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OF THE  
INDIANS OF CALIFORNIA

BY  
A. L. KROEBER



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## CHAPTER 22.

### THE MODOC.

Tribal and territorial status, 318; society and religion, 320; calendar, 322; material culture, 323; food, 323; bodily care, 326; houses and sweat houses, 327; boats, 329; baskets, 331; various, 332; cultural position, 334.

#### TRIBAL AND TERRITORIAL STATUS.

This people is one of a group known as Lutuamian, the fourth and uppermost of the native stocks resident on the Klamath River, which perhaps derives its name from the Kalapuya designation for one of the Lutuamian divisions: Athlameth. Two similar dialects and two tribes are recognized as Lutuamian: The Klamath, wholly in Oregon, and the Modoc, in both Oregon and California. It is not likely that the language will stand as independent and therefore of family rank. Possible connections with several tongues of both States were long ago suggested, and some of these seem almost certain to be verified as soon as a systematic analytic comparison is undertaken.

The holdings of the Klamath comprised Upper Klamath Lake, Klamath Marsh—where they gathered their famous palatable food *wokas*—Williamson River, and Sprague River. The Modoc had Lower Klamath Lake, Tule or Rhett Lake, the smaller Clear Lake, and Lost River. To the west, they owned to Butte Lake and Creek; to the south; to the ill-defined and uninhabited watershed between their territory and Pit River; eastward, probably to the divide between Lost River and Goose Lake. The ownership of the shores of the latter is in dispute, and has sometimes been ascribed to the Modoc. But whatever may have been the case as between the Northern Paiute and the Achomawi, it seems probable that the Modoc did not seriously claim any of Goose Lake. If so, the territory of the two closely linked Lutuamian divisions formed a natural topographic area: The high basin of marsh and lake in which the Klamath originates, with the Shasta below on the river proper, Athabascans and Takelmans across the Cascades on Rogue River, and the Northern Paiute in the interior drainage of the desert, across the lower eastern ranges.

On the map, the Modoc lands have been brought down to Mount Shasta. Perhaps this great isolated peak only served them, as all tribes about, as a

gigantic landmark. The matter is one that looms large on the map, but is of little actual significance, the mountain itself, and most of its near environs, having been uninhabited. The hunting rights on its north flank may have belonged to the Okwanuchu rather than to the Modoc.

But few old villages of the Modoc are known. Agawesh was where Willow Creek comes into Lower Klamath Lake; Kumbat on the south shore of Rhett Lake; Pashha on its northwestern side; Wachamshwash a few miles up Lost River; and Nushalt-hagak-ni farther up that stream near Bonanza. These sites are about equally divided between California and Oregon.

The Shasta called the Modoc P'hanai and the Klamath Makaitserk and perhaps Auk-"siwash." The Achomawi knew them respectively as Lutmawi or Lutuami ("lake"), and Alaminaktish (Alaming, Upper Klamath Lake); the Northern Paiute as Saidoka and Sayi.

The designation Skachpali-kni, said to have been applied to the Karok, Yurok, and Hupa by the Klamath-Modoc, seems to be nothing but an Indianization of "Scotts Valley," in which the westernmost Shasta lived.

Klamath and Modoc alike called themselves in the usual way: *maklaks*, "people." They distinguished each other, when necessary, by geographic designations. The Klamath, for instance, were the Eukshikni maklaks, from Eukshi, Klamath Marsh and the district toward Upper Klamath Lake; of which, in turn, the derivation is from *ush*, "lake." The Modoc were the Moatokni maklaks, or people of Moatak, as Tule or Rhett Lake was called from lying toward the *muat* or "south."

The two dialects were easily intelligible, but their speakers inhabited distinct areas and felt themselves two peoples. Conflicts between them may have occurred, and in their foreign wars each was likely to go its own way. The Klamath remained neutral in the Modoc war.

The Modoc, as such, probably possessed more tribal solidarity than the great majority of California Indians, and appear also to have had some measure of the warlike spirit and bravery which has been generally attributed to them. But caution is desirable. Their military reputation rests mainly on the famous Modoc war of 1872-73; and the decisive check which they administered in the course of this conflict to four companies of regular soldiers was not a victory won in the open field. The lava beds south of Rhett Lake in which the Indians were driven to bay form a series of natural trenches that without artillery are practically impregnable except to a vastly superior force and then only at heavy cost. The attack was made by much greater numbers—there were four companies against 70 Modoc men with women assisting to load—but without cannon and under the disadvantage of a fog. The Modoc utilized their opportunity to the full; but the fight was a blunder of the American commander.

