were continued back and forth on one face alone.

The parching or winnowing tray is a non-spiral affair essentially like the grater but in close twine.

Plate 26*a* shows a specimen made by Minnie. The start is similar to that of figure 8, but the warp lap is on the back or convex side. The first few rows are simple twine, followed by the body in diagonal twine. The last few inches are also diagonal but on multiple warps, three being the number most frequently enclosed. The warp finish at the upper edge is somewhat haphazard, but seems to resemble figure 7, except that each unit consists of three or four adjacent warps instead of a single one. As usual, the finished specimen is completely encircled by a willow hoop. Another parching tray probably made by the same person is shown in plate 26*b*. The start is similar to the above, but the warps turn back on the concave or upper face. The initial rows are simple twine which soon passes into diagonal. The latter stitch continues until the last six rows which are simple twine on double warps.

A parching tray (pl. 21*c*) of unusually fine workmanship is in possession of Nina Naneo. Like the others, it is in diagonal twine. The outer stitches on either edge enclose double warps, making a sort of selvage. Unlike all others, it is decorated with several rows of diagonal black lines. This tray differs slightly in contour from the others illustrated; the top is straight across instead of arched and meets the sides at a pronounced angle.

The model parching tray started by Lizzie is pictured in plate 25*b*. It differs structurally from the above mentioned specimens in that the warps are not lapped back over a horizontal rod. My notes are not clear on the procedure involved, but from the model, the start seems to be on four warps bent into an arc. Other warps are inserted singly to give the necessary flare.

The seed beater is next to be considered. It is not provided with a wooden blade such as the Gosiute use.[132] The following description is based upon the specimen figured in plate 27*a*:

The start follows the usual non-spiral pattern, but the warps lap on the back or convex side. The lower half of the bowl is in simple open twine, rows paired and running horizontally. The upper half shifts to diagonal twine, still open and rows still paired. At the top, the warps are bunched, forming a short handle. Coarse twining on multiple rods holds the bundle together; there seems also to have been some willow lashing on the handle. A hoop encircles the bowl, passing in the back at the root of the handle.

Some details may now be presented concerning the slant of the twined stitch. Following Barrett's[133] definition, it may slant either upward or downward, and in some instances a group will employ one twist to the complete exclusion of the other. Such is not the case with this band of Paiute. Not only do they use both types, but the two occur side by side in a single specimen, even in a single row.

[132] Chamberlin, 341. [133] Pomo Indian Basketry, 147.

Thus the start of the conical burden basket shown in figure 5 is downward. At *X*, just before the termination of the first course, an upward stitch occurs, probably an error. Where the new warp is added at the upper right, however, a definite shift to upward stitches occurs and continues for the remainder of the model. Another specimen (pl. 24*b*) made by Minnie shows this identical shift from initial downward stitches to upward ones.

Furthermore, an open twine burden basket (pl. 24*a*) made by Minnie is similarly fluctuating. The first two or three courses are worn off, but the first distinguishable row is upward. After five rows, five or six downward stitches occur, followed by two rows of upward twist. Downward stitches next ensue and continue the remainder of the specimen. A "first cradle" (pl. 28) made by Nettie de Gamo shifts several times, once in the middle of a row.

Such variations are theoretically intelligible on the basis of decorative effect, for if one were to alternate rows of upward and downward twine, a pattern would result. But such is not the case here. These variations seem rather to indicate carelessness and an inattentiveness to detail and plainly demonstrate the absence of a single standard slant. Even so the selection of the twist is not entirely a matter of caprice. In two instances there is some suggestion of a correlation between the slant of the stitch and the type of basket. Thus, the three open twine burden baskets examined are all with downward twist, save for the irregularity at the start of Minnie's specimen. The parching trays are likewise uniform; the four specimens are all upward twine.[134] Although Lizzie makes the grater and both types of burden basket with a downward stitch, when it comes to the parching tray she shifts to an upward twine. She could give no reason further than "that is the way it is done."

The above alignment suggests a possible connection between the slant of the stitch and the manner of working the basket. The open twine burden basket is worked spirally, round and round, while the parching tray is a non-circular affair worked across one face, then turned and worked across the other. But this correlation does not hold because the close twine basket, although worked spirally, is sometimes upward twine; and the grater, a flat, fan-like tray similar to the parcher, is downward in one of the two specimens. Neither is any correlation maintained between the open and close twine technique and the stitch slant.

Although cradles have not yet been considered, it may be said that data concerning them are equally conflicting. Assuming a left to right progression, the de Gamo specimen has both slants but is pre-

[134] Weltfish, 490, notes that cave material from southern California seems to be downward for plain and 3-strand twine and upward for diagonal twine. This is suggested in the Paviotso material but does not hold for all specimens.

dominantly downward; the model made by Minnie is also "mixed" but is mainly upward. The basket backs of three "later cradles," skin covered, are, two upward and one downward.

Specimens are too few to be conclusive, but a summary of the twine slants is appended. The names listed indicate the provenience of specimens and likewise the maker, unless otherwise indicated. These data are included because they demonstrate that the three known individuals from whom we have more than one basket produced twines of both varieties. Numbers are given for specimens now in the museum.

Water jar; 1 specimen; upward slant; Nina Naneo, Beatty (made by her grandmother) (pl. 21*c*).

Open twine burden basket; 3 specimens; all downward; Nina Naneo (made by her grandmother) (pl. 21*c*); Lizzie Godowa; Minnie Anderson (1–28203) (pl. 24*b*).

Close diagonal-twined burden basket; 3 specimens; Lizzie Godowa, downward; Minnie Anderson (1–28204) (pl. 24*a*), upward except for first row; Minnie Anderson (model, fig. 5), upward except for first row.

Parching tray; 4 specimens; all upward slant; Nina Naneo (made by her grandmother) (pl. 21*c*); Lizzie Godowa (model, 1–28211) (pl. 25*b*); Minnie Anderson (1–28206) (pl. 26*a*); probably Minnie Anderson[135] (pl. 26*b*).

Seed beater; 1 specimen; upward; Minnie Anderson (1–28207) (pl. 27*a*).

Grater; 2 specimens; Lizzie Godowa (model), downward; Minnie Anderson (1–28205) (pl. 25*a*), upward except for upper third which alternates rows of upward and downward (fig. 7).

"First cradle"; 2 specimens; Minnie Anderson (model, 1–28209) (fig. 9), badly mixed; Nettie de Gamo, Fort Bidwell (1–28210) (pl. 28), mixed at start but predominantly downward.

"Later cradles"; 3 specimens; Nellie Townsend (maker unknown) (1–28212) (pl. 29), upward; Nellie Townsend[136] (maker unknown), (pl. 31), downward; provenience unknown[137] (pl. 30), upward.

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[135] In collection of Henry Kober, Fort Bidwell.

[136] In collection of Mrs. Chester Lowell, Fort Bidwell.

[137] In collection of Henry Kober, Fort Bidwell.

CRADLES

Cradles are considered here because the technical details concerning them fall largely within the realm of basketry. There are two recognized types, the "first cradle" and the "later cradle." Their functional distinctions are mentioned elsewhere.[138]

The first cradle is in use the first month after birth and is called saki'-hu'pü (balsa-cradle; so-called from its shape). It is essentially a basket and nothing more, lacking the rigid frame, the triangular awning, the skin cover, and the tumpline of the other cradles. There are at least two kinds of saki'-hu'pü. One kind is illustrated in plate 28. A miniature of the other kind was made by Minnie Anderson, but unfortunately the specimen is so out of proportion that it seems inadvisable to figure it. Its manufacture may be described as follows:

A weft strand is twined about a series of paired warps. When all are caught, the last pair is bent back parallel to itself and enclosed by a twined stitch as indicated in figure 9. When all the pairs have been so treated, the nucleus for an arched top is formed. The diagram suggests that the rods lie in a flat plane, but in reality the outer ones are slightly raised, making the top semi-domed. After the initial row of twining the affair is turned and worked across the other face, then turned again, and so on. This makes twining throughout the specimen a continuous course, zigzagging from side to side, in this respect resembling the grater, winnowing tray, etc. Although the model is very roughly made, there seems to be an adherence to double warps throughout. The specimen tapers slightly toward the base, where the warps are cut off evenly.

This cradle has a hood of sorts, but one quite distinct from the triangular awning of the later cradles. It is really a hoop, like that of Lowie's Moapa specimen.[139] For this hoop, a series of parallel rods is caught together in open twine and the ends attached to either side of the cradle near the top. A cloth thrown over the top for sun-protection is kept off the child's face by the hoop.

The infant is placed in the basket on a padding of shredded sagebrush bark and held in by means of a thong laced through skin loops along the sides of the cradle. Unlike the later cradles, the first ones do not indicate the sex of the infant.

The other style of first cradle is shown in plate 28. It also lacks the rigid frame and other traits distinctive of the later cradle. In structure it follows the grater pattern (fig. 8), but the outlining rods are bent at a sharp angle instead of being gently curved. Unlike the grater which is worked from the base up, twining of this specimen commences in the upper right corner (as seen in the plate). Each warp and its lap are enclosed in a single stitch, thereby making the twine on double warps until the turnback is passed, a matter of some six inches. Twining is thereafter on single rods. Rows are

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138 P. 161.

139 SE, fig. 34*a*. Nellie Townsend immediately designated this figure as a first cradle.

paired and run horizontally; to avoid zigzagging, the wefts are wrapped about the outer rods for the necessary distance between rows. The last or bottom four rows are close twine.

I am not certain of the exact manner in which the cap is attached. It is obviously a part of the body as the body twine extends to include it on the sides. A separate course of twining is worked across the top of the cap, join-

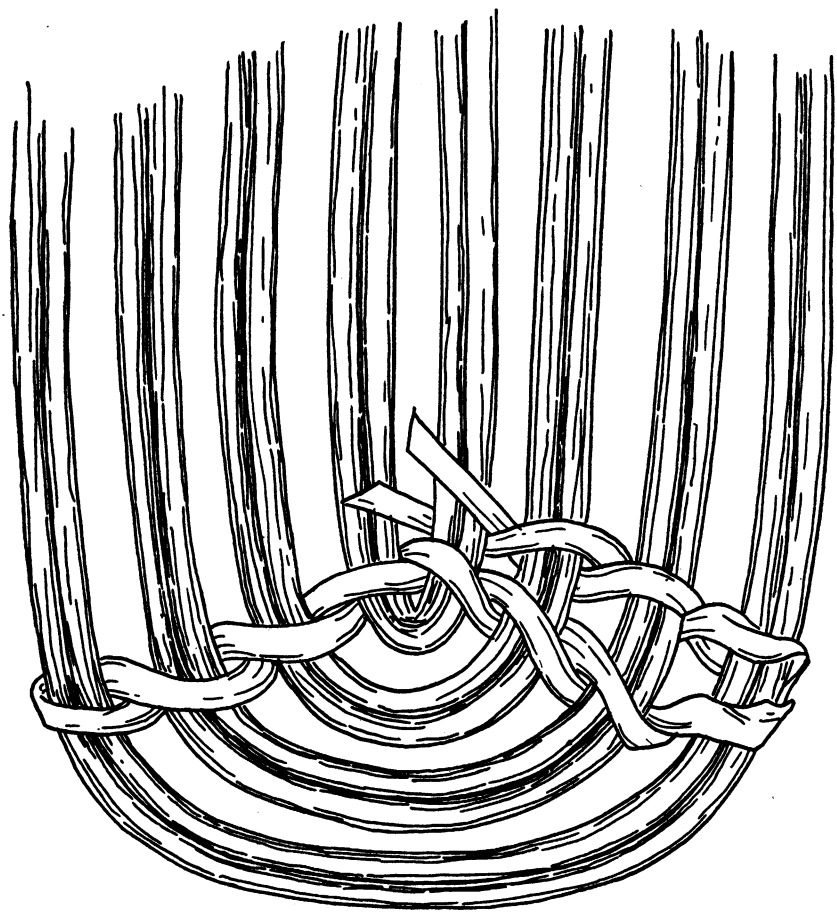

Fig. 9. Start of first cradle. From a model, 1–28209. Warps reduced in number to facilitate sketching.

ing the component rods to each other and attaching the cap to the upper edge of the cradle proper. This row of twining starts at the upper left (as viewed in the plate) and zigzags back and forth, ending at the upper right at the point where the body twine begins.

The illustrated specimen has side loops of cloth in lieu of deer hide.

After the saki'-hu'pü, a child has four cradles successively larger and differing from one another only in size. Structurally the later cradle consists of a wooden framework (pl. 29) supporting a twined

basket backing. The whole is skin-covered, and although nowadays canvas is sometimes substituted, buckskin is preferred. A triangular awning (tsoko'no'°) is attached on a line with the top of the backing and is supported by a series of arched rods held together in twined stitch. As is common elsewhere,[140] the awning design is indicative of the sex of the infant. A diamond or zigzag pattern serves for a girl, a series of diagonal lines for a boy. Plate 30 has diagonal lines alternating with tipi-like motifs. Nowadays these designs are worked in embroidery thread, either red or blue. Informants do not remember what was used formerly; "maybe they didn't have designs then." The solid bead embroidery seen on some cradles is Plains type. It is taught in the local Indian school and is probably of no great age.

The skeleton of the skin-covered cradle is seen in plate 29. As Nellie Townsend noted, Surprise Valley cradles tend to flare more at the top than those figured by Lowie[141] for the Nevada Paiute. The arch and base of the frame are always separate pieces spliced at the sides. The arch of the figured specimen is willow and the base choke-cherry. The base may be either angular (pl. 29) or rounding (pl. 30). The wood is heated, bent, and tied in the desired shape; then placed on a level spot, weighted with stones, and allowed to dry. Nowadays the frame is nailed together. Formerly the transverse bars were notched at the ends and tied to the skeleton with thongs. The specimen shown in plate 30 is so constructed; its bars, as those in plate 29, rest on the upper surface of the frame, just beneath the basket backing.

The twined backing is attached by thongs. According to Nellie, it is usually made before the frame. The warps of the backing are always longitudinal, and the start is similar to that of figure 8 except that the outlining rods are bent upward at an angle. Twining starts at the lower righthand corner (as seen in pl. 29) with the back as the initial work surface. In this instance the twine is simple openwork with rows more or less equi-spaced. The same holds for the cradle of plate 30. At the end of a row one weft is carried along the outside warp and wrapped to it by the other weft. The backing of one specimen (pl. 31) is twined in a zigzag course, and at the open ends the rows are about six inches apart. The backing of some cradles is simple twine on double warps. The backing ordinarily ends on a line with the awning attachment. In one specimen (pl. 31) it extends somewhat beyond, but it seems likely that the hood has been placed too low. This cradle was used by one of Nellie Townsend's children, and as the child grew, the hood was raised. When the cradle was sold, the hood was lowered to its present position.

The two specimens figured differ somewhat in the attachment of the skin covering but both show welt seaming, i.e., a discrete strip carried in the seam between the two joined surfaces. The covering of both cradles hangs loose and unattached at the sides. That shown in plate 30 has a seam along the top of the arch and down the center front. The covering is tied to the backing beneath the awning and also at the bottom. Here there is no seam; the skin is simply turned under across the back of the lowest transverse rod. At the

[140] Kroeber, Handbook, 536; Lowie, SE, 254.

[141] SE, 33*a*, 34*a*, *b*; although plate 30 resembles Lowie's specimens in outline.

lower front it is sewn with buckskin to the upper of an old shoe which hangs in a loop to support the child's feet.

The other cradle (pl. 31) has more complicated seaming. It has central seams front and back and two lateral back seams as well. The arch seam is not continuous but begins a short distance either side of the central seams. This specimen does not have a separate foot loop but the covering is roughly sewn across the bottom and a short distance up the front to answer the same purpose. These bottom seams are little more than lashings. Nellie thinks that the transverse back seam is not essential but is for the fringe alone. This seam does not show the characteristic ridge of welt seaming, but the fringed piece is inserted as is the extra strip, only it is wide and fringed instead of being extremely narrow.

The back fringe of plate 30 is not sewn; but slits are cut and a thong run through one slit and out the adjacent one. The front fringe of both specimens consists of extra pieces, pinked along the upper edge, fringed along the lower, and sewn to the skin covering. The fringes are strung with beads, coins, etc.

Both specimens have loops along the front for lacing. The pack strap attachment is similar in both and is well shown in the plates. A buckskin loop is attached to the frame, piercing the skin cover at the back. The end of the burden strap is passed through one of the loops, folded back on itself, and secured by tying a thong through perforations in the strap.

The awning consists in each case of fine open twine in diagonal stitch. The twined rows are paired and run horizontally. A zigzag course is avoided by wrapping the wefts about the outside warp for the inch or so between rows. The start of the awning is at the end attached to the cradle. It is covered by a binding of buckskin but is probably similar to other non-spiral starts.

The awning is supported on a series of bent rods to which it is attached only by the embroidery threads of the hood design. The arched supporting rods are twined together in a zigzag course. It is interesting to note that the characteristic non-spiral start pattern holds here; the rods are sharpened and bent on themselves over a rod 1½ inches long. The twining continues to the awning and again on the other side of it, but not beneath it. The awning support is tied at either end, not to the cradle frame, but to the basket backing. In plate 30 the thongs penetrate the back covering in line with the fringe and are tied in bows.

CORDAGE, NETS, WEAVING

Two-ply string was made from the inner bark of sagebrush. Juniper bark was not used; "it was too soft to be good for anything." The bark was scraped, shredded, and dampened. It was rolled on the thigh, the two strands separately on the downward stroke and combined on the upward stroke. Three-ply string was unknown. A stronger cordage was made of the outer bark of wiha'b[i], an unidentified plant[142] resembling sagebrush but smaller and growing along mountain streams. The bark was stripped off and exposed overnight to become soft. It was broken in the hands and rolled on the thigh.

[142] Loud and Harrington, 158, suggests that Gosiute *Apocynum androsaemifolium* answers the description of "wiha."

Sagebrush bark was sometimes twisted into a two-ply string with the fingers. The cord attached to the moccasin in plate 27*b* was probably made this way, not thigh-twisted.

Two-ply twine of sagebrush or of wiha'b[i] was made into three-strand braid. Four-strand braid was also known, but not eight-strand. The four-strand work seems to have been confined to buckskin rope. Skin rope, either three or four-strand braid, or merely twisted (?), was used for the horse pack. Three-strand braided bark rope also served the same purpose.

Nets (wa'na) were always of wiha'b[i] twine. Informants had not heard of using nettle fiber. Women sometimes made the twine, but men did the actual netting. A mesh gauge was not employed. According to Piudy, the strand was measured by being looped from the finger tip (middle finger ?) around the base of the thumb (at the wrist juncture) and back to the finger tip. Minnie alone claimed that nets were made of a plant belonging to Wolf, and she called the net i"sha'-wa'na (i"sha', wolf).

Weaving, in the sense of true cloth production, was unknown, but rabbitskin blankets were made by both men and women. Jackrabbit skins were used most, but cottontail pelts could be mixed with them. A good sized blanket (wi"gia) took 25 to 50 skins. Mouse or other small skins were not used; nor were mud-hen blankets made, although informants knew of them from the Nevada Paviotso.

In skinning, the knife was held in the mouth and the hide cut round and round. Accounts of subsequent preparation differ moderately, but the fact remains that the skins were twisted, stretched, and dried. According to Piudy the feet of about five rabbit skins were tied together, making a strip of considerable length. One end was unattached; the other was fastened to a stick which was rolled between the palms. The twisted skins were stretched and allowed to dry. Daisy had it that two people twisted the skins and hung them to dry "like on a clothesline." According to Joshua, the strips were twisted between the palms, stretched, and left to dry one or two nights. If I understood Nellie correctly, the skin from a single rabbit was doubled and interlocked chain fashion with that of another rabbit, and so on. The loop on the far end was caught over the worker's toe and a short stick inserted in the proximal loop. The stick was rolled between the palms, twisting the looped skins which were then hung to dry.[143]

[143] A Paviotso tale refers to skins hung to dry. Lowie, ST, 225.

The Gidü'tikadü employed a two-post frame for the weaving. Informants said that the Nixon Paviotso used a frame of four uprights and two cross-bars.[144] With the two-post frame, the uprights, about five feet in height, were set as far apart as one could conveniently reach. The twisted skins were wound tightly from one post to the other, from bottom to top. The weft was twine (either wiha'bi or sagebrush bark), thongs, or, more recently, strips of cotton cloth. The worker started a row of simple twine at the lower righthand corner and worked it to the top. According to Daisy, the wefts were tied here and a new row started at the bottom, otherwise the blanket would be wrinkled. Joshua thought that the twining was continuous, turning at the top and coming downward. Piudy reported an extra-length blanket made by pushing the completed part off the posts and winding more skins on the freed poles. One blanket ordinarily sufficed as bedding for two persons.

Sagebrush bark blankets are said to have been made in the same technique, but without the frame. Such blankets, like those of rabbit skin, were used as bedding and capes. Leggings were also made of sagebrush bark, presumably in open twine. A model of the old time sagebrush moccasin is seen in plate 27*b*. The start is identical with that of the first cradle (fig. 9). The wefts consist of untwisted sagebrush bark. At the termination of each row, the wefts are twisted into string and left as a loop for lacing. The hanging warps turn up over the foot as a tongue. The cord is crisscrossed, catching the loops on either side.

Bags for food storage were made of tule or of sagebrush bark, presumably in open twine. They were described as "like those the Modocs use only not as well made."

STONE WORKING

Stone archaeological remains are fairly plentiful, although not spectacular, and are ascribed to mythical pre-Paviotso inhabitants. Thus, "These stone things came from the stories. When animals were people they made them." Pestles are found near water, "because Nümüzo'ho (cannibal; literally people-grinder) was driven into the lake." Another cannibalistic being, Bahi'zoho, who was "animal but looked like an Indian," has mortars ascribed to him. Nümüna (people's father) is held responsible for petroglyphs and for footprints seen along lake shores.

[144] Like that described by Lowie, SE, 228.

Axe.—In the old days there was nothing in the nature of an axe. Wood picked from the ground was the sole reliance. Chipped obsidians, more or less hoe-shaped, are found archaeologically and in local parlance are known as tomahawks. Informants state that similar objects were sometimes found and used in tanning, but were not manufactured by the Paiute. They were used unhafted and were rubbed on the inside of hides in order to soften them. They were called düda'-soñoyin (düda', rub; soñoyin, soften). Daisy remembered that Nora Henderson's grandfather was once far to the east and killed a foreign Indian who had one of these implements tied to his wrist as a weapon.

Another type of archaeological specimen to which the name tomahawk is applied is a flat quadrilateral with rounded corners. It measures about five inches in length and four in width. The sides are notched as though for hafting. Examination shows that whatever this might have been, it was not a cutting or hewing implement. It has no suggestion of a blade or of abrasions which would result from chopping. It falls into the category of those Californian notched stones doubtfully designated as sinkers, but in this case, explanation in terms of recent ethnology is not possible since informants deny the use of the fish net. These stones, like the others, apparently date from pre-Paviotso days.

Metate.—The metate (ma'ta') is a flattish, unsquared slab,[145] the face worn evenly and untroughed. It occurs archaeologically and today is used for grinding seeds and coffee. Some metates were found already made, but "anyone might make one." A suitable stone was selected, pecked, and rubbed down. It took a "long time." Daisy said that men did the pecking, but Piudy said that men searched for good stones which the women smoothed. The country abounds in potential metates, but they are said to be most plentiful on the slopes of Eagleville peak which is known as Ma'ta'gan, metate mountain.

The flat surface of a large boulder was sometimes used as a metate. At the Anderson place on Cowhead lake was one quite worn from such use. My informant, Minnie Anderson, ground some seeds on it by way of demonstration. Contrary to Nevada practice,[146] only one surface of the metate is used. This follows the explicit statement of an informant, substantiated by an examination of several speci-

[145] "Sometimes they were oval" (DB). Beautifully shaped oval metates are collected from the Tule lake (Modoc) region; I have seen none from Surprise valley.

[146] Lowie, SE, 204.

mens. When not in use, the slab is leaned face downward against the wall of the house. On journeys a small size metate was carried in the burden basket.

The mano (tusu') is without special character; it is not beveled or rockered in any distinctive manner. Evidently any stone of suitable size was put to use with the metate.

Mortar.—My information concerning the mortar accords with that of Dr. de Angulo.[147] Strangely enough, considering the vast number to be found archaeologically, informants state that "they did not use them much."[148] They did not manufacture mortars, but if they happened upon one they might use it. In the absence of a mortar, any kind of rock served. Sometimes the mortar and pestle were cached "so that when we came around next time we knew where to find them." The pestles[149] are simply elongate stones, shaped through use as much as anything else.

Arrow smoother.—Two grooved stones (pa'a'bi; also poños-tüma'-nak^{ü}; poños, arrow) are said to have been used in smoothing arrows. They were unsquared and resembled the Klamath specimen figured by Barrett.[150]

Pipe.—All agree that the old pipe (to'i'c^{a}) was stone with a wooden mouthpiece, but with this, agreement virtually ceases. Informants are about evenly divided between the tubular and the elbow pipe, three claiming that the latter is a "white man's pipe."

Minnie described a plain tube which was smoked with head tilted back; Piudy reported a tubular pipe which the user leaned back to light, but smoked straight. Billy Steve, when shown plate 22 of Barrett, picked figure 7, a bone mesh measure, as most closely approximating the old form—an undoubted indication of tubular shape. Nannie Ochiho agreed that the elbow pipe was "white man's" but said that the old Paiute pipe was more curved than the simple tube. Joshua agreed with her that the old pipe was intermediate between the straight and the elbow types.

When Tom Anderson was shown a tubular pipe he emphatically declared, "not Paiute," selecting figure 9, plate 22 of Barrett as "a Paiute pipe." Daisy Brown likewise declared for an elbow pipe. Dr. Sam of Beatty, when asked concerning pipes, brought forth one he had made years ago. I understood that his was in the old style manner, but as I was pressed for time, I may not have stressed the point of age sufficiently. The pipe he showed was carved in the shape of a mountain-sheep head, nose pointing downward. The bore entered the head back of the horns, turned elbow-wise, and ran through the neck. The wooden mouthpiece was attached at the butt of the neck. The whole very much resembled a miniature tomahawk pipe.

147 P. 321.

148 "What would we use those for? We have no hard seeds" (P).

149 "The pestle is called tüta'bin" (JB); "poda'n" (P).