Their raiding of the Achomawi of Pit River has also been exploited. That they were the better warriors is indisputable. But if they had conducted annual raids, slaughtering the men and dragging the women and children off to sell at The Dalles, the Achomawi would long since have ceased to exist instead of being found by the

Americans a fairly numerous and resistant tribe in a rather adverse habitat, and being to-day one of the most populous groups in California. It is probable that the Klamath and Modoc were stimulated to their raiding warfare, unusual in the California region, by their northern affiliations, which early provided them with an abundance of horses and offered a lucrative market for captives who otherwise would have been killed. In fact, investigation may reveal that the slave raiding consisted of only two or three incidents, and these perhaps indirectly brought on by the changes of conditions caused by the advent of the whites, whose imagination magnified some temporary events into a custom. The basis of all the clashes may have been a mere vengeance feud such as sooner or later embroiled almost all Californian groups. Thus it is known that while the Modoc fought certain Achomawi groups or villages, they remained friendly with others.

Statistics as to the number of the Modoc in the past 50 years are somewhat vitiated by the inaccuracy that pervades most official figures for reservations on which several tribes are joined. This is perhaps not a grave fault of the Indian Office, whose avowed purpose has been the breaking down of national particularity as part of what it denominates tribal life in distinction from American citizenship; but it is unfortunate for the historian. The available data indicate that the Klamath have long been at least twice as numerous as the Modoc; that there were in 1910 not quite 700 of the one and short of 300 of the other; and that the combined population of the tribes at discovery may have aggregated 2,000. The former number of the Modoc may thus be set at about 600 or 700, of whom perhaps half or less lived in what is now California.

Some dentalia and perhaps all the obsidian from which the immense blades were made seem to have reached the tribes of the lower Klamath from the Modoc, but the transfer was apparently through intervening groups rather than directly. The Karok can have had only the dimmest knowledge of the Modoc, and the Yurok do not appear to have been aware of their existence. The latter people, in fact, place a second ocean at the head of the Klamath. This concept is likely to have rested on a vague report of the Klamath Lakes, but was no doubt mainly fashioned by cosmological speculation. Had the Klamath and Modoc been known, these bodies of water could not have been expanded into an ocean.

#### SOCIETY AND RELIGION.

Social and religious institutions are practically unknown. Chieftainship is said to have been hereditary and endowed with reasonable authority. For how much wealth counted in men's status is uncertain. There was a five nights' dance for adolescent girls: the *Shuyyu-*

*halsh*. Five is clearly the ritualistic number. A mourning rite in the sweat lodge is mentioned as if it were a purification for the survivors rather than a commemoration for the dead.

The earlier ghost dance religion is said to have prevailed in the Klamath Lakes region shortly before the Modoc war, and may possibly have contributed to its outbreak. The date is correct: about 1870 to 1873. The Modoc and Klamath probably received this pre-Wovoka cult directly from their Northern Paiute neighbors, and in turn seem to have passed it on to the Shasta from whom the Northwestern tribes took it.

There are many data in print concerning Klamath and Modoc shamanism, but they enable no picture and remain a disjunct mass of allusions to songs, dreams, sucking, charms, and the like universal stock in trade of the institution. The significant facts which would yield a characteristic picture of the type of shamanism, and make precise its relation to the remainder of the culture, remain undetermined. When these clues shall have been recovered, the existing records will contribute to a very vivid understanding of the subject.

Meanwhile, a few specimens of shaman's songs may be of interest. The native word which has been rendered "disease" in several of these is *nepalcs*, "that which comes," and is evidently the disease object or cause, the thing which so many northern California Indians call the "pain" when they speak English.

What do I remove from my mouth?  
The disease I remove from my mouth.

What do I take out?  
The disease I take out.

What do I suck out?  
The disease I suck out.

What do I blow about?  
The disease I blow about.

As a head only, I roll around.