150 Plate 21, fig. 9.

The specimen[151] illustrated on plate 32*b* was obtained from Fat George Townsend. The standing height is 2¼ inches. The perforation at the top is ¾ of an inch in diameter and that at the mouthpiece, a fraction less than ½ inch. The latter perforation is said always to be the smaller. The elbow bears an angle knob, oval in shape, and notched at the terminals of its long and short diameters. The total length of the stem is 2¼ inches, of which ⅜ of an inch penetrates the pipe. The mouthpiece bore is less than ⅛ inch across. The stem is decorated with a small band of the outer bark.

One of the strongest claimants[152] for the tubular pipe is from Nevada where the straight pipe is known.[153] There remains the evidence of Piudy and Minnie Anderson, both excellent informants and both well advanced in years. With the exception of Dr. Sam, other informants run at least five to ten years younger. It is possible that the straight pipe was replaced by the elbow form in early times, perhaps simultaneously with the advent of the whites. At this time a good many new traits seem to have filtered in. If this were the case, informants of sixty or sixty-five years might know only the later type. It is singular, however, that amateur archaeologists of the region seem not to have found any tubular pipes, but then pipes of any sort are rare enough. Furthermore, it is not inconceivable that these Paviotso shared the elbow pipe with the neighboring Klamath.[154]

The pipe could be made of any soft stone, but the favorite was reddish and was called atsa'-tüpi' (red-stone). The Bannock are credited with a shiny red-stone pipe,[155] doubtless catlinite.

Accounts of pipe manufacture vary. According to Joshua, stone was selected, heated, and chipped, then perforated with a bone awl. Piudy substituted deer horn for the bone awl, and he, as well as other informants, denied the heating. Minnie said that the stone was pecked to the desired shape and the cavity made by scraping with an obsidian knife. She illustrated by working a stick in the palm and then inverting and shaking the hand as though to remove dust and chips. Joshua, Minnie, and Piudy all denied the use of a drill. Nannie Ochiho described a drill made by lashing an arrowpoint to a horn shaft, but as she is considerably younger than the others, the drill may not be aboriginal. According to Minnie, "all the men knew how to make pipes."

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151 In possession of Henry Kober, Fort Bidwell.

152 BS.

153 Lowie, SE, 215.

154 Spier, Klamath, 87; Barrett, Klamath, pl. 22, figs. 8, 9.

155 JB.

The mouthpiece (na'bitsimü) was made of rose. Minnie reported a hollowed elder stem; Daisy thought this material would be too soft, although it is known to have been used by the Klamath.[156]

Chipped implements.—Chipped implements were largely obsidian. The stuff is scattered plentifully, and informants deny any particular source, saying that pieces were picked up "just anywhere." An enormous deposit occurs at the south end of Cowhead lake.[157] Quantities were evidently transported from here to the camps on the north shore where piles of rejects may be seen, but these may antedate Paviotso occupancy. As the lake recedes, many artifacts are found in the sand, and some excellent specimens, including knives and a bewildering array of points, have been found in the neighborhood.

Knives (wi'hi, applied to anything for cutting) were formerly two sizes. They were used for skinning and butchering and were carried in a sack at the waist together with the fire drill, or else in a buckskin sheath (wi'hi-mago''o; knife-container) attached to the belt. Some knives were hafted. Joshua said that his father's butchering knife had a bone handle a couple of inches long; Piudy said that the handle was of any kind of wood, not bone, and that service wood was strongest. Large blades which appear to be giant spearpoints were probably hafted knives.

Arrowpoints found archaeologically were used if in good condition. Most are notched at the base. Joshua had watched his uncle make arrowpoints. He warmed the stone on the coals then broke it into small pieces. These he worked in from the edge, using a pointed instrument (muka'nu) of deer or mountain-sheep horn. He wore no skin guard; sometimes he cut his hand, but "he was not afraid." Tom Anderson said that his grandfather held a piece of hide in his hand when making arrowpoints.

Scrapers were used in working hides, but I am not certain if they were actually made or if they were merely found archaeologically and put to use.

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156 Spier, Klamath, 87.

157 This means that they had ample material within their own territory without contesting the Achomawi right to Sugar hill. Kniffen (map 2) agrees in having Sugar hill indisputably Achomawi. Cf. de Angulo, 315.

FIRE MAKING

The Gidü'tikadü had the composite fire drill as did their Nevada relatives.[159] The shaft (kudza') was of any kind of wood, the tip (sawa'gudsü) of sagebrush. A charred tip[160] which I examined was conical and 3½ inches long. Its apex fitted into a 30-inch wooden shaft whose pierced end was strengthened with sinew wrapping. As a usual thing, however, the tip was lashed to the handle. The arrow shaft did not serve as a drill handle.

The hearth (wa') was usually of soft juniper and had "any number of holes," usually two to four. I saw one[160] two inches in width, fifteen inches in length, and tapering at either end. There were two holes along both margins; one hole had not been used. Sagebrush bark served as tinder, and a little sand or dry dirt was dropped in the hole to encourage friction. The drill was twirled between the palms; the resulting spark was turned at once into the channel where it was blown gently, igniting the tinder. It took about two minutes to produce fire. When women made fire, several took turns rotating the drill.

Fire-making apparatus was carried in the quiver or in a deerskin bag hung from the belt.

On short winter journeys fire was carried in a slow match of braided sagebrush bark.

WEAPONS

Bow.—Every man made his own bow (adi; now gun). The Achomawi are said to have used young oak,[161] but the Gidü'tikadü always used juniper. A straight branch was cut at the end and split, the bark side of the limb becoming the back of the bow.[162] The limb was warmed and scraped. Informants insisted that the bow length was not measured; "they knew the length by looking." It was "not too long, about three feet. The Achomawi had the long bow." The bow was undecorated. It was nocked at either end and had a constricted grip wrapped with deer hide to protect the hand. The grip had no special name; "they just made it that way." The piece of buckskin which served as wrist guard was also unnamed.

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159 Lowie, SE, 222.

160 In possession of Henry Kober, Fort Bidwell. Obtained from Fat George (Townsend).

161 This evidently refers to the western groups or else implies traffic in the wood, since Kniffen (map 1) places the limit of oak slightly east of Fall river.

162 Cf. Spier, Havasupai, 161.

The self bow was used only by boys; adults used the backed bow. Sinew from the leg of the deer was stronger than that from the back and consequently was employed in bow-making. It was chewed until soft and was then warmed and applied along the back of the bow with lengthwise strokes, running from the center to the ends. It was tied at the nocks. The sinew was attached with fish glue (za'gu) "from inside the sucker. It looks like little white bags. Put it in the fire to make it soft and sticky. Put this glue on the bow and then put on the sinew." There was but one coating of sinew; it was applied in a thin layer so that it would dry quickly. Three hours to a full day were required, otherwise the sinew would peel. The bow was not bent until thoroughly dry.

The bowstring (paga'^{kwi}) was always of two-ply sinew. The leg tendons were dried, shredded, and chewed. The strands were then overlapped and rolled on the thigh. The bow was unstrung when not in use, otherwise "it would lose its spring." One end of the string was fastened permanently and secured with pitch; the free end was noosed.

Arrows.—Arrows were of rose (tsia'b^{i}), currant (poho'nob^{i}), service (wükwü'kobü),[163] tüa'b^{i}, and possibly of young cat-tail (toib^{ü}).[164] Piudy said that service arrows were used only by boys, but at Beatty I saw duck arrows of that material. Arrows were of three sizes: those for bear and elk were somewhat over three feet in length, perhaps nearer four; those for deer and antelope, about three feet; those for birds, "much smaller."[165]

Arrows for big game bore a zigzag groove. The shaft was twisted in the fingers while the channel was being cut. Such arrows were called bagu'b^{ü}; the channel proper was unnamed.

An arrow was smoothed by being rubbed between two grooved stones. It was warmed, then straightened in the teeth. The arrow wrench was not regularly employed; Piudy said, "I saw somebody use one once, but I don't remember who it was." Dr. Sam reported a perforated deer horn wrench for the Silver Lake band. He called it muka'nu, a name applied by Gidü'tikad^{ü} informants to the horn flaker.[166]

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[163] Probably to be identified with Lowie's ugwo'qow^{a}, SE, 245.

[164] "The Achomawi had cane arrows" (P).

[165] The above mentioned duck arrows were about 15 inches long.

[166] The muka'nu figures in several tales as a rod of magical properties, for example, Kelly, tale 10*b*. There is much confusion concerning its translation, and several interpreters were unable to give any description, much less an English equivalent.

Arrows were invariably three-feathered, the sole exception being the rarely used unfeathered fishing arrows. Those for water fowl were always feathered; "an arrow without feathers would go no distance." Wing feathers (kwigi) of the sage hen, goose, swan, duck, or crow were split, leaving the very tip intact. They were attached with fish glue or with gum from the juniper or pine. Feathers seem to have been of fair length, five or six inches; if too long they were cut. They were attached about an inch from the end, leaving "just enough space so you could hold the arrow."

The butt was nocked. The other end was slit and a stone point (taka') inserted and held with sinew lashing. There were three kinds of stone points, red (atsa'-taka'), white (toha'-taka'), and black (tuhu'-taka'). The last, black obsidian, was least valued because it broke too easily. The red, also obsidian, was said to "cost like buckskin" because of the scarcity of the stone and because a point could be used over again, even though it fell to the ground.

Arrows for birds and small game such as squirrels, rabbits, and groundhogs, were one-piece, sharpened at the end. They were dried in the sun or hardened in the fire, meanwhile being turned to prevent warping. I understood from Joshua that the shaft was sometimes bored and a greasewood point inserted, but as this was not confirmed by other informants, I may have misunderstood.[167]

According to Joshua, every man knew his own arrow. He decorated it with stripes of red, yellow, or blue, placed just behind the point and halfway down the shaft. Piudy differed as to means but not as to ends, saying, "You can tell your arrow by the feathers. Any kind of feathers could be used. Maybe I used duck; you used another kind. These Paiute never did paint the arrow." Identification of one's arrow was important as it affected division of the spoils.

In shooting, the bow was almost vertical with the arrow to its left. The release was primary, the arrow being grasped between thumb and forefinger, with the thumb superior. When shooting from ambush, the archer sometimes held the bow horizontally to avoid detection. The Achomawi are said to have held the bow horizontally.[168]

According to one informant, a person could "shoot hard from here across the street," a matter of fifty feet. Another informant thought that would be "pretty far." A well-shot arrow penetrated a deer three or four inches.

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[167] Although Lowie, SE, 245, mentions a greasewood point for rabbit arrows.
[168] Informant P.

Arrow poison.—Piudy knew only one kind of arrow poison. It was called watsi' and was used for war and for big game, including deer. It took immediate effect, producing swelling, but not affecting the edibility of the meat.

Our poison is made from the deer's akwatsi', black looking stuff on the intestines which looks like the liver[169] but is smaller.[170] Cook it in the ashes and let it dry. It smells bad. Stick the arrowpoint in and let it dry, or rub on the poison with the finger. There is no cure, so you have to be careful, especially if your finger is cut.

Joshua claimed that poisoned arrows were kept apart from others; Piudy, that segregation was unnecessary as the dry poison did not rub off.

Joshua enumerated three kinds of poison (ta'iyüp^{ü}) for arrows. A person might prepare poison from the spleen (?); he might let a rattlesnake bite the point; or he might insert the arrow in a root of wild parsnip so that it became coated with the juice. Joshua added that poison was not used much for game but principally when one "wanted to kill a man."

Quiver.—Arrows were carried in a quiver (hu'gu'"na) of otter, raccoon, lynx, coyote, or deer skin. It was not made on a framework, but the hide was stretched while wet and allowed to harden in the desired shape. It is significant that a man always made his quiver in spite of the needlework involved. Piudy gave the following directions:

Fold the hide lengthwise with the head part down, because that is the small end. Sew up the side and across the bottom (nose). Leave the tail on and let it roll around in the back. Tie one end of the pack string to the fore legs and the other to the hind legs.

This string goes over the right shoulder. Wear the quiver on your back when traveling. Pull it to the left side of your chest to shoot, or, if lefthanded, the other way around.

The quiver can be of untanned deer hide, with the hair on. Cut the hide so the quiver will flare from the bottom; it is straight across the top and slanting on the bottom. You can put fringe on the bottom and the side.

A person carried only one quiver. This contained his bow and upward of ten arrows, although Tom Anderson estimated its capacity at forty. When not in use, the quiver hung inside the house.

Spear.—The spear was apparently unknown in the old days, although Joshua thought otherwise. The spear-thrower was certainly unknown; "They never had anything like that even far back. The old people never even talked about it."

169 The interpreter (NH) was positive of this.

170 Probably the spleen.

MUSICAL INSTRUMENTS

Flute.—The Gidü'tikadü knew the simple flute, called woi'ñ. Ku'nu''gib was also recorded as flute but seems rather to apply to a wood of which the flute was sometimes made. This wood was said to be "like a willow but growing in the mountains." More frequently the flute was of elder (hubu') stem from which the inner pith had been pushed. The flute was described as from twelve to fourteen inches long, cut slanting across the mouth end. In the old days it was never blown from the side or with the nose. According to Joshua, the instrument ordinarily had six holes, but formerly only four;[171] Piudy mentioned four holes, played by two fingers of each hand; Daisy and Charlie Washo reported eight holes, "just enough holes for four fingers of each hand." The flute was played only by men. Its use was entirely recreational; it was not used in courting. The bone whistle was unknown.

Rasp.—The notched stick is not Gidü'tikadü. Dr. Sam described it for his band in connection with antelope charming, but Surprise Valley informants reported in its stead a plain stick wound with "string." Lowie[172] mentions the notched stick in the same connection for the Nevada Paviotso; but Sarah Winnemucca[173] is not explicit as to the kind of rasp used.

> My father took a stick and rubbed this stick from one end of the instrument to the other, making a penetrating, vibrating sound.

According to Joshua, "The notched stick is Shoshone; they use it in the Bear dance. It sounds like a washboard." Mettie Petty of Beatty said that it served her people as a dance accompaniment; Daisy Brown reported a similar use by the Nevada Paviotso.

Rattles.—Deer hoofs were sometimes tied about the knees when dancing. This practice had no special name. The deer-hoof rattle (witsa'baiya) was used only by shamans, each of whom made his own. Joshua described its manufacture as follows:

> Make (?) the hoofs all one size. Warm them and punch a hole in one corner. Run a string through the holes. Twist the string around a stick about 16 inches long. Then shake it up and down.

Susie Archie knew of cocoon rattles which she said the Paiute bought from coast peoples.

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171 Four is the customary number in California. Kroeber, Handbook, 824.

172 SE, 303.

173 P. 56.

Drum.—The drum (witu'a) is apparently recent. Piudy states that it came from the north and northeast at the time of the white advent. The late intrusion seems in keeping with the fact that the drum was rarely, if ever, used by shamans. According to several informants, tribes to the north employed the drum in doctoring. In recent times, the Gidü'tikadü have used it as a dance accompaniment. It is the usual tambourine drum—hide stretched on a circular frame.

A modern specimen which I was allowed to examine[174] was about sixteen inches in diameter. The frame was chokecherry, although juniper is more usual. Horse hide (with the hair surface facing in) was stretched taut over one side. It was held by six thongs radiating toward the center of the under side from as many slits spaced evenly along the margin of the turnover. Each thong was slit a short distance from the end and pushed through the hole in the skin cover. The body of the thong was then brought through its own end slit, just as merchandising tags are attached. The six thongs converged in the center, but their fastening was obscured by several rows of cotton cloth in wrapped stitch. The radiating thongs constituted a handle behind which the single drum stick was thrust when not in use. The stick to this drum had been lost but was described as short and hide-wrapped on one end.

A band of red paint encircled the rim of the drum, but the face proper was undecorated.

Joshua said that the drum was sometimes painted red, sometimes yellow. The coloring was applied around the edge and in the middle, the latter perhaps in stripes.

DOGS

There is practically unanimity on the subject of the native dog, soko'puku. It was very scarce, very small, and looked "just like a coyote." It was of virtually no assistance in transportation, Dr. de Angulo's assertion that "they used dogs for packing"[175] being contradicted by all informants. One[176] admitted under pressure of persistent questioning that "if a dog were good and strong he might carry a pack, but most dogs were poor, and they were pretty scarce." Certainly the dog pack was very much out of the ordinary. The travois was unknown; Bige Archie asserted that it was introduced with the horse, but this was denied by all other informants.

Because of their scarcity, dogs could never have been very important as food. The majority denied ever eating dog, but two had heard of its being eaten in times of great shortage.

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174 In possession of Nellie Townsend, Fort Bidwell.

175 P. 322.

176 MA.

The dog was used in tracking game, principally groundhog. A good dog would kill a wounded deer. Dogs were given no special training for the chase; "they hunted when they were hungry."

As far as I could learn, dogs lacked individual names.

TRANSPORTATION

Burdens were carried on the back. A load was slung from the chest by a tumpline but if very heavy, it was suspended from the head with a pad of sagebrush bark to prevent chafing.

Old brush was gathered for firewood. It was piled, tied together, and carried to camp. In traveling, blankets were thrown over the shoulders, sacks of food carried on the back, and small objects, such as the metate, placed in a burden basket and similarly borne. A child too small to walk sat on top of the load, his legs dangling about his mother's neck. Sometimes a woman carried two small children this way; sometimes a man also carried a small child.

With the introduction of horses, travel was greatly facilitated. The horse pack called for twisted or braided (three or four-strand) deer hide or for three-strand braid of sagebrush or wiha'b[1] twine. The Paiute saddle (sado', from saddle) was described as an affair of soft deer or antelope hide stuffed with deer hair. It had no wooden or horn frame. A long loop of 3½-inch deer hide contained the "round" juniper stirrup.

Containers.—The utility container was the conical twined burden basket. Foods, such as roots, were stored in an open twine sack of sagebrush bark (watsi'-mago"o; sagebrush bark container) described as four feet in length and two in width. A close-twined conical basket or a conical hide container (kwa'nü) was used for seeds. The hide bag was made on a frame of two, possibly more, willows crossed and bent upward. One or two deer or antelope skins were sewed together as covering and a green willow hoop fastened about the mouth.

Water was carried in the pitched willow jar and, according to Minnie, sometimes in a skin bag. Minor receptacles such as the knife sheath, quiver, and the bag for the fire drill, are mentioned under other headings. The same holds for the cradle.

Miscellaneous.—On short trips in winter, fire was carried in a slow match (koso'-yakwi'n^a; koso', fire; yakwi'n^a, hold in the hand ?) of sagebrush bark in three-strand braid. It was "about the size of a woman's forearm and was braided hard." A slightly different type

was reported by Piudy, "Take the stem (wood) of sagebrush and twist it with bark. Then light the end and it will keep burning. Keep waving it."

The eyeshade was not used, but people traveling in the snow smeared charcoal under the eyes to prevent blindness.

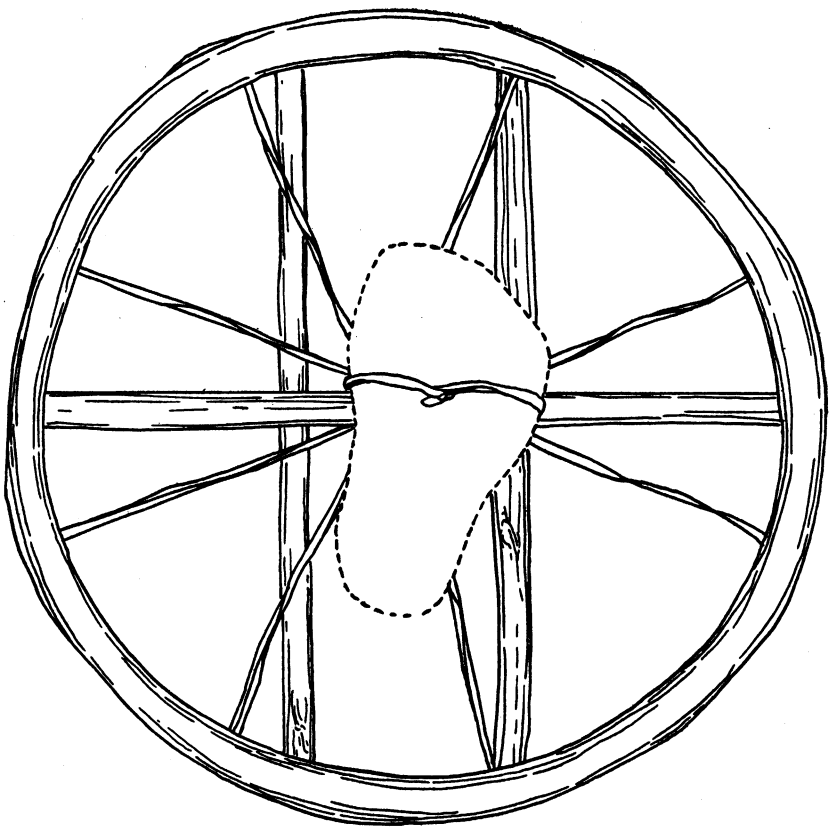

Fig. 10. Snowshoe. Redrawn from a sketch by Charlie Washo.

Snowshoes.—Snowshoes (sikü') were made by men "because they knew how." Women did not wear snowshoes. The frame was sometimes of willow, but usually of service, and was round. Small sticks of the same wood were used in lieu of netting. According to Daisy, two sticks were crossed at right angles and the ends lashed to the frame. The foot was placed over the center, and a thong passing across the instep was tied at either side to the stick. This could not have been very secure, but she denied the use of additional fasteners. Piudy said that the foot was tied three times from toe to instep and

once about the heel. Daisy remarked that the Klamath snowshoe figured by Barrett[177] "would get all out of shape because they used skin instead of sticks."

The diagram in figure 10 is from a sketch by Charlie Washo. It calls for three crossing sticks instead of two and for radiating thongs of deer hide.

Nellie Townsend said that formerly snowshoes were boiled to bring rain and that nowadays they were fried instead of being boiled. This was called "killing the snowshoes." Other informants seemed unfamiliar with this practice.

Balsa.—The balsa (sai'-saki') was used on the lake when hunting ducks and young geese, but not for fishing. A single bundle of tules was kept alongside on which to place the birds killed. Two informants said that the balsa was sometimes used "up north" to cross streams. It was not required in the Surprise region.

The balsa consisted of two bundles of tule (saib^{ü}) tied at the ends with the same material[178] or with bark twine. Both ends were turned up so that the craft could proceed in either direction. The balsa was always made by the men. For a single individual it was about four feet long; larger ones held four or five people, a "whole family."

Various methods of propulsion were reported. Piudy thought that the balsa was punted with a long pole. According to Joshua it was paddled (*not* punted) with a willow ten or twelve feet long. Daisy claimed that "they had no oars, paddles, or poles. They just used their hands and feet, and they used to get pretty wet." Piudy thought that the last mentioned system was used only by persons unable to swim.

Some said that the balsa was not used a second time, but was discarded and a new one made; others, that it could be used again if removed from the water.

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[177] Plate 17, figure 1.

[178] A specimen which Lowie purchased at Fallon was tied with toib^{i}, cat-tail. SE, 249.

TRADE

Trade seems to have been carried on to a moderate extent. Sinew, arrowheads, red paint, buckskins, and moccasins were bartered with the adjacent Achomawi. The latter seem to have held moccasins in particularly high esteem, for when an Achomawi killed a Paiute he invariably removed the moccasins for his own use. In return for the above mentioned articles, the Paiute secured the Achomawi bow which "was of young oak and good and stout. It had lots of sinew on one side." Achomawi arrows (atsa'-adi; red-arrow, so-called because of red paint on them) were also "pretty good." A person might exchange a rabbitskin blanket for an Achomawi bow and arrow.

According to Joshua, the Paiute also secured baskets, including women's caps, from the Achomawi. This is not surprising in view of the execrable character of their own work. Piudy doubted there was much traffic in baskets; the only good Achomawi baskets, he said, were made far to the west, the craft of the eastern Achomawi not being much better than their own. Nowadays, at least, there is a certain amount of interchange, for I have noted several baskets purchased locally which are indubitably of Achomawi origin. Baskets of Klamath-Modoc type also crop up now and then.

Although Piudy minimized the traffic in food products, the Gidü'-tikadü certainly obtained dried fish from their western neighbors. The fish were slit and sun-dried, not ground.[179] Joshua stated that the Paiute traded for kuyu'i (a kind of sucker), a'gai (salmon), and yüani, tsia'ns, and tsowa'm, the last three unidentified. In exchange, the Achomawi were given red paint and various foods such as ya'pa', hu''nibui, and hapi'i.

Informants report some trade with the Klamath, and there may possibly have been some with other Paiute bands, but on this I have no data. The Warm Springs Indians are said to have come from the north on trading expeditions, and it was from them that the Gidü'-tikadü secured their first horses. "A nice looking pony" could be got in exchange for a sack of camas, but buckskin seems to have been the preferred medium.

Our horses came from the northeast, toward the Bannock. The Burns Paiute got horses and the Warm Springs Indians stole them and brought them here to trade. We had horses before the whites came.

[179] Cf. de Angulo, 320.

White disc beads (clam shell ?) came from the north (Warm Springs) and even today are highly valued. Daisy paid fifty cents apiece for the five or six she has and stated that a short necklace once equaled a horse in value. Modern beadwork in Plains style is also purchased from the Warm Springs Indians. Some beadwork is done by the Paiute, chiefly belts and purses. Some make the belts without looms; but I saw one bow-shaped loom such as Lowie noted for the Northern Shoshone.[180]

RECKONINGS

TIME

Time of day was indicated by the position of the sun. The following list was given by Joshua; it has not been checked with another informant:

Taba'-a-gina (ta'ba, sun; gina, up, visible); before daylight, nearly day
Oha'-na-gina (oha', yellow); just before sunrise
Taba'-tsibui-gina (tsibui, come out); sunrise
Taba-paña''tü-mana'ikü (paña''tü, high, higher; mana'ikü, happen); a little way up
Awa'mu'ᵃ-tabi'nu (awa'mu'ᵃ, morning; tabi'nu, noon); halfway up
Tabi'nu; noon
Yüñü'kwü; halfway down.
Taba'-igia'ga'ᵃ-dui (igia'ga'ᵃ, down; dui, nearly); nearly down; at the top of the hills
Taba'-igia-mü'as (mü'as, already); sun down
Tuyu'pua-mü'as (tuyu'pua, twilight); dusk
Toga'-nu-mü'as (toga', dark); dark

Four seasons were recognized as follows: ta'ma'nº, spring; da'dza', summer; yü'ba'nü, fall; tomo, winter.

The time count, based on descriptive designations for lunar periods, started in the fall with the rutting season of deer and antelope[181] and ceased in spring. Summer months were unnamed; "the real months they count are winter and spring; they don't care about counting summer." The number of days comprising a lunation (müha) was of small concern. Some informants placed it at thirty or thirty-one; others stated frankly that "they never counted the days in the month." A month started with the appearance of the new moon.

In winter they watched for the new moon. The last day the moon was little and came just before daylight. When they saw the new moon they called it the first day. Then they made all the young boys run about a half mile, carry dry

[180] Lowie, NS, 177.

[181] Determined by the taste of the meat.

wood, and put it on the fire. If they ran every time game would not be afraid of them and they would be able to kill squirrels and sage hens easily. Sometimes they talked about winter, saying, "You boys run at the new moon so as to make the winter short" (JB).

They told the children to watch for the new moon. When it came they had two little girls and boys run a race. That was so the food would grow well (NO).

Information on the month count is badly jumbled. The list given by Susie Archie seems most reliable; she alone was able to give a series of names and to equate them with our reckoning. Her confidence contrasted favorably with the confusion and contradictions of other informants.

Na''-müha (wild deer and antelope breed; na, father ?), November
Paba'-müha (big, full moon), December
Tamü'ni-taba (return of the sun ?), January
Po''atanakwaitipasakŭt (getting warm, snow melting), February
Tokwü'tü-müha (plants germinating), March
Puhi'-mayü-müha (grass is sprouting; puhi', green), April

The above list covers the more or less isolated names furnished by other informants, and is in such sequence that the descriptive designations fit. Perhaps one addition might be made: Joshua noted that two months in summer were known as Düna'-kwaiya'bin (antelope-shed) from the antelopes' shedding. The name was not given by any other informant.

Logically, it would seem that Paba'-müha, big moon, should apply to the long summer period. Daisy and Piudy both had it so but were unable to organize the remaining months accordingly. Tamü'ni-taba (return of the sun) is interesting in that it suggests solstitial consciousness. David Chocktoot's rendering of the same term was "the moon turning the earth around to the sun." In any case, the fact remains that the calendar was definitely not regulated by or brought into accord with solar phenomena. Instead of Tamü'ni-taba, Piudy and Daisy both gave Tamü'nida. The former explained it as "around January, the time when seeds are just beginning to germinate under ground." Daisy's explanation was "this is when one side of everything is dry. There is snow in the shade, but things in the sun are dry."

Recording time by means of knotted cords or notched sticks was unknown to the majority of informants.[182] However, Tom Anderson, in a vain effort to recall the old calendrical system, tied twenty knots in a rope and stated that each night a small thong was tied between

[182] P, NO, DB.

the appropriate knots to indicate the lapse of a day. He claimed a twenty-day month with one month, Paba'-müha (big moon), having twenty-three days. This he identified with July. He could not recall further details or the names of other months, and his twenty-day month was not verified by other informants.

Joshua was positive on the score of record keeping. He averred that "some women" knotted cords to aid them in reckoning the duration of pregnancy. "They kept it just like a calendar, every day. Sometimes they cut scratches on a stick instead." He also said that in winter a cut was made each day in a large stick and that a new month was indicated by a cut of extra length. Knotted cords did not accompany an invitation. "If they sent word of an antelope hunt, all the people came as soon as they could."

CONSTELLATIONS

A number of winter constellations were recognized. Thus, "the stars are overhead in winter time; during the summer they are all over toward Nevada (the east)." As usual, the Milky way (nümü-po, people's trail) figures as the road of the dead and the departed are said to travel south along it. The stars of the Big dipper (ta'noa'di) are Indians driving rabbits into a net; "the two in front don't know where they are going." Three stars, probably to be identified with Orion's belt,[183] are mountain sheep (koip^{ü}) who were once Indians. In this connection Piudy gave an explanatory tale similar to the one recorded by Lowie,[184] although the latter does not identify the stars with any constellation. A group of stars in the east is called müza'^{a} and is a band of mountain sheep who were once Paiute women. They are said to be traveling in this direction. A group of "about ten stars way over in the east about 3 o'clock midsummer mornings" is a number of women fighting; the description suggests the Pleiades.

Other constellations are identified as eagle, weasel, flies, two women fighting, and a man with a slow match lighting the two combatants. A large single star which shines in the east about 3 o'clock summer mornings is called paba'i-yü-mogo'tni (big woman). The North star is unnamed. My informants had not heard of hand or hoop constellations.[185]

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[183] Spier, Havasupai, 172, gives the distribution of this identification.

[184] ST, 232. Curtis, 15:147, gives the myth and stellar identification for the Walker River Paiute.

[185] Discussed by Spier, Havasupai, 170–171.

DIRECTIONS

Informants state that the cardinal directions are named from the winds, but the names are not entirely consistent with such derivation. The east is designated by a term which contains ta'ba, sun, and the same is true of some of the terms given for west.

The following list is according to Charlie Washo:

kwina'bü, north. Over here it freezes; the ice is pretty thick; it kills everything; it is the boss.

ünü'kwipa, south. This is a good wind; it melts the snow.

taba'kwipa, east. This wind is pretty bad; the groundhog never comes out. Ta'ba means sun.

nana'kwipa, also nana'badu, west. This is a pretty bad wind; sometimes it even turns over a wagon. They just call this direction the three sisters (?).

This list adheres to the "wind approach" regardless of the actual meaning of the term. Other informants were less consistent. Piudy named the following directions:

kwina'hannakwüt, north. Kwina' is cold (?).
ünü'kwapü, south. This is a hard wind.
taba'kwapü, east.
nana'badu, west. This means the daughters (?).

The following list was obtained from Nina and Henry Naneo of Beatty:

kwina'han, north. Cold wind.
pana'kwatü, south. Warm wind.[186]
taba'-sibui-nakwatü, east. The sun rises.
taba'-iyanakwatü, west. The sun goes down.

Billy Steve of Summit lake, formerly of Pyramid lake, gave the following:

kwina'hanakwitü, north. They name it by the wind; it is a cold wind.

pita'nikwitü, south. This is what the Pyramid Lake Paiute call it. The Paiute around here (Surprise valley), call it nana'badu.[187]

taba'damitü, east. They name it after the sun.

taba'igitumitⁱ, west. The sun goes down there.

The zenith and nadir were not given as directions, but when questioned, the Naneos gave pa'a', up, high, and tibo'ñ, down.

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[186] Possibly from pa, water, having reference to rain?

[187] Cf. above; Piudy and Charlie Washo give nana'badu as west.

NUMERATION

Piudy thought that in the old days the Gidü'tikad^{ü} did not count above ten. Fractions smaller than half (na'mukwai) were not differentiated; they were called tü'tsi, piece.

1. sümü'^{yü}
2 waha'^{yü}
3 pahi'^{yü}
4 watsi'kwi^{yü}
5 ma'ni'gi^{yü}
6 na''pahi^{yü}
7 nata'kwasikwi^{yü}
8 wa''kadao'p; and also na'mi-watsikwi^{yü}
9 sümü'kadao'p
10 sümü'-mano^{yü}
11 sümü'-maspok (maspok, out, over)
12 waha'-maspok
13 pahi'-maspok
20 waha'-mano
30 pahi'-mano^{yü}
100 sümü-kwa'it
200 waha'-kwait

Unfortunately I did not get an analysis of these words. Yü is a more or less constant suffix but seems not essential. Some interesting points are contained in the numerals proper. Thus, 6 incorporates the term for 3 (probably twice three), thereby suggesting a system fundamentally quinary. The kwasikwi^{yü} of 7 may be a different rendering of watsi'kwi^{yü} (4), but it is not clear just what this would signify. The second term listed for 8 is comparable to that for 6 in that it contains the stem of a lower digit (twice four?). 9 hints at a $1+8$ (first term) combination. The word for 10 is obviously 1×10; that for 20, 2×10, and so on.

COLORS

Identification of colors was made as follows: red, atsa'kwikia^{a}; yellow, orange, tan, oha'kwikia^{a}; blue, purple, green, puhi'kwikia^{a}; brown, ikwi'zikwikia^{a}; black, tuhu'kwikia^{a}; white, doha'kwikia^{a}.

The term kwikia^{a} evidently signifies color; it is not ordinarily appended in conversation. The single word for blue and green is of some interest. It is necessary to use a qualifying term if one wishes to distinguish between the two.[188]

[188] I happened to inquire concerning the blossom color of a plant which had seeded. After several minutes of discussion my interpreter said with disgust, "You can't tell; these old people call half a dozen colors by the same name."

SOCIAL ASPECTS

KINSHIP AND STATUS TERMS

Except for orthographic differences, the kinship terms recorded agree substantially with the Paviotso lists published by Kroeber[189] and Lowie.[190] Consequently it will not be necessary to reproduce the series complete, but one or two additions may be noted. As Lowie suggests, the initial i proves to be the pronoun of the first person. The term, hai''^{i} (hai', hɛ̄''^{i}), may be extended to include father's sister's husband as well as father's brother, stepfather, and mother's sister's husband; and the term, bi''du (pidu'u; piru''^{u}), to include mother's brother's wife as well as mother's sister and stepmother. Similarly, the term, hu''za (huza; hū'za, h^{u}ja), may be enlarged to include wife's sister's child.

Lowie seems to be in error in applying igū'ma (gu'ma') not only to husband but to sister's husband as well. According to my informants, sister's husband (m.s.) is a'da'toi and (w.s.), nüna'i^{i}, corresponding to Lowie's ara'doi and (i)ninɛ''^{i}, respectively. While speaking of errors it may be noted that de Angulo,[191] who has published an incomplete kinship terminology, reverses the terms for husband and wife.

Status terms were recorded as follows:

oha'^{a}; also, düha'ai^{i}; infant or small child of either sex
nats^{i}; boy (3 to 12)
tsü'üü; girl (3 to 12)
nama'dagai^{i}; adolescent youth; menstruating girl or woman
tui'pitsi^{i}; unmarried youth
süa'düm; unmarried girl
budü'ñawa; young persons, married or unmarried
oha'^{tl}ka; newly married; a recent term used in jest
na'na; man
mogo'tni; woman
dü'ba's; sterile person of either sex; berdache[192]
kohi'ad; pregnant woman
badi'kayu; man or woman with small daughter
du'a'kuyu; man or woman with small son (this and preceding term determined by the sex of the last born child)
nana'niadü; middle-aged man

189 California Kinship Systems, 358–365
190 SE, 289–290; Bannock Kinship, 297.
191 P. 330.
192 Lowie, SE, 283, records the same term plus the word for man, woman.

na'ukwai-mogo'tni; middle-aged woman
wa'i'tsi; old man
piü'wab!; old woman
mua'tüpü; old person of either sex

A berdache and a sterile individual were called by the same term. Minnie Anderson had never heard of the former; she said "it would be bad luck for a man to wear women's clothing." Piudy knew of a woman who acted like a man; "she killed deer and stayed with the men all the time." Hermaphrodites affected the clothing of the opposite sex; they were never shamans and never tried to marry. No cure was known; "the Klamath could cure them but not we."

BIRTH

Birth took place in a special house (huni'-no'bi)[193] of tules or grass. It was built by women, presumably relatives or friends of the principal, and was situated north of the dwelling.

A woman in labor was assisted by three or four women including her mother. Certain individuals may possibly have been recognized as midwives. This was denied by one informant,[194] but "a woman who knows about such things" figures occasionally and for convenience she is referred to as the midwife. Assistants at birth might be paid, but there was evidently no feeling of compulsion. If a person had a deer hide the assistants might be given moccasins; "this was big pay."

The parturient kneeled, clinging to a post erected in front of her. The midwife supported her from behind, pressing downward on the abdomen. The child was received into a small hole previously dug and filled with grass and sagebrush bark. The umbilical cord was cut about an inch from the body, doubled back on itself, and tied with sinew. This operation was performed by the midwife, who used an obsidian knife. The cord was wrapped in rabbit or other skin and attached to the cradle beneath the child's head. One informant stated that it was tied to one side of the awning, but this doubtless refers to later cradles. When the child began to walk, the cord was hidden in a hill of the red ant. If the cord were lost the child would "scratch around looking for it" and would never be able to do things well.[195] If the child died the cord (asi') was buried with it. The placenta

193 The menstrual hut is similarly named. I could not determine if they were one and the same or if they were two separate structures.

194 "Everybody knows about babies" (NH).

195 A similar belief is held by the Walapai. For further comparative material see Spier, Havasupai, 321.

(hidu'pü) was carefully buried. If it were eaten by a dog, coyote, or other animal, barrenness would result.[196]

Head presentation was normal; other forms were likely to prove fatal. A shaman was not summoned even in difficult cases. A weasel[197] skin was kept at hand, and if delivery were slow, the abdomen was whipped with the pelt.

A "hot bed (dü'avida[198]; also nadü'nai?) was previously prepared by the woman's mother or grandmother. It consisted of a large hole containing coals upon which juniper boughs had been stacked, and a blanket thrown over the whole. After delivery the woman was placed on this bed,[199] where she stayed "as long as she wanted. If she were healthy she stayed only a week, but many stayed two weeks." While on the pit, the woman employed a scratching stick. Sometimes she pressed a moccasin to her abdomen and bound it there with sagebrush bark to assist in contraction. She was supposed to bathe every five days.

Following delivery the woman was given only warm water; nowadays she is allowed tea, but coffee is barred because it is too strong. According to one account, the woman was denied meat and fish for a period of one month, her husband sharing the taboo for five days only. Another account has it that neither parent could resume regular diet until the cord fell from the baby. The man and his wife shared various pre-natal observances which will be noted below.

An infant was not put to breast for one or two days, during which time it was given only warm water. To insure an abundant supply of milk, a stone was heated in the fire, milk dropped upon it, and burned.[200] A child was suckled until able to walk, even in the event of a subsequent pregnancy, if possible until delivery. The practice seems to be economic at base, for I was told, "White people don't have to do this; they have enough food."

Twins were rare and were not destroyed at birth. No explanation of dual births was given; "they just happened." My informant could recall one instance of twins, nine or ten years ago. Both died in infancy. The usual belief in a sympathetic bond uniting twins is

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196 Cf. Spier, Havasupai, 300.

197 "They used a weasel skin because Weasel is a lucky man" (JB).

198 Also pit oven.

199 The "hot bed" was said by one informant to have been used in cases of severe menstrual pain. This is somewhat reminiscent of the southern California custom of "pit roasting" adolescent girls.

200 Corbusier, 330, notes milk-burning for the Apache-Mohave and Apache-Yuma.

thus expressed: "If one dies, the other thinks, 'I have to go too,' and it usually dies." Multiple births and monsters were unknown.

The father of a new-born child was obliged to follow a definite course of action in addition to observing certain food taboos. Far from being barred from work, he was urged to work unusually hard lest he be "lazy all his life." He was allowed access to the hut but was not present at birth; he waited outside, keeping the fire burning. When the child arrived, he ran to the creek and bathed. Piudy said that at the birth of each child, a man was expected to run up hill and gather wood. He then returned, and swam in the creek. For five days he followed this procedure. He was obliged to change his clothing, either throwing it away or, if poor, trading with someone else.

A woman was expected to observe certain dietary precautions prior to the birth of her child. She was warned especially against eating the tail of any animal; closure would result, and the child "might get stuck." If she ate the heart of an animal it would bring ill luck to her husband. All internal organs were barred for fear the child would sicken. A woman did not eat tongue for fear the baby's tongue would loll; if she ate the head of any animal, the child was likely to resemble it. My informant mentioned these restrictions as applying specifically to the woman, and later added, more or less as an afterthought, that they applied equally to the husband. During this period a man and wife were supposed to get up early in order to insure an easy confinement. Intercourse was continued during pregnancy, but was probably moderated.

Contraceptive devices were unknown, but barrenness would result if the placenta were buried upside down or if eaten by an animal. The same result was procured by burying a dead infant face down. I was told, "This is true, because they do it often. I did that once and had no more babies, so I know it's true." Abortion was frequently accomplished by hitting the abdomen with a stone.

To induce pregnancy, a barren woman drank water containing red ants. One informant knew of "a woman who did that and then had a baby"; another was more skeptical, saying, "It didn't do much good because the ants bit her all the way down and usually killed her." To overcome barrenness a woman might hunt for little gray birds (ditsi'ñi) that live in the rocks. She would take the young birds alive and wear them about her waist beneath her dress.

A child is said to have had five cradles in the old days, although at present a certain amount of economy is practiced. The cradle in use the first month was a soft basket affair, carried in the arms.

Crushed sagebrush bark was used for padding, and a single rabbit skin or woven sagebrush bark served as a blanket. Great care was taken in the disposal of this first cradle; if it were burned or thrown away the baby might be harmed. It was either put in a tree "way off somewhere" or was saved until the child could walk, when it could be given away without danger. The specimen shown in plate 28 was purchased in lieu of being given away. Upon another occasion I tried to purchase such a cradle but without success, although the owner was quite willing to part with several later ones.

After the saki'-hu'pü, a child had two successively larger cradles until he could sit up. Thereupon he was given a fourth cradle, and when he could walk, a fifth. Old cradles were thrown away, not saved for younger children, because "there were plenty of willows."

The attachment of the umbilical cord to the cradle has already been mentioned. Tinkling objects such as the "points" of deer hoofs were sometimes hung from the hood. The technical aspects of cradles are treated elsewhere.[201]

NAMES

Personal names are either meaningless or of the nickname variety, with the former in preponderance. The naming of a child was not the function of any particular relative, but the mother or the grandfather often decided upon a name. A child was not named until he began to walk and talk. "When a baby starts to talk and says a word not plainly enough, they give him that name. Or they name him for something he did when he was little."

A sampling of names and their explanations is here given:

Ko'"sokwaibü (Piudy)	He always used to whistle when he was little.
Si'gi-bui (Piudy's wife)	Cross-eyed.
Mawü'zat (Dick Ochiho)	When he was small he splashed his hand on the water.
Hu'dsi'-sagi (Billy Steve)	He choked on sage hen.
Ma'na"si (Daisy Brown)	This name doesn't mean anything. I just used to say that when we came back from gathering wild plums. I was glad to be back.

The following names are meaningless; they are "just names": Na'ni'gu, Nora Henderson's younger brother; Wi"güdai, Susie Burns; Tüsa'püca[a], Big Dick; Nada"müzü[ü], Petty; Nu'ni', Mettie Petty; Sihwa'n[i], Joshua Brown; Mo'no'itsi[i], Charlie Washo; Tsü"nüs, Minnie Archie's mother; U'tcihu, Ochiho (former chief).

201 P. 132.

BOYS' RITES[202]

When a boy's voice changed, he was told to run. He ran in no prescribed direction but at the end of his course he stacked sagebrush and left it there. While running he carried no particular objects. A youth continued this for five days, at the same time abstaining from game. Breach of the food taboo would affect his whole body; he would tire easily and perhaps be subject to rheumatism.

During this period a boy slept at home. There were no special bathing requirements. He did not sweat, but was expected to dip in the stream when he happened to be near-by. At the conclusion of the five day period, he was allowed to smoke for the first time. Joshua thought that a boy did not smoke until he was about twenty; if he did so before, his body and especially his legs would be weak, and he would not be able to pursue game.

A boy did not marry until several years afterward.

GIRLS' ADOLESCENCE CEREMONY[203]

An adolescent girl was expected to rise early in the morning and run, apparently in no prescribed direction. She was also expected to gather firewood. These regulations were in order that she might be industrious and never tire.

Upon attainment of maturity, a girl retired to a small lodge of rye grass or sagebrush, built twenty or so yards north[204] of the main dwelling. Here she stayed a month, bathing every five days and observing strict food taboos. Game of any sort, either fresh or dried, was forbidden her. There was no salt taboo; but salt is said to be of recent introduction.

A stick of any kind was picked up and used as a head scratcher. If the girl used her fingers her hair would not grow, and she might have lice. One informant reported a drinking tube of elderberry stem, about a foot in length, called hivi'nu. When, however, this was men-

[202] With the one exception noted, this information was given by Piudy.

[203] In view of Dr. de Angulo's denial (321) of puberty rites among those Paiute, it may be well to mention my principal informants. They were MA, NO, and DB, with supplementary and confirmatory data from NT, NH, P, and JB. A Beatty informant, LG, mentioned running and wood-gathering, but said, "My people don't do it much; the McDermitt Indians (also Paviotso) are great for that."

[204] At one time NO gave west for this and north for the birth hut. Upon another occasion she stated that both the menstrual and birth huts were to the north.

tioned upon a subsequent occasion, she denied knowledge of it. Other informants consistently denied the drinking tube. The adolescent was expected to avoid people, but was not required to cover her face. She tied her hair with sagebrush bark and braided circlets of it which she wore about her wrists, upper arms, knees, and ankles as a safeguard against rheumatism. She also wore a braided belt of sagebrush bark.

At the conclusion of the month, the girl exchanged her buckskin dress with another girl or threw it away if she had no friend with whom to trade it. She bathed herself thoroughly in a stream, but did not sweat at this time.[205] According to one informant the girl painted her face with red paint at the conclusion of the month; but this was not mentioned by others. One informant described a celebration following her emergence from seclusion: a man sang a song; many people gathered roots; and everyone, including the girl, enjoyed a feast.

After this a girl was free to marry, which she usually did within the year.

MENSTRUAL OBSERVANCES

A menstruating woman retired to a special lodge (huni'-nobi; huni', menstrual blood) where she remained in seclusion for five days.[206] If a person happened to inquire for a woman during her absence, he was told, "Hu'na patsa'"; she killed a badger. This was the conventional way of indicating that the woman was in retirement. The menstrual lodge was built to the north of the main house, but no reason for the orientation was given except that "it comes from the north." Several menstruating women might occupy a hut jointly. Daisy Brown stated that the special lodge was used only at the first menses but this was denied by other informants. She also stated that "over in Nevada they have to use it all the time." This may apply to the McDermitt band. For the Pyramid Lake Paviotso, Lowie's data are mainly negative, but it is of some interest to note that one of the tales recorded by him contains the word for birth or menstrual lodge.[207]

Men never approached the lodge, as illness and death were thought to follow contact with a menstruating woman. Such contacts were

[205] Cf. Lowie, SE, 273.

[206] Three or four days according to MA.

[207] Written huni'no'Bi by him, ST, 201. The Shoshonean cognate is hū'na-ga'n^{i} (gan^{i}, lodge), Lowie, NS, 214.

especially deleterious to a shaman's power. According to Joshua, "All Indians—Paiute, Warm Springs, Achomawi, Klamath, Shoshone, and Umatilla—believe the same. They have to watch closely, or men will die." A shaman could neutralize the ill effects of a menstruant by smearing red paint about her wrist or by making a circle of red paint on the floor of the house and singing. After this procedure, the woman was not required to retire to the special hut.[208]

Minnie said that an older menstruant was not obliged to use the scratching stick. She abstained however from eating game. The results of breaking the game taboo were given variously as: the hunter would not be able to shoot more game; the hunter would die; he would just dry up, and death would come quickly as with tuberculosis. A less personal consequence was that the antelope might break out of the corral.[209]

The menstrual hut has fallen into disuse and I was told that the food taboos are no longer observed. There are vestiges however of the latter.

MARRIAGE

Formerly a boy married at about twenty; a girl was considerably younger, marriage following immediately upon puberty. There is general agreement that "nowadays they marry too young."

The prime requisite of a husband was that he be a good hunter. A man would tell his daughter, "Be sure you get a good man; be sure he can catch deer." The ideal wife was industrious and gathered many roots; no man wanted to marry a lazy woman. According to Minnie, "A girl wouldn't have an old man; she wanted someone just a little older than herself." Daisy thought otherwise, "Some girls would marry a man much older if he were a good hunter." Previous marriage was no serious bar, but "a man preferred a young girl. A widowed or divorced woman usually married an older man."

Parents frequently arranged a match. They might urge their son to marry a certain girl. A man with daughters would pick out a good hunter and say, "You marry that man." Daisy thought that the girl usually liked the man her parents selected; "she wanted plenty to eat." But Joshua said, "Many girls wouldn't mind, even in the old days." Elopement seems to have been rare. "A girl might like a boy, but she couldn't marry him if her father didn't like him;

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208 JB.

209 Reported for the Pyramid Lake band by Lowie, SE, 274.

not even if the girl and her mother liked him." There seems, however, to have been a certain amount of individual choice, for "sometimes a girl liked a boy. They would tell her, 'That boy, he has nothing,' but she liked him, and she married him anyway."

A boy who wanted to marry sneaked into the girl's camp at night to lie beside her. The parents would say, "Somebody comes here," and the old woman would get up and make a fire to see who had come. They looked at the boy but said nothing. If the girl accepted him he stayed until morning; then he sneaked away, being ashamed to eat there. He came back again, and finally stayed. If the girl did not want him, he went off not to return. The old people had many wives like that—maybe one here, maybe one down toward Alturas, maybe one at Pyramid lake (JB).

Marriage was conducted on extremely informal lines, polygyny and brittle monogamy being the rule rather than the exception. Thus, "a good hunter had many wives; in the old days they used to marry until they were too old to walk." A man might have two or three wives at a time, usually, but not necessarily sisters. He had a right to the sisters of his wife, but he was not obligated to take them; "he could marry just one sister if he did not want the others." His wives lived in the same house, or at least in the same camp. I was gravely assured that "they never quarreled," but the picture of domestic bliss was shattered by Minnie who claimed that "often they fought."

Blood relationship was the only bar to marriage. Informants agreed that cousins were "brothers," and that children of half-brothers could not marry[210] because "we call them like full brothers." An individual usually married within his own band or a related Paviotso band. There was no feeling for local exogamy. Concerning foreign marriages, "they never married with the Klamath. Sometimes a man would go to the Pit River country and marry, but he did not bring his wife back here. That is why all the old Pit River people can understand Paiute. Pit River men did not come here and take wives." Women captured in war were taken as wives. There seems to be relatively little intermarriage even at present. I recall a few random cases: George Brown is married to an Achomawi woman and lives at Likely (Pit River territory). Nellie Townsend's father was a "Digger" (Maidu ?) from Susanville, her mother a Paviotso; Minnie Archie's father and his sister, Warm Springs Indians, both married Paiutes. There are doubtless other cases, especially of marriage with the Achomawi.

[210] Cf. Kroeber, California Kinship Systems, 362.

Bride purchase was not practiced; "the Warm Springs do that. Sometimes they even give as much as a horse for a wife." Presents were frequently exchanged, but even that seems not to have been general. "If a woman wanted her girl to marry a good boy she might give a present to the boy's mother. Then she would give back a present. Sometimes a boy might give a deer skin, meat, or seeds to the girl's parents."