I stand on the rim of my nest.

I am enveloped in flames.

What am I? what am I?

I, the song, I walk here.

I the dog stray,  
In the north wind I stray.

An arrowpoint I am about to shoot.

A bad song I am.

The earth I sing of.

The mythology of the Modoc has been as comprehensively recorded as their religious and social practices remain little known. It is a

colorless body of traditions. The leading figure is Kmukamch, "Ancient old man," a trickster culture hero, who, however, is said to have created men. A number of the episodes recounted of him, particularly in connection with his son Aishish, are incidents told also by the Yurok. Another important pair of characters are the Marten, sometimes identified outright with Kmukamch, and his younger brother Weasel. Silver Fox is a personage of distinction, but fails to rise to the creative rank which he enjoys among the Achomawi. In general, much of the mythologic material of the Modoc is common goods over northeastern and even all northern California, but its trend as a whole is neither central nor northwest Californian, and is rather difficult to define because of a general lack of characteristic features. The account of the origin of the scheme of things is brief, pale, and somewhat heterogeneous. There is nothing in it of the fullness, orderly systematization, or concrete picturesqueness of Maidu and Wintun cosmogony. The typical northwestern qualities are also lacking: the lyrical charging of situations, the defined and poignant concept of the prehuman but humanlike race, the intense significance of the localizations. That Modoc traditions refer to specified spots and presuppose a time of animal activities before men existed are not sharp analogues to the northwest, but generic traits common to all American mythologies in only a varying degree. Clearly, these uplanders had not worked out a mythology of maturely developed traits or positive tendency.

#### CALENDAR.

The Klamath calendar, or month cycle within the year, is basically of the type that counts instead of describing or naming the moons; that is, related to the system of the Yurok and of many tribes to the north. Strictly, however, it does not enumerate but names the fingers used in counting. It is rather remarkable that the order is from thumb to little finger, the reverse of that used by almost all Indians. The first month approximates our August. The method of occasional correction necessary to fit a 12-moon series into a year of 12 and a fraction luminations is not known. As it is said that the year began with the first new moon after the return from the *wokas* harvest, it is possible that the correction was made according to season: whenever the count got too far ahead of the actual seed gathering, the last "month" of the year, that of the return from camp, may have been allowed to stretch over one and a half or nearly two lunations. In this event a seasonal sense, based on experience, must have replaced the system of reckoning, which indicates how little of a "calendar" the native scheme can have been and how little useful it can have been, even in the rudest way, for

most of the practical purposes of our calendar. The beginning of the year is not solstitial among this people, and there is no evidence that the solstices were determined or other than casually considered.

Strictly, we do not know that the Modoc used this Klamath moon count; but if their scheme differed it was probably only in detail. These are the Klamath moons:

t-hopo	thumb	ca. August	berries dried.
speluish	index finger	September	dancing.
tat-helam	middle finger	October	leaves fall.
kapchelam	ring finger	November	snow.
kapcha	little finger	December	heavy snow.
t-hopo	thumb	January	lakes frozen.
speluish	index	February	rain, dancing.
tat-helam	middle	March	sucker fishing.
kapchelam	ring	April	<i>ipos</i> gathered.
kapcha	little	May	suckers dried.
t-hopo	thumb	June	<i>wokas</i> harvest.
speluish	index	July	return from harvest.

#### MATERIAL CULTURE.

The material culture of the Modoc is distinguished by the almost infinite use made of tule and bulrush. Mats, house coverings, rafts, nearly all basketry, moccasins and leggings, eye shields, baby cradles, quivers, and receptacles of all sorts are made of this adaptable material. The utility of the two or three commonest species of rush is recognized throughout California. There is not a people able to obtain tule but employs it to some degree. But much the greatest development of industries based on tule is found among the Modoc and Klamath, among the Pomo of Clear Lake, and among the Yokuts of Tulare Lake and the adjacent tule-fringed sloughs. Superficially the life of these three groups must have been marked by a great similarity. Actually the resemblance was not very deep. The identical material was used for much the same purpose but applied in quite diverse manners. For example, the Modoc only twined their tule into baskets, the Yokuts chiefly coiled it, and the Pomo, even of Clear Lake, preferred to use other materials. It is obvious that the type of culture prevailing in a region has determined the use made of the material, and that any attempt to infer from mere employment of material to cultural type is impossible.