Initial matrilocal residence was the rule. "A woman has to stay home with her mother. The couple always stays with her until they have things for their own use." And also, "A man has to hunt for his father-in-law." Independent residence seems to have been established after the birth of one or two children. Patrilocal residence occasionally obtained if the youth were an only child.

The levirate and both forms of the sororate were practiced. A widow returned to her mother or to other relatives, but if her husband had a brother, either younger or older, she usually married him. This practice seems to have been more of an obligation than a privilege. on the part of the brother; "maybe there were children and someone had to take care of them." The marriage of a man to several sisters has already been noted. A widower was usually given another sister to wife; this was not obligatory, but "most of them wanted to do that. They usually gave him the woman's sister right away."

There was no parent-in-law taboo; "a boy talked to his mother-in-law because he liked the girl." A woman did not use personal names in addressing her parents-in-law; she called them ya'hi. A man did the same.

Divorce took place at the will of either party. If a man abused his wife her relatives might tell him to leave her. A divorced woman returned to her mother or to some other relative. When the man left, the children stayed with the mother, but "when they grew up they knew their father." Women frequently deserted their families, and in this case the children remained with the father. Children were never divided between estranged parents.

An adulterous wife was beaten and warned to desist; sometimes her husband left her. He might kill her lover's horse or break his gun. Sometimes, however, the husband "just let her go." A woman seldom left a good hunter, even though he were unfaithful. A man might or might not leave a barren wife; if he wanted children he would leave her for another woman.

It is a little difficult to estimate the size of a family in the old days. Joshua Brown could recall two families with nine children

each. He thought that a family averaged between six and eight children, but most of them died in infancy; "sometimes nearly all died." Minnie said that in the old days a woman did not have more than three or four children; she may have been counting only those surviving. However, she remarked in jest, "Nowadays they have too many children. They eat hogs and chickens; hogs have lots of pigs and chickens have lots of eggs. I guess that's why they have so many babies now."

DEATH OBSERVANCES

When a person—man, woman, or child—died, his friends and relatives gathered, and cried, and wailed. Both men and women cut their hair short as a badge of mourning and buried the hair or "just threw it away."

The haircut showed camp visitors that a person had lost a relative—mother, boy, daughter, or wife—without his actually having to tell about it (JB).

If a person felt very badly he might take an arrowpoint and slash his face, forearm, upper arm, and thigh, but not his chest. This was done in mourning an adult. Sometimes mourners threw ashes on their faces; sometimes they did not bathe for "a long time." The face was not painted black, nor was there any mourning necklace, but both of these traits were known as Achomawi customs. Minnie said that mourners took a sweat-bath, otherwise the children of the deceased would die. A person in mourning refrained from hunting a couple of days, but he was free to eat the first game he captured. Mourners were told, "You have children; you had better try to live."

An expiring individual was not moved outside to die, nor was a corpse removed by a special exit. The body was not washed before interment, nor was it oriented in any particular fashion. It was wrapped in "good tanned deer skin" and carried on horseback or, in the old days, by two or three men. Formerly it was not taken far away and the camp was moved; but with the advent of horses, it was taken well into the hills. There seems to have been no marked fear of contamination, as persons handling the body were not required to bathe or to change their clothing.

No grave was dug; a few rocks were removed and the body deposited in the cavity. As Joshua put it, "Just hide him away in the rocks." Sometimes a man's moccasins and bows were placed alongside. One informant,[211] reported cremation for certain cases. "Some-

[211] JB.

times an Indian was vicious; he fought, stole, and talked too much. He didn't know what was right. Then they burned him." Other informants maintained that cremation was unknown.

Relatives burned all personal possessions of the deceased, including clothing, blankets, harness, saddle, arms, and "a little money." Household equipment used by him received the same treatment. If this were neglected the deceased might come back at night looking for his things. The thoroughness with which property was destroyed at death virtually eliminates the problem of inheritance. If a man had a horse or dog, they "took it somewhere and killed it; just any way so as to get rid of it. It made them feel badly to see that horse or dog." If a man owned two or three horses, they killed the best ones and cut the tails and manes of the remainder. These and buckskins went to the widow, who traded them with someone for other property.

The dwelling might be burned, or the tule mats burned and the frame moved. The house seems to have been moved more frequently than burned, but this may be a modification correlated with the use of more permanent structures. I was shown a very substantial house at the Bidwell camp which had been moved about twenty feet following the death of a child; but I noted another instance in which a family continued living in their summer camp in spite of the death of a small girl. Even nowadays most persons are reluctant to live in the house in which a death has occurred. They usually move to the house of a friend or relative and remain several months.

Persons avoided speaking the name of the dead; "they just forgot all about him." The taboo was only moderately developed, and if necessary, they would mention the name. Although individuals were unlikely to share the same native name, I was told, "If somebody else had that name, they had to call him by it; they couldn't help that. He would not change his name." Today there seems to be little hesitancy at speaking the name of the dead. In fact, when asked concerning the taboo, one very good informant said, "We don't do that. Ochiho was our chief; he died; we have to call him that."

Suicide was rare; the accepted mode seems to have been by eating the root of wild parsnip. A person might kill himself if rebuked. Sometimes a deserted or abused wife took her own life. One case of this came to my notice. There is also an instance of a young girl's committing suicide because of continual quarreling between her mother and stepfather. Suicides received the same burial as others.

A bereaved spouse was not required to remain unmarried until the hair grew long, but might remarry at any time. A person who felt

badly might wait five or six months, but some waited only a week. A woman returned to her relatives upon the death of her husband; if the latter had a brother she usually married him. The sororate was in vogue, although the woman's family was under no obligation to provide the man with another wife.

Orphaned children were not the charge of any special relative; "somebody always took care of them." Minnie Anderson was an orphan; she was taken by an aunt who kept her for some time, then put her in the keeping of another aunt. Nellie Townsend cared for her brother's orphaned child until a childless cousin of Nellie's mother asked to have her.

GAMES AND PASTIMES

The Gidü'tikadü had the usual assortment of games, and although they seem to have indulged in a whole-hearted manner, they did not develop in this connection a complex system of precautions or luck-bringing devices. Only for the hand game was there any way of acquiring luck. Gaming bones were kept at home. A gambler did not fast, nor did he paint his face. Finding of blades was not auspicious.[212]

Two charms were thought to bring luck in the hand game. One was the horned toad (izipama'kaza'a), and the other, a shiny bluish-black insect "like a fly only about an inch long" called paba'-muhi'bi (big-fly). "You find this fly alive; if you want to play the hand game, that fly knows and comes to you. Maybe it lights on your shoulder" (NH). Because fraught with danger, these charms were seldom used:

> If one uses those charms while playing with a sickly person, that person might die. Both charms are dangerous; they are bad, at the same time they are good (NH).

Football.—Football (watsi'mu) was played in spring and summer by men, five to eight on a side. They wore only the breechclout and possibly light moccasins. Two goals (tubi'hi), each consisting of two willows four to five feet apart and bent together arch-like at the top, were set at the far ends of the field. The center of the course was determined by counting paces from the goals, and a slight depression made there. The ball (watsi'mu), about the size of a man's fist, was of deer hide, stuffed with deer hair or sagebrush bark. The ball was placed (not buried) in the central depression and two opposing players

[212] As among the Klamath, Spier, 76.

tried to kick it out to their respective team mates. Players stood facing the opponents' goal. Play sometimes continued an hour before the ball was kicked through the goal.

Betting was heavy—moccasins, hides, and arrows were wagered. Women also bet; they bet "anything." Play frequently lasted all day, the same individuals participating, and in this manner a person often won back his bets.

Single-goal ball.—Another man's ball game (wuto'koi) was played with two buckskin balls kicked toward a single goal by rival teams. The course was about a mile in length, and after completion of a lap, the direction was reversed and the ball kicked back to the starting point. The side returning its ball first won. A team consisted of five, six, ten, or even twenty men. Like football, this game was played in spring and summer. Piudy said that the Gidü'tikad^{ü} and Achomawi used to play together.

Double-ball shinny.—Double-ball shinny (natzi'^{saka}) was a woman's game, played in spring and summer. The goals were two circles marked on the ground, perhaps sixty feet apart. The ball (tapi'ko) was always of braided buckskin with the ends tied into thick knots. These knots were stuffed in order to increase their size and give them body.[213]

The ball was not hit into the air, but was knocked along by means of a straight stick "a little longer than a walking stick," its length proportionate to the height of the player. Each participant had one such stick which was called kudu'^{u}. Any number of persons could play, but there were usually five or six on a team. Play normally lasted a half day; two or three games could be won in a forenoon.

Target games.—Imperfect accounts were obtained of several target games. One, called tana'i, was played by a number of individuals, unteamed. A player shot his arrow and the others tried to equal his shot, his arrow serving as a target. If the succeeding shots were close, the distance was measured and the one coming nearest won the arrows. After the first series of shots, the players turned and shot back toward their starting point, the game being conducted the same way as before.

Another game, called düdo'-tana'i (hand tana'i, according to Joshua), was played with sticks. A stick was thrown at the opponent who held a ring in his hand and tried to catch it in the ring. If he missed, he returned the stick; if successful, he kept it. The game was played for seven or eight points, e.g., catching the stick seven or eight times.

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[213] Cf. Kroeber, Handbook, 847, for Washo, Maidu, and Miwok.

For natsa'soa one had ten rye-grass arrows and twenty or so small mud pellets of various size. The latter were heaped and opposing players shot at them using the rye-grass arrows and a miniature bow. Sometimes the arrow was thrown instead of shot. When one hit a pellet he removed his arrow with the pellet impaled on it. If a ball broke, a new one was made. A person shot until he missed, whereupon he forfeited his arrow, and his opponent started shooting. My notes are not clear as to how the game was won; "when the pile is all gone, count up and see whose it is."

Hoop and pole.—Hoop and pole (nüko'no[1]; nükwo'no; "they call it after the willow") was played with a willow ring about six inches in diameter and unnetted. Any number of men could play, but Joshua said that there were usually five on a side. Each player had two sharpened, green willow poles about seven feet in length, and "this made it just like ten points." One side lined up and the ring was rolled past, all trying to pierce it. If they were unsuccessful, it was rolled past once more. When one person managed to stop the hoop by piercing it and having it fall on his pole, the others of his side came to the spot from which he had shot and took turns trying to hit the ring, no matter in what position it might have come to rest. Each one who missed forfeited his pole. "If all of them missed, we won quickly." The same game was sometimes played with arrows instead of poles. They were feathered, but not stone tipped, and were always thrown, not shot.

Dr. Sam's account of this game was not entirely clear. He thought it had come to the Silver Lake band from the east. In addition to the usual hoop and pole procedure, he stated that "the man who stood apart threw, not shot, an arrow at the ring which another man held for him. If he pierced the ring he won the arrow; otherwise it went to the one holding the ring." This sounds like a reversal of hand tana'i.

Jacks.—Three or four played nada'kapi. Small stones were gathered in a pile or placed in a row and hidden in the dust. A pebble was then thrown in the air, a grab made for the hidden stones, and the tossed pebble caught. When one missed, the play passed to an opponent. Joshua said that the person who got the last stone won the game.

Hand game.—The hand game (naiü'kwi) was essentially a man's game, but nowadays women sometimes play.[214] The game is ordinarily

[214] In the hand game a man never plays against a woman (CW). In the game I witnessed only men participated, but women looked on and bet on the results.

played with four cylinders,[215] two all white and two with black center bands. One guesses the position of the plain white ones. These cylinders are "just big enough to be held in the hand" and are usually of willow, although I was assured by one informant that "anything would do." An old cylinder found at the gambling grounds near Beatty, Oregon, is shown in plate 32*c*. My informant said that the central band had been black but that the paint had been scraped off; and that the ends, originally white, had been discolored from exposure. Informants agreed that formerly the hand game was played with two small circlets of "Warm Springs beads," willow or deer horn serving in the absence of beads. My interpreter who was quite young, certainly not over thirty-five, could remember having seen the bead circlets in use. With the two-object form of the game, one guessed presence vs. absence rather than plain vs. marked; consequently the two hidden objects were identical. Piudy said that with the two-object form cheating was frequent; but by making both concealers hold two bones instead of one, they had less opportunity to shift them after the guess had been made.

As the game is played today, the sides line up, seated several yards apart. Each team has a plank in front upon which the members drum in time to the accompanying chant. The two individuals who are to hide the cylinders shuffle them beneath a cloth,[216] and, after much buffoonery, finally hold them concealed in the hands, arms folded. One man does the guessing for the opposing side; he may guess during one or two games. He is said to sing as he plays, but in the game I witnessed this was not the case. As the guesser faces them, the cylinders may be arranged in the four positions schematically represented below, W standing for the plain bone and B for the one with the black stripe.

BWWB	called	tasi'güwai
WBBW	called	ka'su'kwan
BWBW WBWB	called	siki'ba

To indicate the BWWB position, the guesser extends his right hand, thumb up, and moves it vertically, pointing between the two concealers and at the same time calling the appropriate designation. If he wishes to indicate WBBW, he holds out his right hand, palm downward, meanwhile calling the corresponding term. For the alter-

[215] I neglected to record the names of these. In a letter Nora Henderson says they are called "dipaw," dipo in the orthography here employed.

[216] The cloth or blanket was considered unnecessary in the two-object form.

nating positions, the terms are identical, but ambiguity is avoided by indicating the BWBW position with a wave to the right and the WBWB position with a wave to the left. When blind people play, the siki'ba guesses are qualified by adding one of the cardinal directions according to the position in which the players are seated.

One or two tallies are forfeited according to the accuracy of the guess. If a person indicated BWWB and the arrangement were WBBW, he would miss both white. If, however, he indicated BWWB and the arrangement were BWBW, he would miss but one white. In this event, the concealing side tosses two of the bones across to the opponents and continues to hide the remaining two until their position is correctly guessed. In guessing upon the basis of two bones, a player assumes theoretical symmetry of position and indicates his guess by the tasi'güwai or ka'su'kwan positions. When he guesses correctly his side is entitled to hide the cylinders.

The game is usually played for ten counters, which I understood to be divided evenly at the start. The game terminates when one side has all the counters. In cases of heavy betting, the game is said to be played for twenty or even thirty points.

The hand game is played the year round and is regarded as the gambling game par excellence. "We play this when we have a big time; always. That's our old game." There is no tradition of its having been introduced from outside as there is among the Klamath.[217] The hand game is now played almost every Sunday and Klamath and Achomawi frequently participate. Excitement is kept at a high pitch by the betting and by the spirited chanting and drumming.

Four-stick game.—This game (wita'si) was played by old men; Daisy said that women did not play but that they might bet; Joshua thought that they sometimes played. Guessing is similar to the hand game but there are differences in equipment and procedure. Willow rods, four to five inches long, are concealed beneath a basket tray (not a blanket) instead of in the hands. The rods are not marked as in the hand game but differ in size. The larger pair is called apiü'b, apiü'b^{ü} ("big, like the mother," bia, pia, mother)[218] and the smaller pair, a'tuü'm, dua'^{a} (translated baby; du'a, son).

One guesses the position of the larger sticks. The arrangements are named as in the hand game and indicated by the same gestures. Further dependence on that game is to be noted in the disposition of

[217] Spier, 78.

[218] Cf. Shivwits pi+ā'B^{i}, mother, Lowie, SE, 287.

the bones. Logically there is no reason why one should not have a XXOO or OOXX arrangement, but in the hand game, where either concealer has one of a kind, this is impossible. It is interesting to note therefore that this restriction, although unnecessary, holds for the four-stick game.[219] Two sticks are removed at the conclusion of a guess half-right, and play is continued with the remaining two. A correct guess wins the right to conceal. Counters change hands in accordance with the rules of the hand game but there are eight instead of ten. Piudy had it that these were arranged in a neutral pile; Joshua, that they were divided at the start, four to a side.

Lowie[220] reports a similar game for the Shoshoni, stating that it "is said to have been played mostly by the Ya'handi'ka (Groundhog-eater) band, who used to live toward the west of the Wind river." As it is unlikely that this statement refers to the Gidü'tikadü, Culin's distribution[221] must be extended to include still another Shoshonean group.

Stick dice.—The stick game is called hu'pi-tatsa'ñ (hu'pi, stick). It is normally played by men, but women sometimes play "if they know how." This game is said to make the winter longer; there is no game to shorten it.

Tatsa'ñ is played with eight[222] sticks of rose, six or seven inches long, red on one side and white on the other. They are hurled endwise on the ground and the upturned white faces counted. Each white side counts one point which is recorded by a scoring stick placed at the proper interval along 24[223] pegs (unnamed) set in a semicircle on the ground. Supplementary sticks (called kwi''ts, meaningless) are laid flat on the ground or stuck in at an angle after every sixth peg, presumably as an aid in counting. These correspond to Spier's quadrants.[224]

Four people usually play, two on a side. I witnessed a game played by two individuals, each of whom had two scoring sticks.

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219 This restriction seems to demonstrate an essential dependence upon the hand game. This fact, together with the very limited distribution of the four-stick game (Culin, 327), strongly suggests that latter is a local development or variant of the widespread hand game.

220 SE, 261.

221 Culin, 327.

222 Culin, 167, also gives 8; Lowie, SE, 262, gives 6. Joshua mentioned a stick game with 6 dice, white sides counted, and 24 points, but stated that it was not played by men.

223 DB, NH, P, SW; 20 according to TA; 32 according to CW. The two latter are probably incorrect.

224 Havasupai, 350.

Presumably, had four been playing each would have had a single scorer. The side which first works its two scorers to the far end of the 24 pegs is the winner. Opponents use the same series of pegs, counting from opposite ends.

At the start the dice are divided, four to a side. In the two-man game I witnessed, each took two throws. I did not ask, but if four were playing each would probably have a single throw. If these initial throws result in a tie, throwing continues until one side scores more than the other, thereby winning the first toss of the full eight dice. These initial throws with half the dice are recorded and counted in the game proper.

Although white sides normally count one point each and move one marker, certain ramifications in counting must be noted. With the four dice (initial) throw, either all white or all red yields 4 points for each of the two scoring sticks, a total of 8 points; 3 upturned whites yield 3 points for each scoring stick, or a total of 6 points. With this, however, the double yield ceases and 3 red and 1 white give but 1 point. After the game is under way and the full 8 dice are in use, all red or all white give 8 points per scoring stick (16 points in all); 7 white similarly yield 7 points for each scorer (14 points in all); but 7 red and 1 white count but 1. Thus the premium or double-yield applies to these throws alone: with half the number of dice, 4 red, 4 white, 3 white; with the full number of dice, 8 red, 8 white, and 7 white. Any other combination counts one point per white face and moves 1 marker only. Thus 7 red and 1 white would count but 1. The first throw of the dice moves one's rearward marker; the second throw, that farther in advance.

If one makes a throw which lands him in the same place as his opponent, this is called "shooting one another" (o'gwa'ti) and the opponent must start over. One may shoot both scoring sticks if they happen to be in the same hole. This is one additional feature which serves to link the Paviotso game with the complex outlined by Spier.[225]

When a player approaches the end he need not shoot even score; any number of points equal to or in excess of the required number will put him out. It took only a few minutes to win the game I witnessed.

"*Squaw game.*"—My data on what Joshua calls the "squaw game" are incomplete and confused. It is the woman's dice game and is known as tüpi'du, tüpi'dün (from tüpi', stone). Men sometimes

[225] Havasupai, 350.

play a while "just for fun," but it was as definitely a woman's diversion as juggling. Two to four women played "any time of the year."

Dice, about six inches long, were thrown on a flat rock (not a metate) or on the ground. Three of the four dice were red on one side and white on the other; the fourth was all black. The function of this stick remains a mystery. The three red and white dice were thrown and the upturned white sides counted. A throw of all red or all white won the game; two whites counted two points, one white, one.

Unfortunately the scoring remains obscure. According to Joshua, they usually played for 7, sometimes for 6, but might play for any set number of points. He also reported a neutral pile of counters at the start, and the winning of all of these terminated the game. At times, however, the counters seem to have been dispensed with and points tallied on the ground with the fingers. Daisy did not know how many points constituted game. As noted above, the function of the black die (wu'a) is not clear. According to Joshua, "You take it when you count four points," but further than this I could elicit no information.

A different version of the game was given by Dr. Sam of Beatty:

> The women's stick game is called topi'du. Three sticks are painted red on one side. Each team has five counting sticks. The team getting the most red sides up wins.

Basket dice.—Basket dice (na'bogo'ⁱ) is also a woman's game but it proved impossible to get a coherent account of it. Piudy did not know it; "it was a woman's game." Joshua thought that the Gidü'tikadᵘ did not play it; "that was a Pyramid Lake game."

It seems, however, to have been played with eight[226] dice of wild currant wood, about two inches in length. Minnie said that they were thrown on (from ?) a basket and the upturned white sides counted, using stones as scorers. Each had four stones at the start. According to Daisy, the game was played with four dice; three red on one side, the fourth marked with black stripes. They were placed on a parching tray, tossed into the air, and caught on the tray. Daisy said that the points were tallied on the ground and that only two women played.[227]

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226 P, MA; 4 according to DB.

227 Daisy's account suggests tüpi'du, with its fourth distinctive stick, but Daisy was positive of the name of this game. However, it is to be noted that to her the basket was the criterion of na'bogo'ⁱ. Thus, "the woman's stick game is tüpi'du. This is when they haven't a basket and play on the ground. When they play in a basket it is na'bogo'ⁱ."

Dr. Sam gave what appears to be a further variant. He said that twelve short sticks were painted red on one side and white on the other. They were tossed in a basket and the red sides counted. When all red turned up, one made a straight mark on the ground and claimed a stone from one's opponent. Each had a small pile of stones used in scoring but the number in the pile was never counted. When all white turned up it was called tupi'kwoi (tüpi' ?). Unfortunately Dr. Sam could not remember further details of scoring, nor could he remember the name of the game. Although I neglected to inquire of him who played, I have arbitrarily placed this with the women's dice games as it seems to have its closest analogies there.

Beaver-tooth dice.—Dr. Sam reported a beaver-tooth dice game, but Gidü'tikadᵘ informants knew nothing of it save for the fact that "it was Pit river." According to Dr. Sam, the dice consisted of eight teeth, one marked with dots, which were cast from the hand onto a basket tray. The marked dice was the only one counted; "mostly it didn't turn over." Dr. Sam said that women played the game. He was unable to recall its name or any details of counting.

Cup-and-ball.—No form of cup-and-ball was known to any of my informants.

Cat's cradle.—Susie Archie said that in recent times children made string figures, but she was under the impression that formerly they did not. With this Piudy agreed.

Juggling.—Three marble-like stones were juggled by women. One woman would bet another; she juggled until she missed, whereupon the other took her turn. Joshua said that it would make a man lazy to play this game. According to Piudy, "That's no game; that's just for fun." Juggling was called mada'kipoi.

Sling.—Boys played with a deerhide sling, using small stones in it. According to Piudy, "This had no name; it was just a toy."

Bullroarer.—The bullroarer (kwi'mo, tüsa'ibidun (?)) was a boy's toy as well as a magical device to make the wind blow. It was made of juniper and decorated with black spots or lines. Instead of having been swung directly on the end of a string, it seems to have been tied loosely with deer-hide to a wand-like handle.

Whistle.—Children made whistles from one of the horse tails (pazoi'winup), *Equisetum* sp.

DANCING

The common Round dance of the Basin is fundamental here. In the evening, participants joined hands in a ring, men and women alternating, and circled about the fire with a shuffling, sidewise step. Women chose partners by asking, not by tapping them with a wand. Those not wishing to dance with men could get on one side of the circle. Ill consequences did not result from a refusal to dance. Young people who were attracted to one another danced together all evening without changing partners. Some couples withdrew, at which time marriage was consummated. Joshua said that they must first ask permission of the "dance boss," but Minnie thought otherwise.

The dance "boss" was a man who knew songs. These he himself composed. Others joined in the singing if they knew the tunes. There was no other musical accompaniment; for the drum is recent and informants denied the rasp although they knew it from other groups.

A dance (nugüb) normally lasted two or three hours; persons never danced until they dropped from exhaustion. A dance might be held at any time of year, but especially in the fall when people congregated for communal drives. A dance which took place while on a rabbit hunt was called kamü'nik (kamü', jackrabbit).

The Bear dance is definitely lacking among these Paiute. Joshua knew it from the Shoshone and accurately described the essentials, including the notched stick which sounded "like a washboard"; a woman's tapping her partner with a small willow; dancing in lines, then breaking, and circling. He had seen it performed "up north" by visiting Shoshone four or five years ago. Piudy said that the Warm Springs Indians danced in columns, but that the Gidü'tikadü never did so. He thought that the "Yainax people" (Paiute, Klamath?) and people around Susanville (Paiute, Maidu?) had a Bear dance.

There seems to have been a War incitement dance but no details were available. Minine said that "some stout men danced before they went to war." According to Piudy, the Round dance was the only one known; there were no masked or scalp dances. On the last score Joshua gave conflicting evidence, saying:

> A scalp was put on a tall pole and everybody said, "Let's have a dance." They danced and sang all kinds of songs. Women danced too. They always kept the scalps but I never did know what became of them. The Scalp dance was called tüya'nagü.

Joshua also gave a very fragmentary account of what he called a Rain (?) dance (tobo'nigü), but it was not mentioned by other informants.

In this dance you jump up and pretend to shoot with a bow and arrow. Two singers, dressed as antelope, get inside the circle. They look as though they were angry.

Evidence on the Ghost dance is both meager and garbled. If informants are to be relied upon, the California and Oregon Paviotso were more or less skeptical from the start. The only positive evidence of the 1870 Ghost dance lies in the statements: "I heard the talking twice"; and "they tried it before Jack Wilson too." But part of Joshua's account seems to apply to the earlier appearance.

Before white men settled here, some fellows from Nixon (Nevada) brought songs (I was about twelve years old).[228] They told the Paiute, "We are going to have our mothers and our fathers come back. When the sun comes up, keep on dancing and then go in the creek." Everybody danced and then swam in Bidwell creek to make them tough. After this one man told them, "Put on white paint. Some put on yellow paint." He would say, "You know—[naming a deceased person]. I am talking to him." At Nixon they heard talking in the night. Sometimes they danced four or five nights. All the dance bosses are now dead.

When I was about sixteen years old I saw them dance near Lowell's store (Fort Bidwell), at the foot of Bidwell mountain, over near Anderson's (just south of Cowhead lake), and the other side of Dick Ochiho's where the reservoir is now. All these were nice, flat, open places.[229]

The remainder of Joshua's account applies to the 1890 dance, although he underestimates the period by ten years.

About thirty years ago when we were taking up land, Frank Spencer came from Yainax with songs, and after him other people. At Nixon (Nevada) they made hard wind and rain come. These Paiute did not believe this because they didn't see the things.

One man from here went to Nixon. They were going to show a ghost. Everybody went to Nixon—some Bannock, some Warm Springs Indians, and some Achomawi. George Winnemucca from McDermitt went, too. Jack Wilson was there.

They sang at night and set up a long pole like a post. They made a fire in a circle. All the good men sat down and listened. Three or four went to one side and sang. They began to get stiff and lay down. They lay there maybe two hours, muttering as if talking in dreams; they were talking with ghosts. The ghosts told them, "We are coming back"; but they never came. When the men came to [consciousness], they had nothing to show; it was just talk. The dead didn't come back; so we didn't believe.

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[228] He is now between 65 and 70, 67 he thinks.

[229] These are probably the usual dance grounds and need not apply to the Ghost dance.

Jack Wilson had Indians dress up and act like ghosts. They came and talked with the people. Afterwards some followed them and found they were impersonators.

Piudy's account is more detailed and his dating correct.

A man whose name I don't remember brought the song from Nixon about forty years ago when the white people were already here. He taught two or three (all dead now) those songs. They said that the dead would come to life. When our people heard that they tried it, but danced only one night, not five like the Nixon Indians.

Our people danced and prayed (nani'stuhai) and said, "My mother is coming; my father is coming." They swam in the water too, but there was no pole and no special kind of clothing. The Silver Lake Paiute may have danced one night like these Indians; but Dr. Sam said that he never did believe in it.

Upon another occasion Piudy remarked that white paint was not used as facial decoration prior to the Ghost dance, but whether this refers to that of 1870 or 1890, I do not know. If Joshua's statement is correctly attributed to the earlier appearance, the white paint would date from that period.

The reference to Dr. Sam in Piudy's account is of some interest in that it suggests the limiting effect a powerful personality may have on diffusion. A brief statement concerning the dance among the Silver Lake Paiute was secured from Dr. Sam:

Once Frank Spencer (Wü'nayiga) brought word from Nixon that if we danced the dead would return. He was dance boss and he sang. Everyone danced in a big circle around a fire. A man and a woman were partners. They danced all night every night. Frank Spencer talked to the ghosts. Soon the people stopped because they did not believe the dead would return.

I have no material on the 1870 dance among the Oregon bands; the above refers to the 1890 dance.

The accounts are far from satisfactory and even these were got with some difficulty. A number of informants claimed not to remember the dance at all or stated that they had heard of it but vaguely. It seems unlikely that this should be attributed to reticence due to emotional associations; perhaps there is rather a reluctance to admit having been duped. Or again, informants may really be correct in insisting that their attitude was one of skepticism. The Ghost dance may have been a non-spectacular affair which made little impression on them. Yet this would be singular in view of the fact that the whole movement had its inception among their Nevada congeners.

SMOKING

Smoking was solely a male indulgence;[230] young boys did not smoke for fear they would not be able to pursue game. Smoking was non-ceremonial and was chiefly an evening pastime. Three or four old men would sit down together and smoke before going to bed. One would fill and light the pipe and pass it to his right. The pipe was not offered to the four directions. It did not circulate any prescribed number of times, and a person could decline on the second round without offending.

The generic word for tobacco is pa'mo'. In the old days two kinds were smoked: *Nicotiana attenuata,* the usual Basin species; and pine-mat manzanita, *Arctostaphylos nevadensis* Gray (koda'bü)[231] The local supply of the latter was obtained on Bidwell mountain; it is now fetched from there by parties on horseback. *Nicotiana* is pretty well scattered over the country, and the source of supply seems not to have been localized. It is called puhi'-pa'mo' (puhi', green) or wi'si-pa'mo'. The leaves are dried, pounded, and stored in sacks with a little deer fat added to improve the flavor. Both David Chocktoot and Minnie Anderson thought that puhi'-pa'mo' and koda'bü were mixed, but Piudy said not. Tobacco was not mixed with bark. Nowadays koda'bü and commercial chewing tobacco are combined and the blend called düma'iyu, mixture. Koda'bü is said to be "pretty strong."

Smoking was a part of shamanistic treatment.[232] For earache and deafness the doctor blew the smoke of puhi'-pa'mo' in the ear to clear the pasasges. A tea of the same tobacco was drunk for stomachache. For bad colds a mixture of puhi'-pa'mo' and balsam was smoked.

MISCELLANEOUS SOCIAL USAGES

Children were taught to help their mothers in tasks about camp. A lazy child was not punished; "they just knew he was lazy." Children were scolded but not chastised "for fear they would fall sick." No effort was made to teach a left-handed child to use the other hand, for this was foreordained and unavoidable. "You can tell if a child is going to be left-handed. That always happens if he is born with the cord around his neck."

[230] Some Klamath women used to smoke pipes like the white man's" (JB).

[231] Two distinct plants are known by this name; one only is smoked.

[232] I neglected to ask if women shamans smoked. It would be interesting to know if professional status superseded the sexual restriction.

A few random notes on virtues follow:

A *good* boy would get himself a blanket of wildcat skin. He would get water and wood and help his mother cook.

My daughters were good girls; they never scolded.

A good woman did not sneak around at night.

In the old days a woman walked a short distance behind her husband. She did not walk with another man, otherwise her husband would be jealous. Horses were owned by the man. He and his wife both rode, but if they had children, the woman and children rode and the man walked.

Visitors might enter without knocking or salutation. They were assigned no special place or seat of honor but were always offered food. A somewhat less friendly reception was pictured by one informant:

When a stranger comes, make him get out. If he is good looking and has good clothes, give him food, but don't let him come inside; he might steal.

Formerly the Paiute ate twice a day, morning and evening; although Mettie Petty remarked that they "ate any time, four or five times a day if they had the chance." Men and women ate together, seated about the fire.

A person took care to sleep with his feet to the fire. If his head were toward the fire his front hair would turn white.

CHIEFTAINSHIP

Political organization was at a minimum with the band as the only recognized political unit. There does seem to have been a definite feeling for band membership. Each band had a chief (mu'pavi'[1]) of sorts, a man of influence who "told his people what to do and where to hunt"; who entertained visitors at camp; who interviewed a thief and directed him to return stolen property. Tom Anderson reported four Paiute chiefs in the old days, one to the northeast, one to the east, one to the southeast, and one to the south—obvious systematizing.

Ochiho was chief of the Gidü'tikadü at the time of the white advent and until his death some years ago. Daisy, Nannie, and Joshua thought that there had been no chief before him. Joshua went on to say that "there was no chief in the old days; they had only the boss for hunting." Piudy alone was able to name Ochiho's predecessor. His name was Sa'^{pi}ka'ma'd, and he was Ochiho's elder brother. According to Piudy, he was chief "long before the white people came." Beatty informants were equally vague as to chieftainship,

and none could recall the name of the leader prior to Chocktoot, who lived at the time of the white influx and during early reservation days.

The chiefly office was loosely inherited, but if a person were thought not capable, someone from another family was chosen by general consent. As one informant put it, "Dick Ochiho is Ochiho's son, but he isn't chief; he wasn't just the man for the place." None of a number of informants could formulate his ideas as to the essential qualities for chieftainship.

TORTS

If a person's goods were stolen he accosted the thief, asking him to return the articles. Sometimes a fight would ensue; sometimes the goods were returned promptly or a buckskin or the like given as indemnity. The chief sometimes directed the offender to restore a person's property.

There was no distinction in penalty between accidental and deliberate homicide.

If someone killed a person, the families would fight all the time. Perhaps the deceased's family would wait, and the murderer would think they had forgotten. They did not have to kill the murderer himself but tried to kill the best one in his family, the best hunter or the best woman. Then they were satisfied.

And again:

In the old days when a man was killed, his family might wait a year. Then his brother would try to kill the murderer. They did not have meetings over it as now. The murderer's family would say, "Why did you kill him? You had better settle it; give a skin blanket, a gun, a horse—the best you have. Then you will live a little longer."

A murder was not always avenged. One committed by an Achomawi, for example, was unavenged, probably through expedience rather than sentiment.

When an Achomawi killed a Paiute, we felt sorry, but did not kill back. The chief told us, "Don't get angry and kill someone. You only make it worse."

RELATIONS WITH NEIGHBORS

The Gidü'tikadᵘ call themselves nümü, persons, as do the Nevada Paviotso.[233] Most informants apply the term to related groups only, but by it Piudy designates all Indians in opposition to whites (taibu). Informants class neighboring groups linguistically, thus:

The Bannock and Fort Hall (Idaho) are the same as the Paiute: they talk our language.[234] I am a Paiute; I am a Bannock; Bannock are Paiute. The Bishop (Inyo county) and Pyramid Lake Indians speak our language too but a little different. We are Paiute here, at Walker lake, at Klamath,[235] at Burns, and at Pyramid lake. Even the Umatilla are half Paiute.

The Warm Springs and the Digger Indians (Maidu, Washo) are different too. The first time I saw a Washo I thought he was a Paiute, but he didn't understand what I said to him (JB).

With related bands the Gidü'tikadᵘ were on the best of terms and a few individuals could visit a neighboring group with little hesitancy. Thus a camp of Gidü'tikadᵘ would sometimes wander as far east as McDermitt and occasionally winter there. Also:

Sometimes one or two Pyramid Lake and Nixon (Nevada) Paiute came here to hunt. We didn't object because they didn't come in bands (P).

Contacts with the Shoshone who "lived northeast of McDermitt, the other side of some mountain" seem to have been slight. Joshua had heard of Snake Indians "somewhere to the east" but had not seen any. The Bannock (Pana'kᵘ), living "somewhere to the northeast in Idaho, the other side of Malheur," were known chiefly through the Burns Paviotso but also through occasional transients who did not winter in Gidü'tikadᵘ territory. According to Piudy:

The Bannock came here only once. When the Klamath and Warm Springs Indians were fighting us, we sent word north and many Bannock came and helped us.

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[233] Loud and Harrington, 152.

[234] This accords nicely with Kroeber's linguistic classification of Bannock. Bannock and Shoshoni Languages, 266.

[235] Doubtless Yainax, near Beatty, which is on the Klamath reservation.

War

With unrelated neighbors there was a certain amount of strife. War, consisting of raids and reprisals, was caused chiefly by theft of women or by trespass and consequent infringement of hunting rights.

In the early days other Indians were never friendly with us. We didn't like them. They used to come here, on our land (JB).

Also:

We used to quarrel over hunting rights. When Achomawi came this side of the mountain (Warners), we wanted to fight. If you killed one Achomawi, his people would miss him and start a war with us. If you and I crossed the Warners to Willow ranch[236] some Pit River people would come there and kill me and take you (JB).

The Achomawi (Izi'sa'wi) are the traditional enemies par excellence. Piudy alone was firm in denying warfare with them, saying, "We never fought with the Achomawi. They and the Klamath were enemies all the time." Upon another occasion he said, "We never fought with the Pit River people; we never captured their women." Other informants gravely asserted that the Achomawi "were bad" and "my father told me that we used to fight them." Only one concrete instance was cited; strangely enough it concerns a conflict between the Achomawi and the Honey Lake Paiute (who are not Gidü'tikadü.[237] Joshua thought that the quarrel had started in spring over fishing rights; he had been told that "the men lined up in long strings and shot at each other."

Joshua pictured the Achomawi as an aggressive lot, fighting with the Kuyui'tikadü, coming into Warner valley against the Gidü'tikadü, and traversing immense distances to engage in battle with the Wada'tikadü of Burns and the Kwi'nadüva of McDermitt. Achomawi raids in the Burns and McDermitt districts are unlikely because of the sheer distance involved, not to mention the hostile Klamath on the Burns route and the scattering Paiute on the McDermitt route. In addition, the whole business contrasts oddly with reports concerning the passiveness with which the Achomawi accepted Klamath incursions.[238] It is probable that there was no war as such with the Achomawi, but that relations were frequently disrupted by skirmishes

[236] Near Lassen creek; virtually on the Paiute-Achomawi boundary.

[237] Lowie, SE, 194, reports this same conflict.

[238] Spier, Klamath, 24; Kniffen, 309, although this passiveness refers to the Achomawi subtribe, Hewisedawi, and it seems to have been the Hammawi with whom the Paiute fought.

between a few individuals over hunting rights or over women. In contradiction to Piudy's above statement but in agreement with that of Dr. de Angulo,[239] Joshua said:

> Women and children prisoners belong to the man who caught them. The Pit River people used to come here after their women. The children were allowed to go back when grown.

Piudy stated, in reference to tribes other than the Achomawi, with whom he steadfastly denied conflict, "The Paiute used to capture women and marry them, but they did not take children. Why would they want them?"

The Klamath are said to have held Warner and Surprise valleys prior to the occupancy by the Gidü'tikadü. At that time the latter were living the other side of Steens mountain, southeast of Burns, Oregon. Although outnumbered, the Paiute "got the best of them all the time" and finally drove them out and took possession. According to Piudy, "That was long before my time; the old people told me about it. I have seen the rocks[240] the Klamath put up for protection. They are just high enough so a person can sit behind them and shoot over the top. The rocks are east of Adel."

My notes have little mention of specific Klamath hostilities, which were probably no more than the usual random skirmishes. In the early historic period the Klamath are said to have stolen horses from the Gidü'tikadü. The latter tracked them and fought. Dr. Sam of Beatty said, "I heard of a tribe of Paiute whose head chief was Winnemucca. They had a war with the Klamath this side of Chiloquin. I heard of another war with the Klamath. I saw the bones; they are right on the Sycan river near Sycan marsh."

The Warm Springs Indians were called A'ga'itsi (a'gai, fish, salmon) and are said to have been aggressive and warlike. Probably the Oregon bands suffered most from contact with them; Gidü'tikadü relations seem to have been largely commercial. According to Dr. Sam, "The Warm Springs Indians used to try and make trouble, but the Paiute were pretty peaceful." The latter statement is typical of the way the Paiute pleases to paint his people's character.

The Washo (Washiu) were known chiefly by name.

Dr. Sam once participated in a battle with some whites near Paisley, but aside from this incident, none of my informants had ever seen a war, much less been in one.

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[239] P. 315.

[240] Said to be wall-like structures.

Weapons

A warrior's equipment consisted of bow and arrows, and, according to Joshua, one or two spears (tützi'hinü) four or five feet long. The latter, tipped with 4½ inch obsidian blades, were used for close combat. Other informants thought the spear was not old;[241] "Why should we want to use a spear?" War arrows were frequently dipped in poison.[242] There was no war club. The poggamoggan[243] was known to informants, but was explicitly attributed to other tribes. Thus, "That's not Paiute; that's from a different people." Piudy gave its name as tikwi'tᵃ-ponoa (ponoa, rock) and correctly attributed it to the Shoshone.[244] It was not used by the Bannock.

The Gidü'tikadü deny the use of body armor but claim that the Paiute around Yainax and Burns used to wear elk-hide armor. Dr. Sam's brief description follows:

> I once saw a war dress. It was a hide protector, tied together on the back, with wings along the side of the head to keep off arrows. They tried to shoot the person who wore it under the arm where there was no protection.

Joshua had heard of such armor but had not seen any. He called it topü'ᵏʷᵃˢü (topü', shield; kwa'sü, shirt).

The shield was generally described as circular and "almost the width of the body." Dr. Sam reported a fan-shaped affair. The shield was made from the neck part of elk or deer hide, usually the former. The skin was dehaired, soaked, stretched,[245] and set by the fire to harden. The shield was not made on a wooden frame, but the Klamath are said to have used willows covered with hide. A warrior carried the shield in his hand or attached it to his left forearm by means of loops on its back.

Warriors probably fought naked, although Piudy thought that they removed their clothing only when fighting the whites. The Wishram speak of naked Paiute[246] and of capturing an Oregon Paiute who "had no shirt on, he was naked."[247] There seems to be no tradi-

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241 Although the Wishram are said to obtain lances from the Paiute via the Wasco. Spier and Sapir, 231.

242 P. 145.

243 Which de Angulo incorrectly attributes to these Paiute, 320.

244 Lowie, NS, 191.

245 Joshua said that the hide was stretched by skewers thrust through marginal holes. Other informants could not give details of manufacture, but when discussing skin-working in general, none was familiar with the skewer technique.

246 Spier and Sapir, 232, 233.

247 Sapir, Wishram Texts, 211.

tion of arrow or bullet proof shirts, but "in the old days bullets were soft, and the Indians had tough skins. The bullets did not hurt them; they just burned a little, the same as when a horse is hit." Warriors sometimes painted the face red and put feathers in their hair. For the most part, facial paint seems to have been used on festive rather than martial occasions.

Rock walls erected for protection against the enemy were called na'a'kwi-nobi (na'a'kwi, shooting; nobi, house, camp). They were of sufficient height to allow a seated person to shoot over the top. These are doubtless the "fences" to which Sapir's Wishram informant has reference.[248]

Scalping

As regards scalping, opinions are divided. All agree that the Klamath, Warm Springs, and Achomawi scalped readily. Minnie Anderson said that her uncle was scalped by the Warm Springs Indians, but that the Paiute did not scalp. Nevertheless, Joshua's statement is convincing:

> I have never seen a scalp, but when a Paiute killed an Achomawi, he cut around the forehead and the back of the head and pulled off the hair. In those days they wore long hair. I don't know where they learned to scalp. They took full-sized ones, cutting back of the ears and around the edge of the hair.

And upon another occasion:

> Some wore scalps (tüwo'ks). If we found Warm Springs, or Achomawi, or Klamath Indians on our land, we watched them and told everybody. Someone said, "Shoot them; shoot them and scalp them." Maybe we killed one or two.

In this connection Joshua also reported the scalp dance. Dr. Sam was not certain that his Paiute band used to take scalps, but he was inclined to think so. On the other hand, Piudy affirmed:

> Other Indians scalped but not our Paiute. They took them on a line with the eyebrows and pulled them off. We just killed an enemy; we did not cut off his hands or feet.

It may be significant that the Wishram do not mention scalping by the Paiute. Tom Anderson denied both scalping and mutilation of the dead; "but when the Shoshone killed the Paiute they cut them all to pieces."

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[248] Wishram Texts, 217.

RELIGIOUS ASPECTS

SHAMANISM

My data on shamanism are unfortunately meager. The shaman entertains the unhappy notion that he will sicken and die if he divulges information, so it is not surprising that informants are uncommunicative. Most of the following material was obtained from Joshua Brown, a former shaman, and from Piudy. I have relied largely upon direct quotation as it gives a vividness and accuracy not to be had in a bald statement of fact.

The word commonly given for shaman is puha'güm, but Joshua gave in addition another word, puha'gai[1], which he said was identical in meaning. All informants insisted that there was but one kind of shaman, but there was specialization even though it is not recognized in native terminology. Individuals such as Dr. Sam Wata of Beatty are general practitioners; others seem to have confined their efforts to particular ailments such as arrow wounds, rattlesnake bites, etc. According to Joshua, "Dr. Sam never tried to doctor snake bite. There was only one rattlesnake doctor. His name was Lu and he has been dead a long time."

Shamanism took the form of curing and sometimes of weather control. There was also the antelope shaman (düna'-puha'güm) who officiated at the ceremonial hunts. Ordinarily doctors did not locate lost objects; "only one man ever found lost things. He was a good doctor; he could do anything. I don't know his name." And again, "I heard of a doctor who could find lost things, but I have never seen it done. Some say Dr. Sam could do it."

A certain amount of prophesy was also within the power of the shaman. The coming of the whites was foretold by one as follows:

> Long ago they put up a big pole and all danced around it. A doctor stood by the pole and spoke, "I feel that something is coming from the east. A people with a different language are coming here some day." As he said that he would stop and listen, "They're making a lot of noise; their language buzzes just like flies." Then he said, "Those people will bring an animal and will make chokecherries, as big as a fist, grow in this country." The doctor meant the horse and apple. We had a strong belief in this doctor (SW).

And a further example of prophesy:

> Only doctors know when people are going to be sick. A doctor might dream that a friend of his in Cedarville was sick, and later find out that it was so.

Doctors know when sickness is coming. Frank Naneo's mother is an old woman living near Paisley. She dreamed of a sickness and said, "It's far in the east now, but it is coming here." It was the influenza and it came here (NH).

Shamanistic power was acquired through dreams, often beginning in early childhood. Dreams came unsought to many. But a person desiring a dream vision might spend the night in a certain spot on the west side of Eagle peak, fasting during his stay. He went alone, lest a companion arouse him before his dream ended. In the morning he descended to a small lake on the western slope of the mountain and there bathed. The lake was known as Nava'gia-no (nava'gia, bathe). One other place was considered potent; it was "near a tall rock point this end of Steens mountain."[249] These spots were visited by persons who had not dreamed before, as well as by those who had forgotten their dreams and desired to renew their power. A person who remembered his dreams need not go. Charlie Washo had heard that shamans were plentiful at Pyramid lake and that there a person desiring to become a doctor went to a spring and slept. He had also heard of one "stout doctor" who had fasted ten days.

A person who disregarded the "call" of his dreams fell violently ill. His case was diagnosed by another shaman who told him, "That is why you are sick." Before practicing, a shaman subjected his dreams to tests.

If he dreamed he did something good the next day he actually did it. He followed this procedure for all his dreams. He had good luck (P).

And again:

You dream to become a doctor. You have to remember but not tell; you never forget; you think all the time. If you dream of a bear go and see a bear. He is your friend; he doesn't bite you; he is like a good dog. If you dream of a horse see a horse to know if your dream is right. The horse is like your friend; he comes to you without a rope. Then you know that you dreamed what to use to cure. You tell no one (JB).

A shaman controls various kinds of animal spirits which come to him in dreams. The eagle is the most frequent one, consequently in treating, a doctor puts an eagle feather on the ailing part and "sings like an eagle. When he calls on the eagle it comes from the mountain and looks at the sick man, but no one is able to see it come." If a shaman dreams of a deer and hears a deer call, he imitates the cry when doctoring. I did not hear of any spirits other than animal. Sometimes the shaman has a feather or other token of his vision, but

[249] This is not within Gidü'tikadü territory.

usually he has a song, in which event he does not carry the token. Every shaman dreams his own songs. They are his exclusively and are not sung by another.

Piudy thought that a dying shaman did not will his spirits or paraphernalia. The latter were destroyed upon his death; sometimes they were burned, sometimes buried with him. Joshua thought that a shaman might will his power to his son, or daughter, or to his wife, but he thought that they had to dream too. In other words, the transfer was not automatic. According to Joshua, "Charlie Washo's father was a doctor. When he died he left his things to his wife. She was nearly able to doctor when her husband died." Dr. Sam stated, "Four old doctors who were childless taught me. They taught me when I was a little bit of a fellow. I dreamed of things and they helped me cure people." This suggests that a shaman might teach his son. Billy Peanuts, whom, by the way, some do not regard as a full-fledged shaman, is assisted by his son.

A doctor's equipment consisted of beads, eagle feathers, a stone pipe, and a deer-hoof rattle. These were carried in a sack about the waist, nowadays in a suitcase. The beads were used "to see how the pain worked." Piudy thought that "eagle feathers were not always used in doctoring. We learned to use them from the people north, farther north than the Bannock." Two kinds of eagle feathers were used: a long tail feather and down from beneath the wing. The latter might be all white. Joshua said that eagle feathers were split and twisted about a thong so as not to break. They were not dyed. Sometimes the patient held the feathers; sometimes they were placed over the afflicted part. Before a doctor sang, he filled his stone pipe with tobacco (puhi'-pa'mo') in order "to help his body." He removed his moccasins before smoking lest someone think him afraid of flying sparks from the fireplace.[250] The deer-hoof rattle was used only by shamans, each of whom made his own. Its particular function in healing is not clear, but it "helped."

It is of some interest that the usual correlation of the tambourine with shamanism does not hold for the Gidü'tikadü. This rather argues for the late introduction of the drum and seems to bear out Piudy's statement that the drum "came from the north and northeast when the white people came."

[250] Cf. Lowie, NS, 214 and SE, 215. Apparently the Cochiti practitioner removes his "shoes" before smoking, Curtis, 16:94. Miss Cora Du Bois tells me that the Wintu adhere to the same custom.

A shaman sings over his patient; he smokes; he calls upon his various spirits to cure:

The doctor would sing and see how the pain went. He would look and tell his medicine to stop it. He tried other medicines until one was strong enough. Then he was a little tired. He saw the patient again the next day. When the man got well he believed in the doctor.

Curing by extraction was known, but only the best shamans could do it.

Some doctors could suck out objects. They were reddish brown like pieces of meat. We watched closely because some had things in their mouths and pretended to take them out of the patient. A good doctor asked everybody to look at the things he sucked out. If a person swallowed them they made him sick. Some who did not believe swallowed them, and sickened immediately. A doctor swallowed the objects he sucked out; they did not hurt him (JB).

And further:

Only the best doctors could suck out things. When a doctor took out a snake or a bug he held it up for everyone to see, telling them when the patient would be well (P).

Treatment was usually at night, because "that is when a doctor dreams." If very ill, the patient was doctored during the day. When a shaman doubted his ability to cure, he put an arrowpoint on the coals and blew on it until it was red hot. He then took it in his hand, placed it to his mouth, and swallowed it. He did not do that if he were sure of the patient's recovery. Charlie Washo's father is said to have swallowed hot points without injury to himself.

Two accounts of curing follow:

When I was sick two years ago, Dr. Sam and Dr. Louie found me. There were many people around. I could not open my eyes. They told me, "You had better go home." I opened my eyes; all my friends were there. They gave me water to drink. My left arm and leg were stiff; I could not move. Dr. Sam and Dr. Louie both sang. They said, "Stay here; this is your own country. In the morning talk to the sun." I put white paint on my face [indicating the right cheek]. In the morning I was better. I could eat. When I was stronger I went to the sweat-house. The doctors slashed my hand and foot and let out the blood. They smoked; had eagle feathers to help them. I held the feathers.

It took me three months to get well. My boy told everybody, "My father is dying"(CW).

When I was sick two months ago, Albert Townsend's mother tried to doctor me one night, but she did not know what was wrong, and told me to go to the hospital.

Then my father and husband went to Summit lake to bring Billy Peanuts. He asked two dollars a night to treat me and wanted a pocket knife besides. He said he would not collect unless he cured.

He told them to make an open willow shade [circular enclosure] and put me in at night. They made a fire in the center, and the doctor, my father, his wife, my husband, and many other people came in. The treatment lasted until sunrise.

The doctor sang about different things—the wind and things like that—keeping time with his rattle. He was barefooted and wore a headband of eagle feathers. He put an arrowpoint tied to a feather on my chest. Wherever he put it he sucked. He seemed to draw the blood out somehow but did not suck out any object. He put a bullet on my chest. Sometimes he sucked, and the bullet went into his mouth.

He smoked cigarettes and danced around the fire, praying all the time; I don't know what he prayed to. He asked two women to dance and they skipped around. Another woman talked all night, telling them to keep on with the doctoring.

The doctor chanted, and his son told in plain Paiute what he was saying. I think they have special songs. The doctor started the singing, and his son led the people off. The son knew all the songs.[251] The doctor kept on dancing.

They did this every other night for sixteen nights (eight treatments), calling on a different spirit each night.

The doctor told me one lung was covered with blood.[252] He gave no medicine but said not to eat much meat or fruit except oranges.

Before Billy Peanuts came from Summit lake, Nettie de Gamo cured my headache. She made a hole in my forehead with an arrowpoint and let out black-looking blood. This was in the morning; she did not pray or sing. Nettie has headaches most of the time and cures herself the same way.

Before this I did not believe in an Indian doctor, and I did not want one to treat me. But I guess he saved my life.[253]

A shaman treated in his own family; two or three shamans might treat a patient. Practitioners from other tribes were not employed.

As payment, a shaman was given moccasins or a large deer hide, sometimes already tanned. "If a man had nothing he had to pay all the same. Then he gave the doctor a bullroarer" (CW). According to Piudy, payment was given each night at the beginning of the treatment, and the shaman retained his fee even though the patient died. Charlie said that the payment must be returned if the individual did not recover. Joshua's statement casts an interesting light on the return payment:

White doctors charge too much. The Indian doctor doesn't cost much unless he cures. You pay him $1.50, soon $2.00, then maybe $2.25. If your relative dies you say, "Give me back my money because you didn't cure." The doctor says, "Well, I give it back because you are poor. I did the best I could." Sometimes you ask for only half the money. If you made him return all, he might get angry and make you sick.

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[251] This is at variance with what I was told concerning a shaman's songs.

[252] The government doctor diagnosed her case as typhoid fever.

[253] Minnie Teham Archie, Fort Bidwell.

A shaman who lost many patients was regarded askance. Charlie said that an unsuccessful doctor was not killed—"The Pit River people killed their doctors; I can't understand that." Some years ago, however, his own brother, Dr. Louie (called also Old Noah), lost a case in Warner valley, Harney Spott. The man's relatives accused Noah of malpractice and attempted revenge. They succeeded in slashing him badly across the abdomen, but he recovered. He left the country, taking up residence at McDermitt, and visiting here only occasionally and for short periods. When a shaman had lost many cases, and a certain patient was not improving, the family of the latter consulted another doctor. The latter would say, "Your relative is sick the same way as his other patients. It looks as though they had been poisoned (bewitched) by him." If the patient did not recover, a relative might kill the guilty shaman.

A doctor could lose his power, either by forgetting his dreams or by other means as, for example, through contact with menstrual blood. Dr. Sam said:

> I cannot cure now because my own people did not do what I told them. Years ago when I was young I doctored with a deer-hoof rattle and eagle feathers; nowadays I treat with medicine like a white doctor. I cured a farmer here from Portland with the help of a white doctor two years ago.

When a shaman lost two or three cases he began to doubt the efficacy of his power.

Ideas on contagious magic were not well developed. According to Piudy, "Perhaps once in a while a man could make a person sick with a piece of hair, throwing it away. I am not sure." Care was taken in the disposal of hair clippings but not from fear of sorcery. When an individual cut his hair he buried it beneath a small sagebrush bush. Then he jumped over the bush, trying not to touch it. If he accomplished this, his hair would grow "nice and long." I was told that nowadays people do not burn their hair combings for fear of death, but Piudy affirmed, "This is just a new idea. They never thought of that in the old days." Nail parings were not considered a possible source of danger.

A shaman could cause an enemy to fall ill; formerly this was the only kind of sickness known. A person might hire a shaman to "poison" someone. He called upon his spirits and if the man fell ill, "then you believed in that doctor." White people could not be "poisoned."

A man dreamed how to poison a person. Sometimes he used red paint. He painted his face, rolled a stone in the paint, and then hit the man. It [presumably the magic] went through like electricity and the man became sick. An Indian doctor discovered the poisoner and asked him to take the poison out. To do this, early in the morning and late at night, the poisoner had to dive in the water and wash and tell what he had done; otherwise, the victim would die. The poisoner was not punished (MA and NT).

A certain skepticism is revealed in the following:

Perhaps I was sick and the doctor named someone who was poisoning me. Then my people might kill that person. The doctor might be lying; there is no way to tell (NH).

There is some suggestion of sickness due to soul loss, but it was not generally recognized:

Our people do not make the soul leave. Some doctors try to tell us the soul is gone, but they may be lying. Some people believe them and they try to kill the guilty person (P and NH).

Departure of the soul, however, causes death:

When a person is dying he begins to feel coldness creeping up from his legs.[254] Then the soul is going; it is half gone. The doctor lies beside his patient and becomes unconscious, dreaming he is hunting the soul. When he goes after half-dead people he sees only Indians there (abode of dead) (P).

MEDICAL TREATMENT AND REMEDIES

Certain ailments such as arrow wounds, snake bite, and the like, required shamanistic treatment, whereas afflictions of a lesser nature were cured with "home remedies." These were rather limited in number, and among them two were outstanding: tüba'sup (*Veratrum californicum* Durand) and ya'pa'-gwana'bü (*Aquilegia formosa* Fisch.), each used for a variety of maladies.

When a shaman was called to treat an arrow wound he asked at once, "Is it poisoned?" If the answer were affirmative he sucked the wound and swallowed the blood (and poison). No antidote was known. According to Piudy, "There is no medicine for an arrow wound. They always have to take the arrow from a wound in one way. They have to push it clear through and bring it out on the other side. Sometimes it breaks off when it hits a bone; that's pretty bad."

Snake bite was also treated by a shaman. Ordinarily he cut around the wound, sucked and swallowed the poison, and applied the chewed roots of tüba'süp as a poultice. None but a shaman ever

[254] I was asked at this point if this were the way white people died.

sucked a wound. According to Joshua, "Dr. Sam never tried to doctor snake bite. There was only one rattlesnake doctor. His name was Lu and he has been dead a long time. He did not have to cut or suck the wound. He told it not to swell. The rattlesnake was his friend; he dreamed about him; and he carried one around his neck all the time. He put Star chewing tobacco on the bite." Daisy also spoke of a "doctor who was like a snake charmer" and who was the only one able to cure snake bite.

No one but a shaman attempted to treat nosebleed. Daisy said, "They must have a special doctor for that, but there are none living now. A doctor used mostly horsehair; he told the patient to tie his head with it."

Headache resulted when blood in the head was "too thick," and for relief the forehead between the eyes was slashed and the blood let. This was performed by "somebody who knew how," presumably a shaman, although Nettie de Gamo, who gives this treatment nowadays, is not so regarded. For earache or for deafness, a shaman blew tobacco (puhi'-pa'mo') smoke in the patient's ear to clear the passages.

A broken bone was enclosed in two or three flat splints bound on with deer hide. The crushed leaves of kusi'agüp^{ü} (said to be the same as a'gü', *Wyethia mollis* Gray) were applied as a poultice. The same medicine was used for sprains and to reduce swellings. As an alternative treatment for the latter, one might apply the mashed leaves of bawa'natizua (*Chaenactis douglasii* H. and A.) or of wada'^{a}-kwasi' (squirrel-tail; *Achillea millefolium* var. *lanulosa* Piper). The crushed root of do''sa^{abü} (*Leptotaenia multifida* Nutt.) was a remedy for both sores and swellings. For sores, one might use a poultice of mashed leaves of na'mogu'd (*Penstemon deustus* Dougl.) or a salve of the roots of dotsi'toniga (*Heracleum lanatum* Michx.).

Deep cuts were washed with tea of sagebrush leaves. The blue-tailed skink (puhi'-kwida'mugus; green, blue-lizard) was dried, powdered, and sprinkled on deep cuts. Tüba'süp roots were dried, pounded, and spread over bruises. Blisters were opened but were given no other treatment. For burns, tüba'süp or a powder of burned cat-tail pods was helpful. Roots or leaves of ya'pa'-gwana'b^{ü} were chewed and applied to bee stings. Informants had not heard of skunk bite. Sometimes a coyote with rabies would bite a dog and it in turn would bite a person. There was no known cure for such cases; shamans and medicines were ineffectual.

There was no remedy for frost bite.

Granulated eyelids were scraped with the rough edge of split rye grass. A wash for sore eyes was made by soaking the leaves of wada'^{a}-kwasi' in water.

For toothache, the leaves of wada'^{a}-kwasi' were chewed; or the roots of tüba'süp were roasted, dried, pulverized, and the powder dampened and rubbed on the face.

There is a large series of cold remedies. A mixture of balsam (to''sa^{a}) and tobacco (puhi'-pa'mo') was smoked for bad colds, even by children. A potion made from the boiled roots of dotsi'toniga or of the mashed leaves of ya'pa'-gwana'b^{ü} was drunk for a cold. The leaves of nettles (kwiba'nop^{ü}) were mashed, boiled, and used as a medicine; also for colds, Susie thought. An infusion from the crushed leaves of rabbit brush (*Chrysothamnus viscidiflorus* Nutt.) was effective if one drank it or bathed in it. Crushed leaves of *Artemisia vulgaris ludoviciana* (Nutt.) Hall and Clements, were applied to the chest or other parts of the body as a cold remedy. Leaves of young sage and juniper were boiled, either separately or mixed. The brewed leaves were used as a compress and the tea drunk for colds, coughs, and sore throat. It was especially good for children and infants. For coughs or sore throat, one chewed the leaves of ya'pa'-gwana'b^{ü}; they tasted badly but they were chewed until the flavor was gone. Seeds of bati'p^{i} (*Paeonia brownii* Dougl.) were soaked for use as a cough medicine. The roots (?) of an unidentified plant called puzu'^{u}, said to grow only near Beatty, were either chewed or else boiled and the liquid drunk as a cough remedy. This medicine had a "pretty strong" taste.

Piudy did not know of a febrifuge, but Daisy thought that a brew of tüba'süp would be helpful.

A number of remedies for stomach complaints follow. When a person was nauseated and "sick all over" he drank a beverage made from the dried roots of bati'p^{i}. For stomachache, he drank a tea of the boiled leaves of kusi'agüp^{ü} or of tobacco (puhi'-pa'mo'); or else chewed the seeds of ya'pa'-gwana'b^{ü}. White paint was chewed as a remedy for diarrhea; this was especially good for babies and small children.

Badger fat roasted on the coals was eaten for heart trouble. For the same ailment, small, black, malodorous beetles (pipu's), called stink bugs, were sucked. Although they tasted "pretty bad" they were generally beneficial. Perry Parker is said to have cured himself of heart trouble by sucking them.

Rheumatism was a common and a dreaded ailment, but there were a few remedies. Susie Archie knew of persons who had whipped the affected parts with nettles, and after the inflammation subsided, the rheumatism was gone. She had been urged to try this, but could not steel herself to do it. The sweat bath, it was said, helped rheumatism as did also the "hot bed" made of heated stones covered with juniper boughs and blankets.

A drink made of the boiled roots of tüba'süp or of oha'nazagodidi[255] (*Berberis repens* Lindl.) was taken for venereal disease; a drink from the boiled roots of do'sa^{abü}, for tuberculosis.

SOUL, ABODE OF DEAD, GHOSTS

When Nora and Piudy were asked concerning the human soul, they conferred and said, "They name it the same as the breath, soñü'pü." However, when Joshua was questioned, he called the soul mu'gwa, which agrees with the terms recorded by Lowie[256] for several Shoshonean groups. Concerning the two terms, Joshua said:

> When a man dies his mu'gwa leaves and never returns. His soñü'pü breaks up and goes when he dies. If a man is half dead his soñü'pü is still there; his mu'gwa is half gone. The doctor tries to put it back.[257] When the mu'gwa leaves it hovers around. I do not know where it is in the body.

At death the soul goes above; it travels south along the Milky way to the abode of the dead. I was asked at this point if white people also go above, because when the shaman searches for souls of half-dead people "he see only Indians there." The abode of the dead is unnamed; all Paiute go there regardless of moral character and mode of death. It is "like this earth, but there is lots of green grass there; people never grow old; and everything is nice."

A dead man is addressed thus, "Go off. Goodbye (native?). You have a good country there." A dead person sometimes returns looking for his things. There is particular danger of this if the relatives have been careless about burning his property. Charlie Washo said, "About twelve years ago someone died and came back. He came to the door, but I could not see him. I was not afraid though. Perhaps they had not burned his things." Charlie went on to tell of an experience he once had when visiting in Alturas. He was asleep and his blankets were pulled from him. He got up and rearranged them, but the

[255] Oha', yellow, having reference to the color of the peeled root.

[256] SE, 296; and NS, 226.

[257] By going into a trance and searching for the soul.

same thing happened again. "I was badly scared. I thought perhaps a dead man had come back; maybe there was something of his in there. I don't know."

According to Joshua:

I have never seen a ghost. They say you hear them. Once Charlie Washo and I were going up a hill looking for a pony. We came to a clump of service and heard a noise like singing. We stood still. Charlie said, "We had better run." He ran off. I stood there and I waved for him to come. He came but we did not go up to the bushes. I don't know what we heard.

On the other hand, I was told that a ghost appears only when someone is sick and about to die. If a person dreams of a ghost he will probably fall sick. He can, however, ward off the ill effects by using mushrooms or "a brown stuff which is found in the fields but does not grow there" (fungus?). Both of these are known as tsoü'p-bisha (tsoü'p, ghost; bisha, powder). The powder is taken from the center of the mushroom or from the fungus and is tossed upon one's head to frighten off the spirits.

The following suggests a distinction between ghost and spirit:

Tsa'abü is nearly the same as tsoü'p.[258] I knew a man who was drunk. The ghost (tsa'abü) of his mother touched him on the leg. It swelled and the next day he was dead. Some might have cured him by sucking.

This suggests that tsa'abü may refer to a ghost proper; tsoü'p to spirits that were never in human body; but further examples would be necessary before one could be certain.

According to Piudy, when a person sees a ghost, he sees the individual himself, not his spirit or soul. In response to a question concerning dream experiences, he said, "I have never heard anybody say anything about what they saw in dreams. All they know is what they dream." About the same holds for one's reflection in water. Great hilarity resulted from a suggestion that it might be the soul. Piudy said, "They never say what it is they see but it is *not* the soul."

MISCELLANEOUS MAGICAL BELIEFS

There is a considerable series of beliefs concerning natural phenomena. The rainbow (piü'gtükwinüb) presages rain. A person did not point at a rainbow for fear of making his finger sore. Earthquakes were unknown in the old days but not so eclipses. Joshua had heard that in early times "the sun once stopped and everything was dark for a day or two. The people made a slow match and went

[258] This term looks suspiciously like soñü'pü, p. 198.

around camp to see if everyone were alive." An eclipse is called taba-yü'iwan (ta'ba, sun); they say the sun is dying.

It aggravates the thunder (nünia'ba) "if you shout, laugh, and talk. The thunder gets worse and it may chase you." Lightning is of special danger to a menstruating woman and often fatal to a woman with child. The echo is wahi'pi-naka'u (shout-hear). It is someone "calling back."

The animals of the tales—Coyote, Wolf, Frog, Rattlesnake, and others—are said to be in the moon. Minnie Anderson sees a frog in the moon. A circle about the moon foretells rain.

A sneeze indicates that a person of the opposite sex is thinking of one. Ringing of the ears is of evil portent. "That is a dead spirit shouting in your ears; probably a friend is dying." A wink is of no significance; "they learned that from the white people." When a person's eyes twitch, "he is going to see something. When a man is going hunting and his eye twitches, he says, 'I know I shall see game today.'" An itching palm has no meaning. Bad luck is associated with twitching of an under-knee muscle. When a hunter experiences this it means he will not see game. If a woman is going to play a card game and her knee twitches, she will surely have bad luck. Twitching of the calf muscles indicates that a stranger is coming. If the arch of the foot twitches it means that someone is coming on horseback (contact with the stirrup).

A number of omens mentioned by Nora Henderson follow:

When a frog whistles (not croaks), people say, "You are going to have bad news."

When the coyote barks strangely, someone will sicken and die.

When the owl barks like a dog, something bad will happen. Once when I was near Adel, on my way to Likely, an owl in a clump of willows south of us barked and then hooted. We knew we would get bad news from the south. That night we stopped at Alturas and heard that someone in Likely had been killed.

Once my aunt, Daisy Brown, heard a whistle by the creek. She looked around and saw a snake making the noise. She felt badly, knowing she would get bad news, and I think she told me that she did.

When it is a little cloudy, and the meadowlark sits on the ground and goes, "prrrrrr," it is going to rain. They say this is really true.

If the first meadowlarks from the south have bright yellow spots on their breasts there will be plenty of a'gü'.

A centipede is called i'wü-mai'[1] (many-hands). If a person picks up a centipede "he may get that many hands." If a person's shadow passes over a frog by day or night (moonlight), the frog will follow that person and get in bed with him. "They always say that this is really true."

The Gidü'tikadü share the Pyramid Lake and Ute belief[259] that the horned toad can kill a rattlesnake. According to Joshua:

The horned toad looks like a doctor. Many people have seen him kill a rattlesnake. The rattlesnake was ready to strike. The horned toad came alongside from behind, and got under him and cut him in two with his horn. The snake could not turn quickly enough.

No danger was attached to eating deer left by a mountain lion or rabbits left by a coyote. "It's all right; there is no harm."

A neat example of contagious magic is to be seen in the following:

The Indians used to have horse races. When a mare was to have a colt, and they wanted it to be a good racer, they killed an antelope because it is a fast runner, and rubbed the water (?) from it on the belly of the horse.

Certain beliefs concerning hair clippings have already been mentioned.[260] Minnie Anderson thought gray hair would result from burning hair combings. If one slept with his head to the fire, his front hair would turn white.

Children threw deciduous teeth toward the moon with shut eyes to make the second teeth come quickly.

As Lowie has indicated,[261] the Paviotso pattern number is five.

WEATHER CONTROL

Weather control consisted principally in means and devices to make the snow melt. Several accounts follow:

The mother of Tadagai[262] could make the snow melt. She cried like a stallion, took a firebrand of sagebrush, and pointed it toward the south, saying, "Come on, rain; come on, rain!" She did not dance. The wind blew, the rain came, and the snow began to melt (P).

You must not boil cottontail because it brings snow; you must fry or roast it. Once some old men were going to boil cottontail and they told me to stand outside. In my hand I had a bullroarer made from a dried juniper limb. It was about two inches wide and six inches long. It was not notched. Two or three black marks ran crosswise on the face. A stick, like a handle, was tied to the end of its thong.

I blew the water, in which the cottontail was boiling, south, saying, "Come, rain and wind." It was winter, a long time ago, before any white men were here; I was a small boy, born in the middle of summer when it was hot. That is why they had me do this (to counteract their boiling cottontail).

There is no way to keep snow from coming. Porcupine brings snow.[263] You roast the meat and when you have eaten it, you mash the bones. Then it will snow (P).

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[259] Lowie, SE, 298. [260] P. 189. [261] SE, 295.

[262] "Tadagai means one dollar; I don't know how she got such a name" (P).

[263] Cf. Kelly, tales no. 15*a*, 15*b*.

When the snow was deep and did not melt, they asked a man born in summer to make the wind blow. He had a stake about eight inches long, which he whirled over his head. This is called tüsa'ibidun. He stood outside the house and tried to call the south wind. He talked, then stopped; then he did it again (JB).

To make the snow melt is called tüsa'ibidun. Not all doctors could do this, perhaps only one man or woman. Someone would say, "Who can make the snow melt? How much do you want? Some beads, a belt? I'll give you that if you make the snow melt in one or two days." You say, "Well, I'll do the best I can." Then you sing. You have a stick, maybe a burned stick. You face south; you shout and talk to the wind. You say, "Friend." You point with the stick (koso'-tuhubi, fire-coal). It makes a little wind come. You say, "You see this coal; you see this fire." The wind comes, maybe in an hour or two. Then everybody believes in your power (JB).

In the old days they tried to bring wind to melt the snow. They used a piece of juniper where the lightning had broken it off. Sometimes the wind came from the southwest (south?) (CW).

Sometimes a woman doctor would dance and sing until she got a real sweat. She talked; she waved her hand to the west. Then the rain came and the snow began to melt. I know no way to make the rain stop. A man whirls a bullroarer (kwi'mo) to bring a warm wind to melt the snow (MA).

They used to boil snowshoes to bring rain; nowadays they fry them. This is called "killing the snowshoes" (NH).[264]

Joshua had not seen anyone stop a thunder storm, but he had heard of its having been done:

The old people told me about stopping thunder. When the thunder comes close, they say to someone born in summer, "Put on your paint and go outside. When the thunder starts, when the lightning starts, step out quickly and look at them. Motion to them; tell them, 'Go over there.'" Then they will go away.

SWEATING

The sweat-house is called topi'-nava'gia (topi', tüpi', stone; nava'gia, bathe). Joshua gave pu''sat and mi'rhotü as synonyms, but topi'-nava'gia is the favored term and the only one I have noted in conversation.

The sweat-house frame shown in plate 19*b* is about four feet in diameter and tall enough to allow one to sit upright. No particular entrance is discernible. Other frames which I have examined are bound round with one or two willow withes. In the background of the plate can be seen the stack of canvas, old clothing, and the like, which serves to cover the lodge when sweating is in progress. Formerly the covering was rye grass, sagebrush, willow, or possibly an old deer-skin or blanket.

[264] I was unable to verify this. The practice is unknown to other informants.

Stones were heated near-by and placed to one side in the lodge, "otherwise there would not be enough room for two persons." Before water was applied, the rocks were allowed to stand a few minutes, lest the inmates be scalded. If the heat of the steam became unbearable, a little cold water was put on the head, or else the head was poked out beneath the lodge covering for a moment's respite. One informant said that young sagebrush was broken and that the sweaters dipped it in water and whipped themselves with it.

Cold water following the sweat bath was optional:

Old men who like it, jumped in the cold water. You might catch pneumonia. Too much steam made you weak.

Sweating was principally by men, although a few women are said to have sweated occasionally. "Sometimes a woman would go in with her husband, but not often. Perhaps three or four women would go together. Young girls never sweated." At the present time sweating as an active institution is indulged in by a few of the older men. I found no evidence for de Angulo's assertion[265] that "even now the custom is not well established and that some of the older men frown upon it." In fact, nowadays sweating seems to have rather strong religious associations which quite outweigh the medicinal or purely social functions, although these two factors do figure.

In the old days they sweated whenever they felt like it and before they went hunting. It made the body strong. Some say they went there to cure, but I do not think so.[266]

Mourners occasionally sweated, but this custom seems to have been neither general nor well established.

When sweating, a person prays to the sun, composing his prayer to suit his needs. He usually asks for health and for success in the chase. A prayer is said to be somewhat as follows:

My father, the Sun, help me a little. Make me strong. Give me deer meat. Help me kill deer and antelope.

If a person is not in good health he prays thus to the sun:

I like this country. Make me well; make me strong. I do not want to be sick.

I do not know if an address of this sort is repeated indefinitely or if a person has a whole series of such prayers. I happened within earshot of a sweat-house which was in use and the praying was continuous, in a monotone that almost approached a chant.

[265] P. 318.

[266] "Sweating is good for rheumatism and things like that" (P). And also p. 198.

It is considered especially fit that one sweat on Sunday. This interesting secondary association is so firmly entrenched that I was asked if white people talk to the sun on Sundays as do the Indians. Association of the sweat-house with the sun might be worth tracing.

Regarding the origin of the sweat-house, de Angulo[267] states, "But careful inquiry brings out the fact that the introduction is recent. 'It came about forty years ago, from up north, from the Warm Spring Indians' is the reply I have received from many people." He does not make it clear to just which tribe the statement applies—his Pit River, Klamath-Modocs, or Paiutes—but presumably it refers to the latter. In that case, forty years seems rather too low an estimate. Although I questioned virtually every informant upon the point, Piudy was the only one who had ever heard that sweating was other than indigenous. He said:

> I heard that the sweat-house came this way from far in the northeast on the edge of big water. This was long ago, before my time. Before the Paiute learned to sweat they just bathed in the river.

Other informants invariably declared that the Gidü'tikadü had always sweated, and a number attributed the practice to Coyote or otherwise linked it with myth. When Dr. Sam was asked concerning the origin of the sweat-house, he related the following tale:

> In the old days birds were persons. Eagle was hunting deer. They killed nothing. Then they spoke to a little bird like an owl, called topi'.[268] Eagle told him to heat rocks. Then they all sweated in a sweat-house that the little bird built. And the next time they killed many deer. That is how they learned to sweat. Talk to the sun while you are in the sweat-house; that is your god.

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[267] P. 318.

[268] This term is of interest because of its possible connection with topi'-nava'gia, sweat-house. The suggestion is obvious: either the tale results from secondary association, or the translation of topi'-nava'gia as rock-bathe is a folk etymology.

APPENDIX

There are here appended two verbatim testimonies which resulted from the desire of informants to place on record the events attending their dispossession by the whites, the one topic upon which unsolicited information was volunteered.

1. TESTIMONY (P: NH)

I want to tell how the whites came here. The whites took a man named Wiwu from this side of Malheur and asked him, "How about this man Ochiho (Gidü'tikadü chief)?" He said, "Don't kill Ochiho, just capture him." These whites were coming here with lots of soldiers. They made ten Indians come too.

Johnny Cook (General Crook?), a white man with no right arm, was head of the soldiers. Another man was called Johnny Howard. They came from the north but not into this valley. They caught Ochiho gathering roots at Atkukwi'b, a mountain across from Plush.

The soldiers told him, "Let's have no more war. Let's both drink this water from the springs and rivers. You people, don't steal anything belonging to the whites. Put your bows and arrows under your blankets, and I'll put away my gun." He said more, "You have nice land here. You steal the white people's things. That's why they sent me here to capture you. Both of us (whites and Indians) will use this timber for fires; both can let our horses eat the grass. We'll be friends and eat together."

After this the white people came. They made a fence and pushed these Indians out. That's all.

Ochiho always wore a leather bag the soldiers made for his papers. They wanted these Indians to go to the Klamath reservation. Finally Ochiho said, "My father and my mother died here. I want to stay." They asked, "Where are your children going to school?" He said, "I don't want my children to go away. I want them to go to school here." That's how they had the school here after the soldiers left.

Some white inspector came from the south and talked to Ochiho, saying he had come from Washington to see if the Indians were behaving well. Old Ochiho said, "You talk to me like that! I think you come from down the valley, not from Washington," and he slammed that leather bag down. After Ochiho died, Dick Ochiho and his wife destroyed the papers in that bag.

2. TESTIMONY (SW:DC)

It is seventy years since I realize what is good for me. Beyond that I don't know. I am about eighty-one years old; I was a full grown man at the time of the Modoc war.

Beyond my age there wasn't a white man in this country. There might have been some in the east, but not here.

The Indians rested the seventh day like white people. Then they had a dance or worship. They danced around a big pole[269] . . . . after which they

[269] Here follows the account of the shaman who foretold the coming of the whites, p. 189.

made the doctor tell what they had done that was wrong, and then they would thrash them. That's the way they did long ago.

In those days the Indians traveled all year around. They were never starving; they had a bow and arrow. The women gathered roots and seeds, put them in sacks of sagebrush and deer hide, and buried them in the ground for winter use.

The Paiute made moccasins of badger skin, coon skin too. Other Indians had a harder time. An old Modoc told what a hard time they had. In winter the women got frozen legs, but they didn't mind. Wealthy women stuffed their moccasins with sagebrush bark. That's what we did.

These Paiute were living by Summer lake and Silver lake when the white people came. They began gathering the Paiute in order to make a treaty. The Paiute have been here on the (Klamath) reservation ever since. When they brought them here, the government told the headman, Chocktoot, to keep his people on this reservation. "If you keep your promise, some day I'll give you a saw-mill and a flour-mill and a blacksmith shop." So this old man agreed. The government told him to get all his people to come here. They told Ochiho to come too, but he stayed only a little while. Then he went back to his own country. The government said, "You invite all the Paiute to come here. Then I'll let you go to your own country near Paisley and Summer lake." But Chocktoot had agreed to stay right here and he did it. The people from Burns had six chiefs among them. They told them they were too many, so they had better stay where they were.

Since Chocktoot made this agreement, the troubles quieted down and we live peaceably now. I know all this agreement. I know it to be a fact. I feel like Chocktoot himself.

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EXPLANATION OF PLATES

Plate 17. *a, b,* views taken from the eastern slopes of Warner range showing characteristic vegetation—sage, piñon, juniper, mountain mahogany—with the playa bed of Upper lake, Surprise valley, in the background. *c,* view in Fandango valley, with the western front of the Warners in the background. The foreground shows a field of sunflower, a'gü', an important seed plant.

Plate 18. *a,* view (from the south) of the Fort Bidwell Paiute camp with Bidwell mountain in the background. *b,* conical house at the Bidwell camp, reminiscent of the old-time structure. *c,* shade near Fort Bidwell.

Plate 19. *a,* tule mat for woodshed, showing six courses of stitching and, at the bottom, a row of simple twine. *b,* sweat-house frame near Fort Bidwell. *c,* stone artifacts found near Cowhead lake.

Plate 20. *a, b,* side and front views of buckskin dress and headdress of Plains type. *c, d,* boy's buckskin shirt and trousers.

Plate 21. *a, b,* wringing hides. *c,* twined basketry.

Plate 22. *a,* scraping willows for basketry. *b,* halving willow rods. *c,* trisecting willow rods.

Plate 23. *a, b,* side and bottom views of oval, single-rod coiled basket, 1–28202, made by Minnie Anderson, Fort Bidwell. Long diameter at top, 16 inches.

Plate 24. *a,* conical twined burden basket, 1–28204, made by Minnie Anderson. Height, about 19 inches. *b,* open twine burden basket, 1–28203, made by Minnie Anderson. Height, about 20 inches.

Plate 25. *a,* open twine grating tray, 1–28205, made by Minnie Anderson. Length, 20 inches. *b,* model showing start of parching tray, 1–28211, made by Lizzie Godowa, Beatty, Oregon.

Plate 26. *a,* diagonally twined parching tray, 1–28206, made by Minnie Anderson. Length, 20 inches. *b,* diagonally twined parching tray, probably made by Minnie Anderson; in collection of Mr. Henry Kober, Fort Bidwell. Length, 25 inches.

Plate 27. *a,* twined seed beater, 1–28207, made by Minnie Anderson. Length, to root of handle, about 16 inches. *b,* twined moccasin of sagebrush bark, 1–28208, made by Minnie Anderson. Total length, 18 inches.

Plate 28. First cradle, 1–28210, made by Nettie de Gamo, Fort Bidwell. Height, 22 inches.

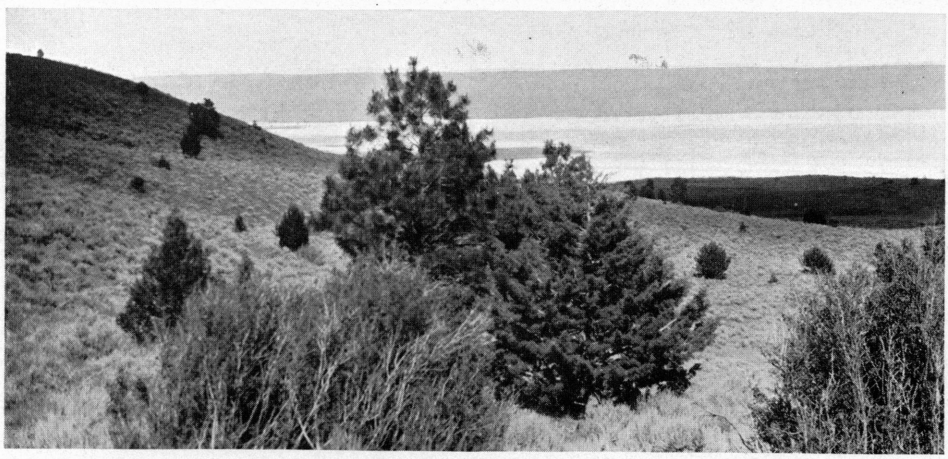
Plate 29. Skeleton of skin-covered cradle, 1–28212, maker unknown. Total height, 40 inches.

Plate 30. *a, b,* front and back views of skin-covered cradle in the collection of Mr. Henry Kober. Height, 40½ inches.

Plate 31. *a, b,* front and back views of skin-covered cradle in the collection of Mrs. Chester Lowell, Fort Bidwell. Height, 39½ inches.

Plate 32. *a,* porcupine-tail hairbrush from the collection of Mr. Henry Kober. Length, about 7 inches. *b,* stone pipe from the collection of Mr. Henry Kober; secured by him from Fat George Townsend. Standing height, 2¼ inches. *c,* wooden cylinder, 1–28200, for hand game; found at gambling grounds near Beatty, Oregon. Length, 2⅞ inches. *d,* paint bag of buckskin, 1–28199, bought from Daisy Brown. Same scale as *c.*

a



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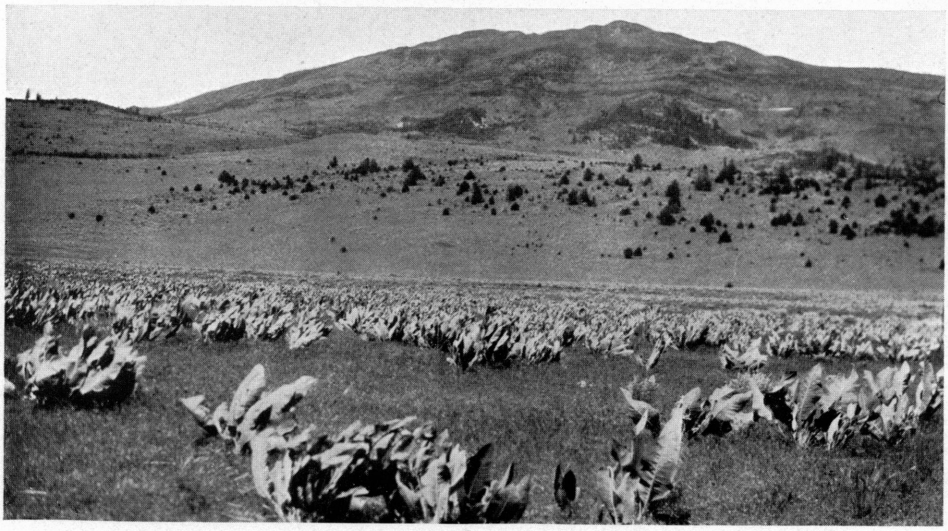
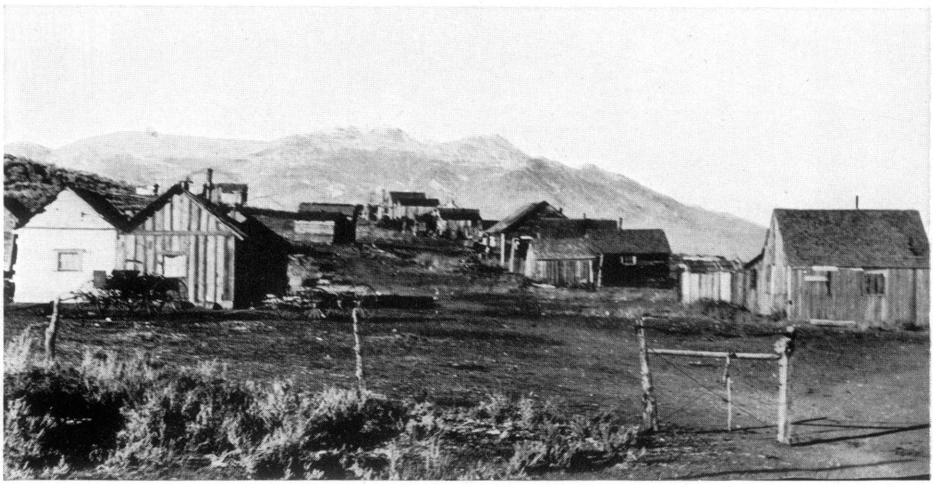


c

LANDSCAPE



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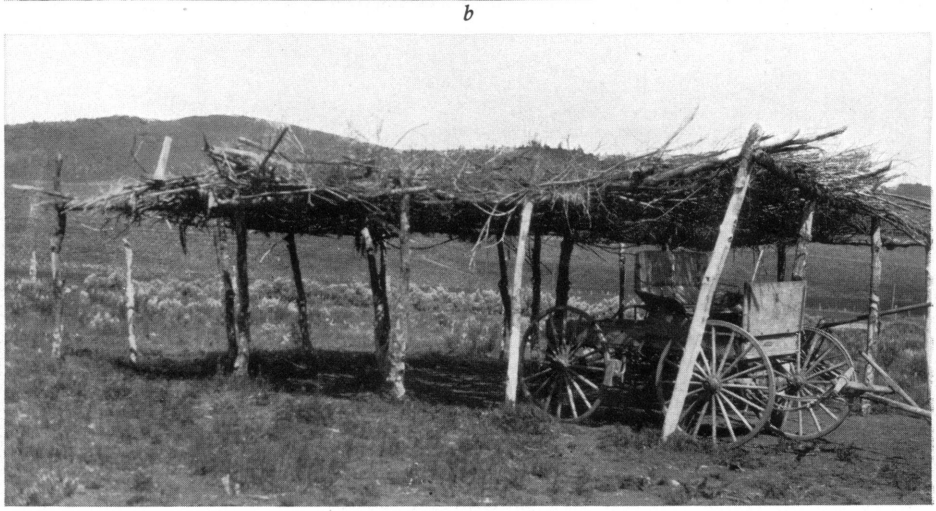

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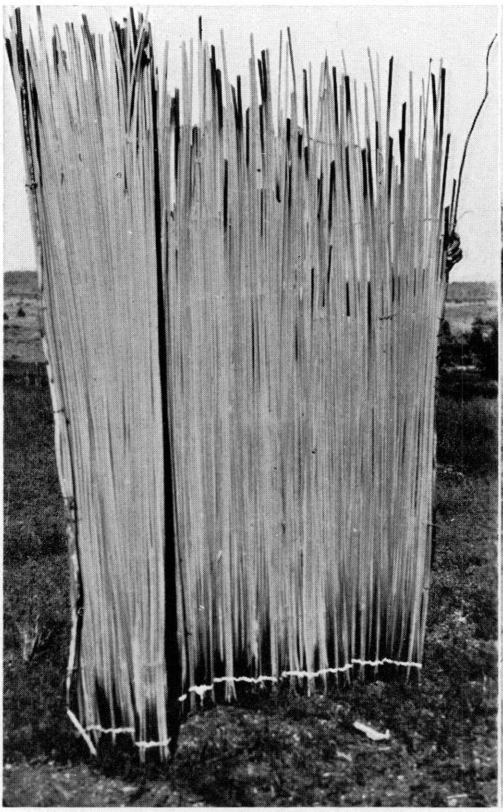
HABITATION AND SHELTER



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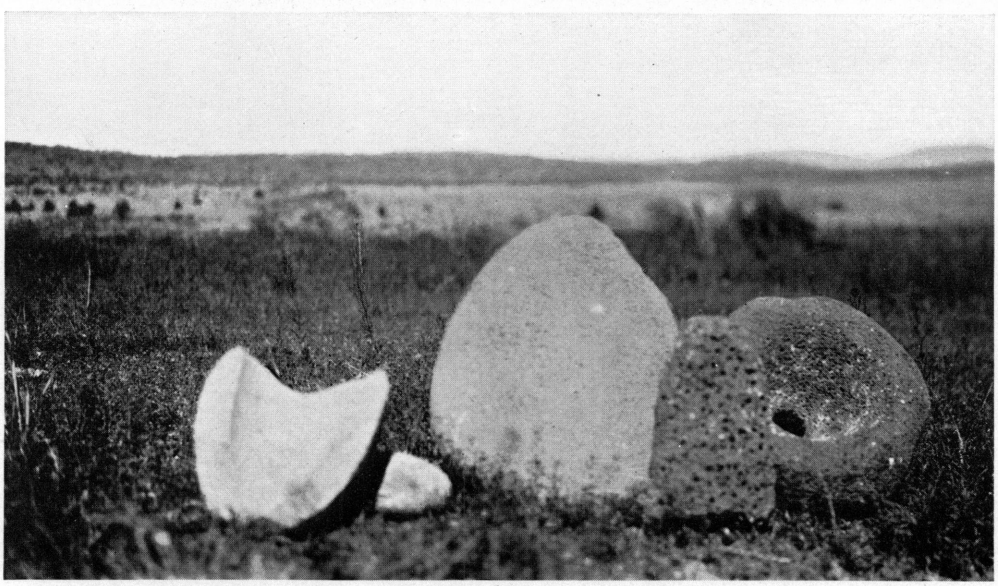


c

MATERIAL CULTURE

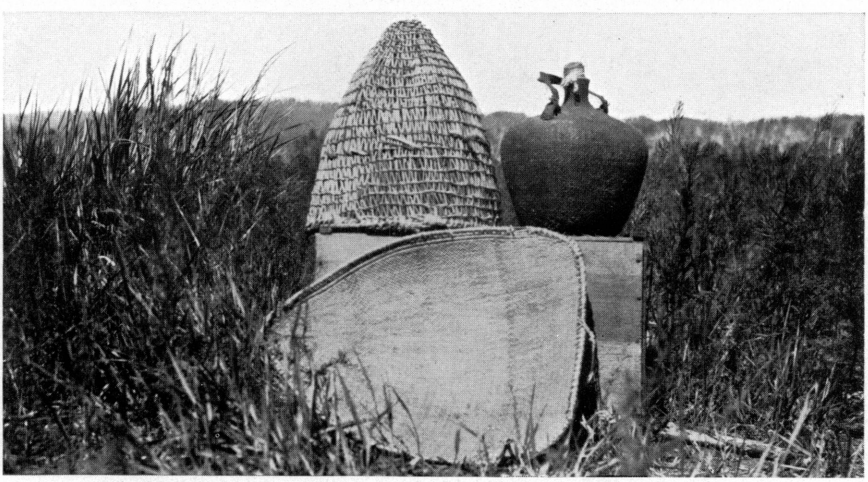
a *b*

c *d*

COSTUME

a

b

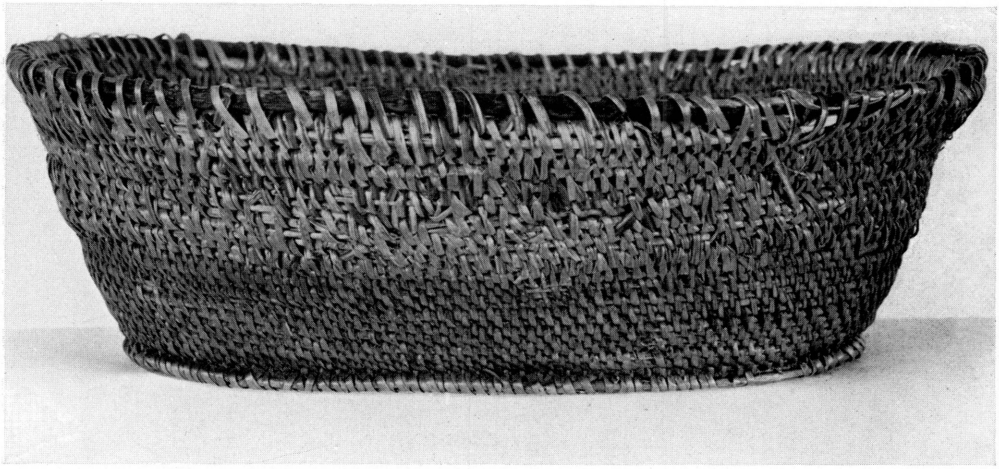


c

CRAFTS: SKIN WORKING; BASKETRY

a *b* *c*

PREPARATION OF BASKET MATERIALS



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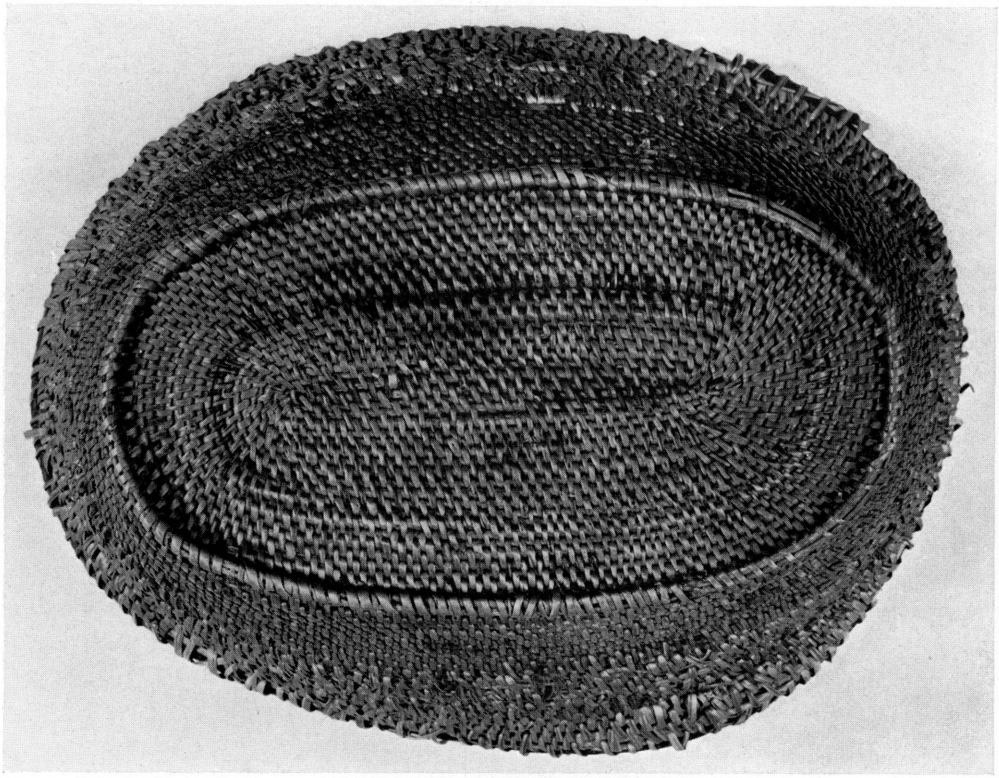

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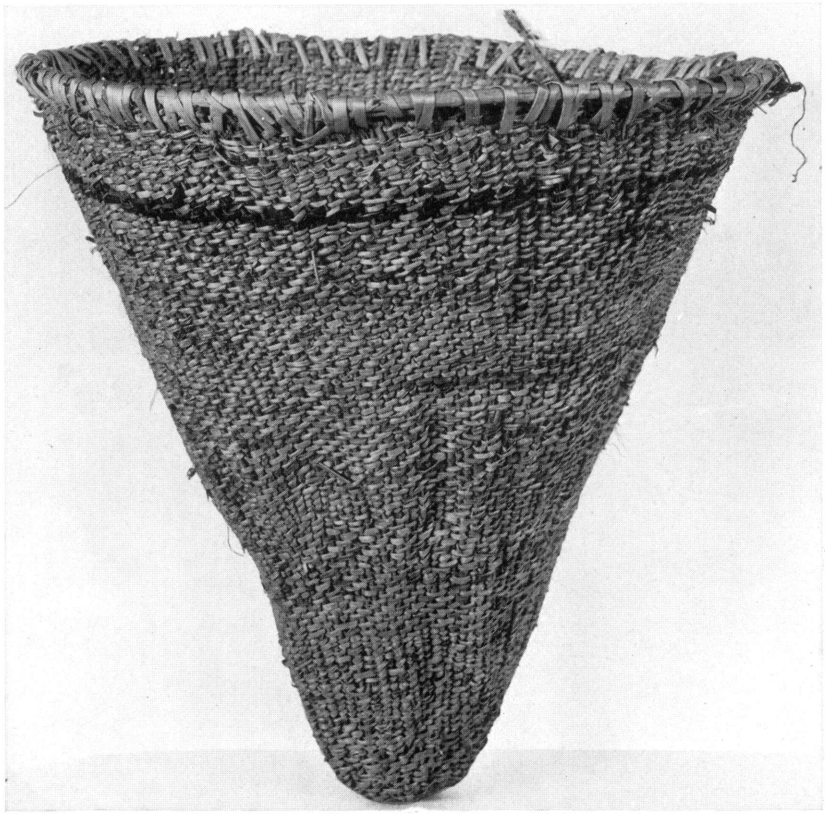
COILED BASKET, SIDE AND BOTTOM VIEWS



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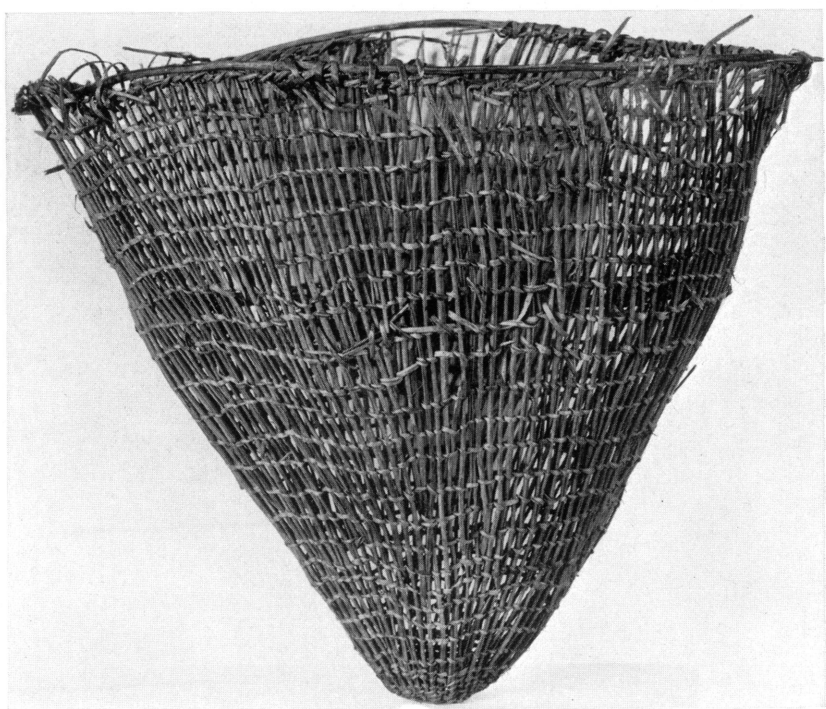

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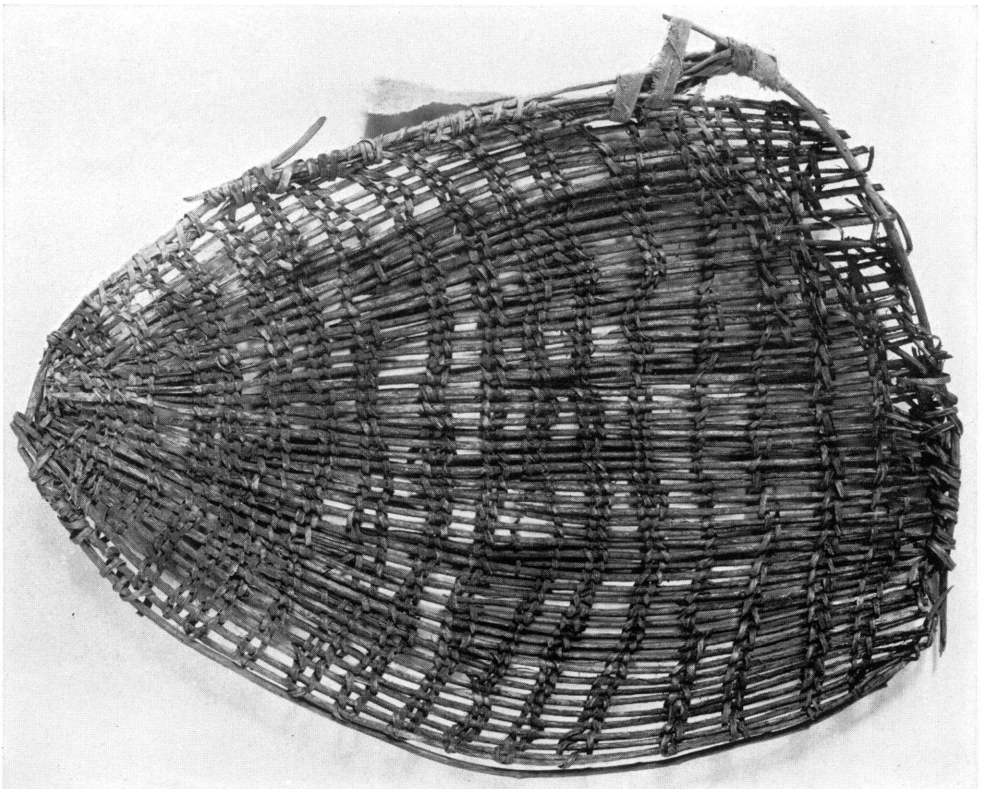
CONICAL BURDEN BASKETS



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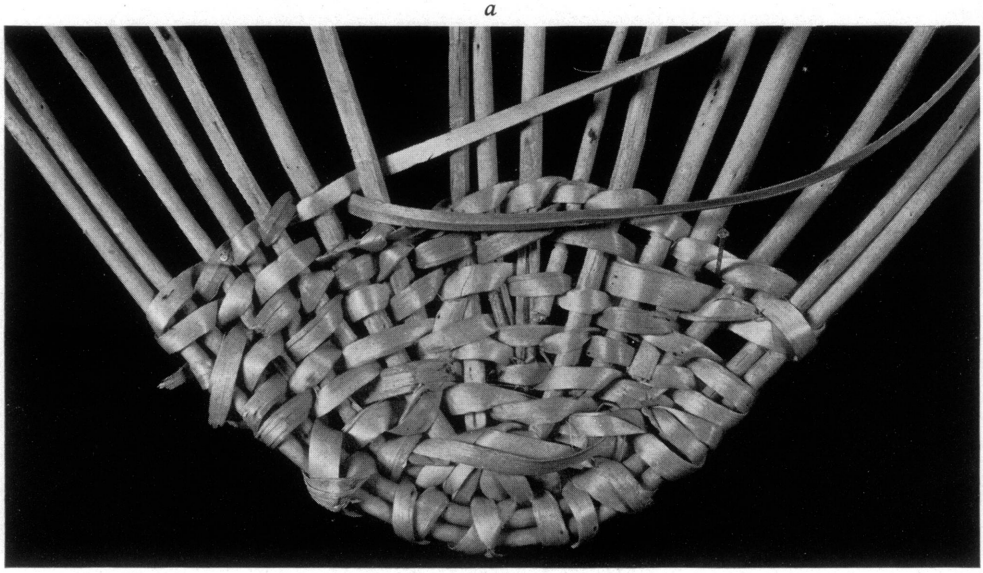
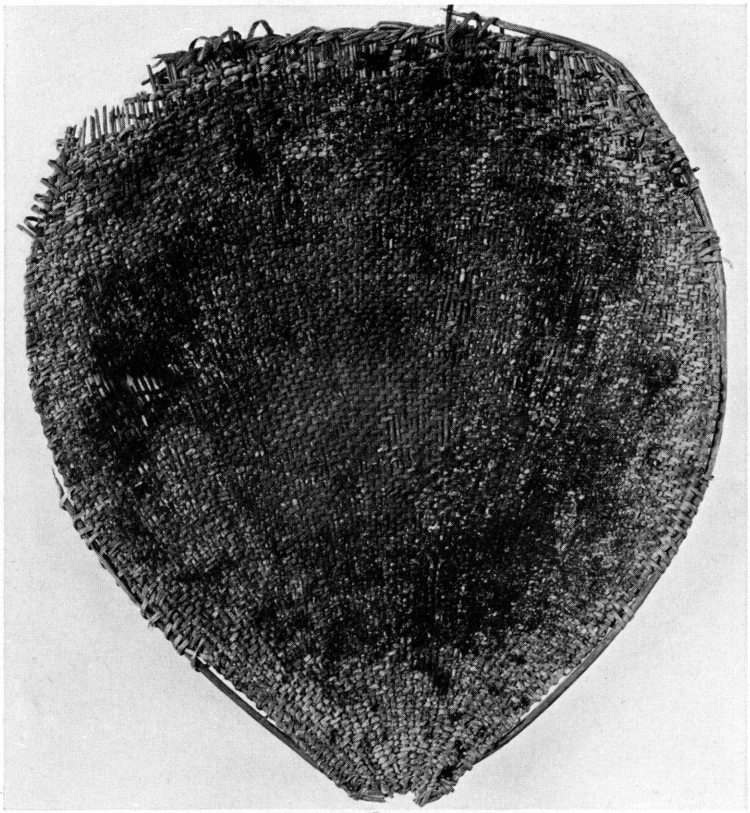


b

GRATING TRAY; START OF PARCHING TRAY



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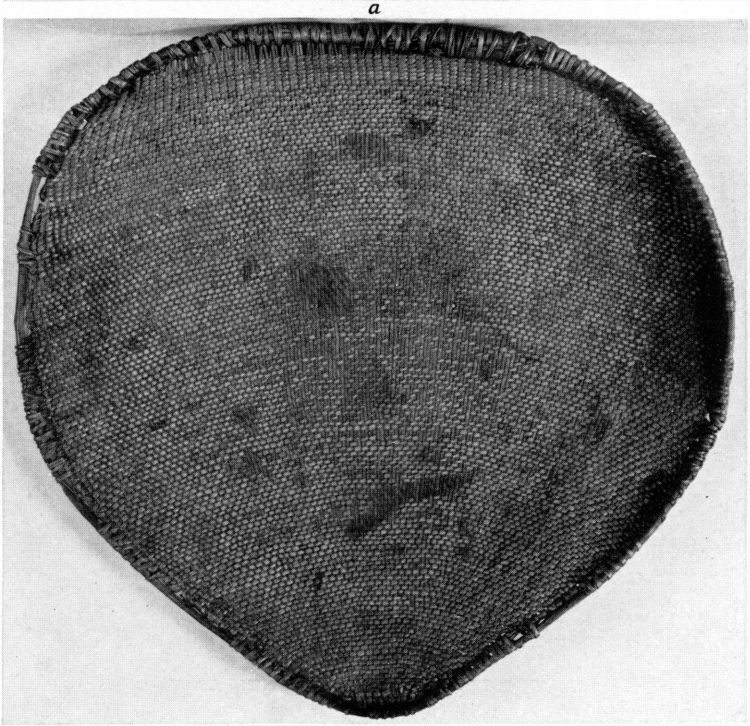

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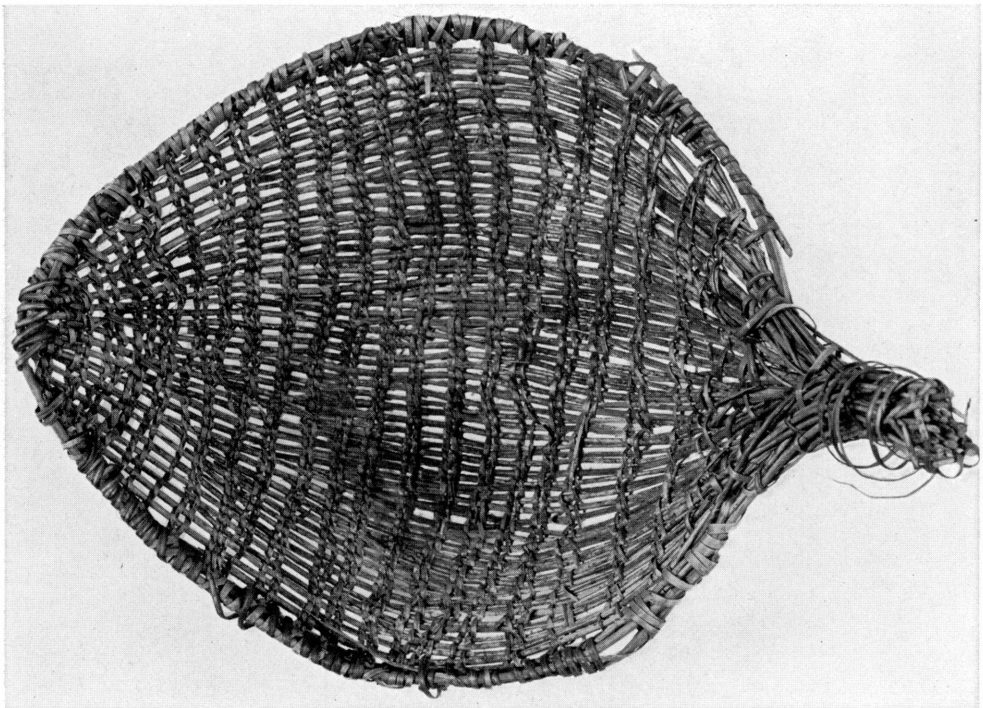
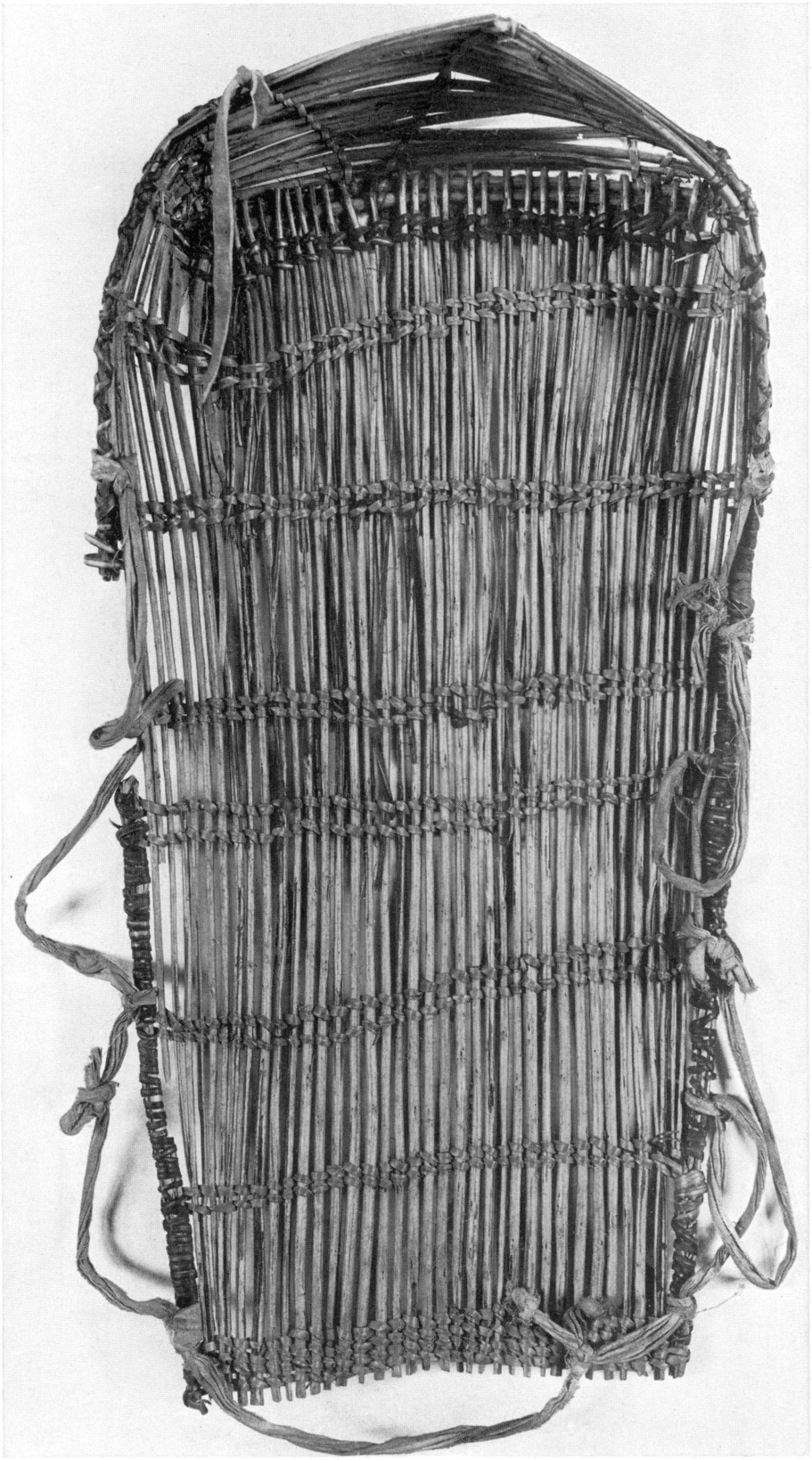
PARCHING TRAYS



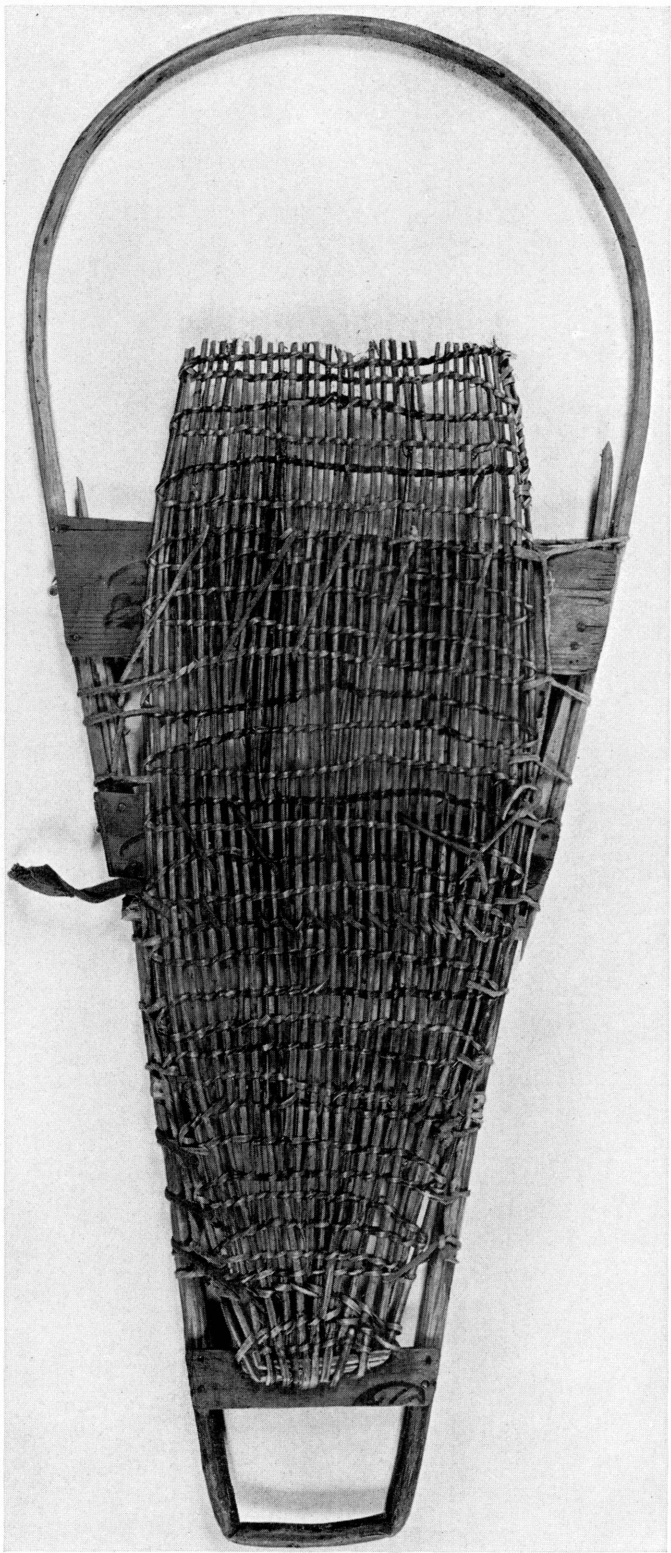
a

b

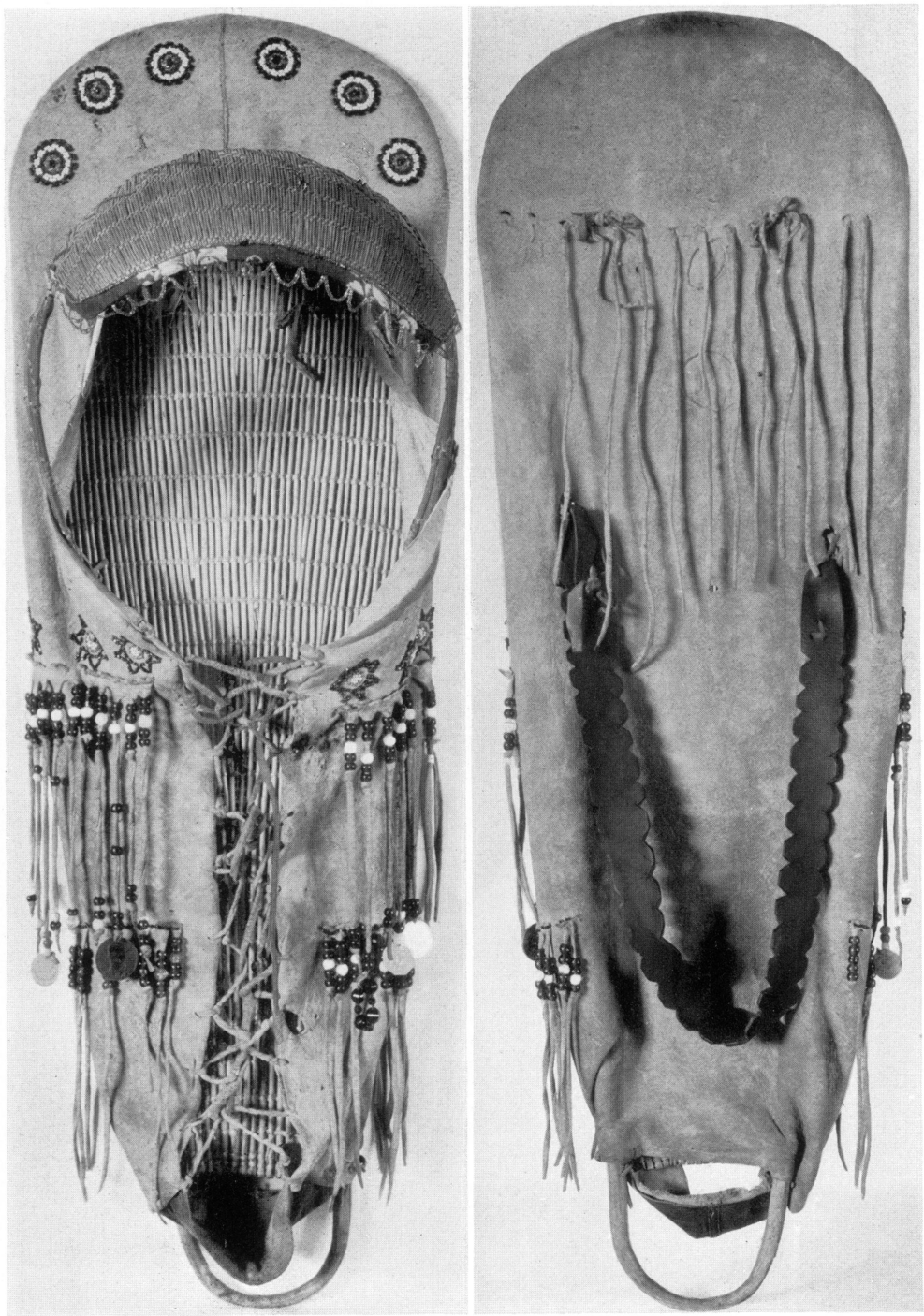
SEED BEATER; SAGEBRUSH BARK MOCCASIN



FIRST CRADLE

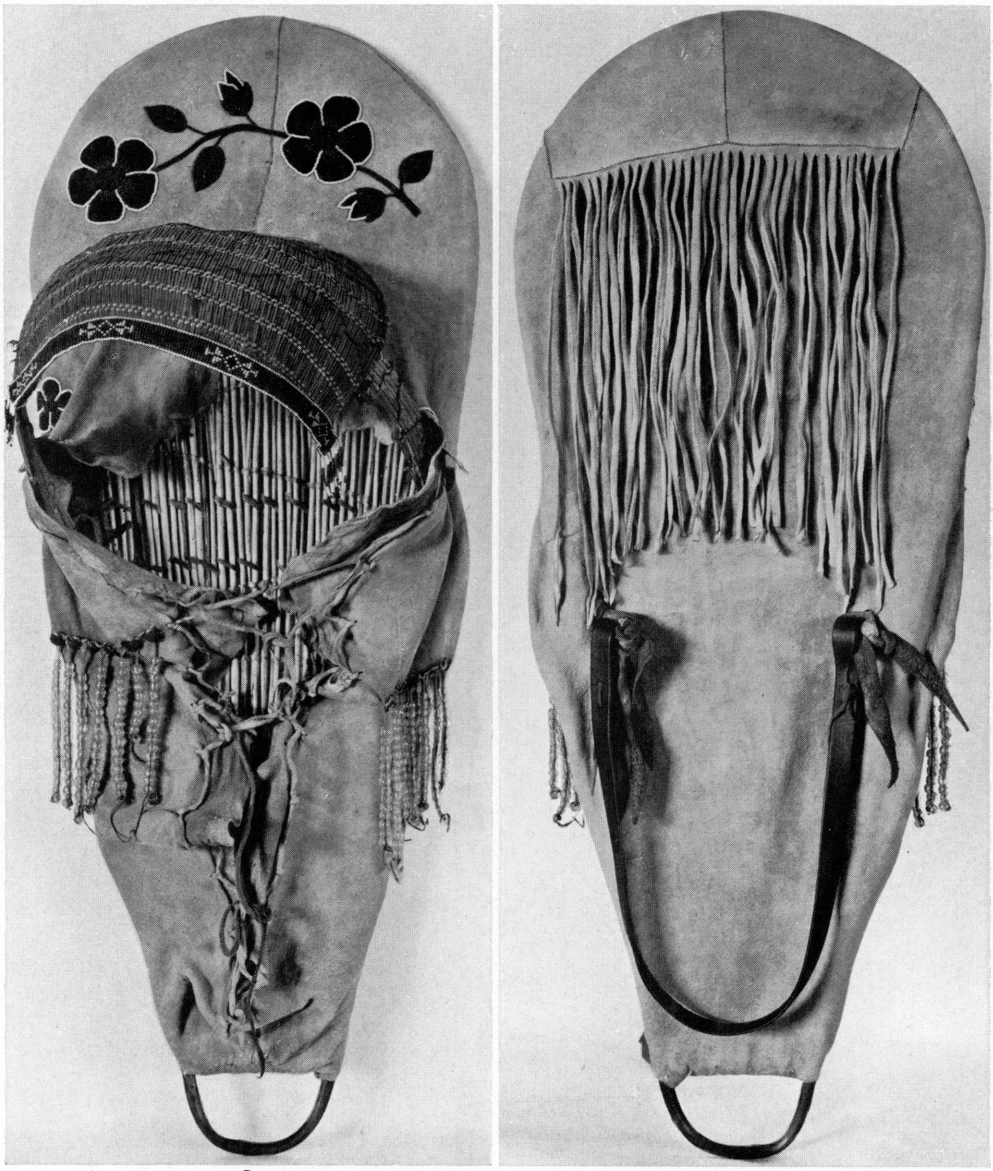


SKELETON OF SKIN-COVERED CRADLE



a *b*

SKIN-COVERED CRADLE



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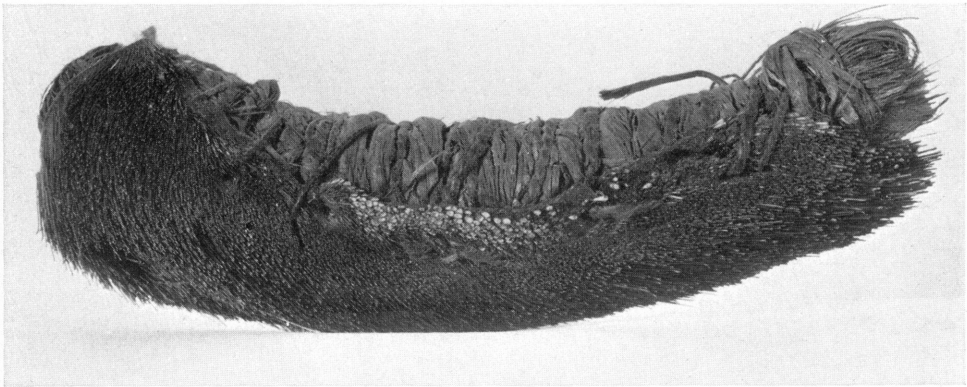
SKIN-COVERED CRADLE



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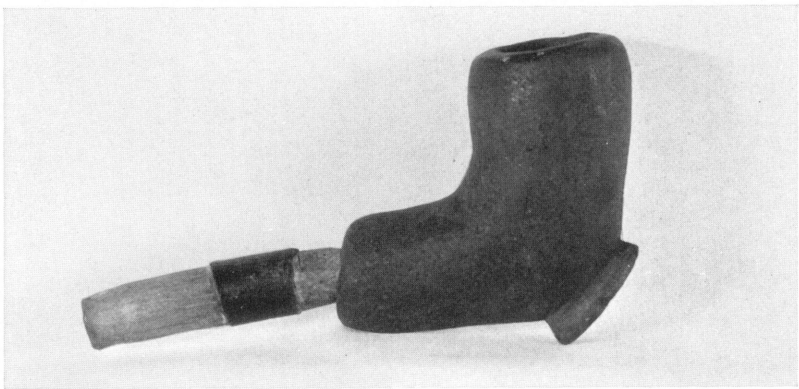

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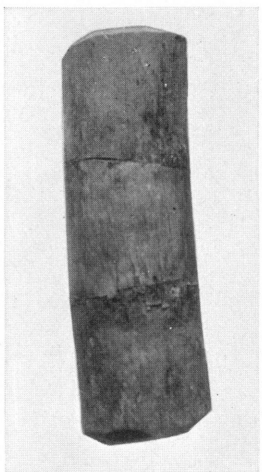

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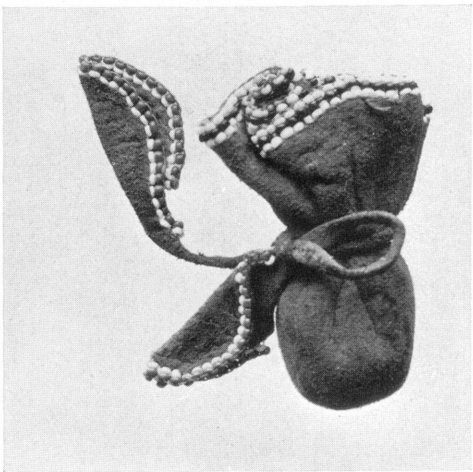

d

BRUSH; PIPE; GAME CYLINDER; PAINT BAG

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