#### FOOD.

The Modoc inhabited nearly acornless country, and mortar and pestle are rare among them. They are commonly of small size and used by old people who can not chew. Meat and fish, fresh or dried, were more often beaten up in these mortars than seeds. The meat

mortar was known through most of California, although generally as a subsidiary to the larger implement for the standard vegetable foods.

The metate is more important. The principal and larger form is for cracking the shells of *wokas* seeds. It is an even-surfaced slab, generally of lava, irregular in shape, or circular, but not typically rectangular, and, as always in California, without legs or tilt. The muller has a round base and rises sharply into two horns or into a single peak bifurcated at the point (Fig. 27). These horns slope and are held pointing away from the grinder, whose thumbs press against the incline while the fingers grasp the two sides of the implement. The very light stroke is back and forth, the pressure applied on the centrifugal movement. The operator does not kneel but sits behind the metate, with her legs under her, or, rather, to one side. So far as known, this is the invariable posture of the California woman at her metate.

A smaller form is used by the Modoc for other seeds. The muller also has a circular base, but lacks horns and its tip is hemispherical. It is perhaps made for one hand. The motion in this case is rotary. Metates with circular wear are found in other parts of California, but the operation by rotating does not seem to have been described elsewhere. The relation of the two types, of both to the hopped slab mortar, and the possible history of all three forms, are discussed in the chapters on the Maidu, Chumash, Luiseño, and Cahuilla.

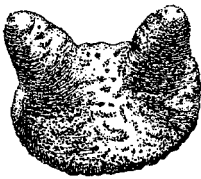


FIG. 27. — Klamath-Modoc two-horned muller for round metate.

The Klamath and Modoc state that their two-horned muller was sometimes replaced by one with a loop handle. This is a northern form, and may represent a sporadic introduction from that direction.

The preparation of *wokas*, the most characteristic food of the region, was more largely a Klamath than a Modoc habit, the greatest source of supply of the large yellow water lily being Klamath Marsh; but it is likely that the Modoc participated in the industry on a limited scale.

The bulk of the crop is unripe seed pods picked from canoes. These are sun dried, the seeds pounded out with a stone, and winnowed. This is *lowak*. Pods in the center of the drying heap that remain moist are beaten to a pulp, spread out, dried, and winnowed. Their seeds, somewhat further ripened than *lowak*, are a superior food, and called *stontablaks*. Both varieties can be stored indefinitely. They are converted into *shiwulints* by parching, cracking off the shells, winnowing, and boiling into a gruel; or the winnowing is dispensed with, and the shells skimmed from the surface of the cooking mass, called *stillinsh* in this case.

When it is impossible to wait for the pods to dry, they are roasted or steamed to *awal*, or more properly two grades of it, *nokapk* and *chiniakum*, the latter



being the less ripe. The *awal* pods are pounded into a gluey mass into which ashes, charcoal, punk wood, or other absorbent is rubbed, to allow of its screening or winnowing. The extracted seeds, which are still comparatively fresh, are now parched, ground lightly to crack their shells, and the latter winnowed from them. The product is *lolensh*, which is either sun dried and stored or roasted into *shnaps*, in which form each kernel expands to triple bulk. The *shnaps* is eaten either dry or in cold water, or ground fine into *shlotish* and water poured on it. These various forms of *nokapk* and *chiniakum* are less esteemed than the preparations from *stontablaks* and *lowak*.

The finest *wokas* is the fully ripe seeds, *spokwas*, which are skimmed with a tule spoon as they float on the water in a mucilaginous enveloping lather. *Spokwas* forms barely 10 per cent of the entire *wokas* harvest. The paste is poured into a hole or shaded basket to rot or ferment, the shell-enclosed seeds, however, not being affected. After several weeks a canoe is filled with the paste and water; on stirring, the seeds sink to the bottom, the water, pod fragments, and refuse are drawn off, and the seeds drained in the sun. Parching, grinding, and winnowing convert them into *lolensh*, from which in turn the other products are derived, as in the case of *lolensh* made from *awal*.

While the supply of *wokas* was enormous—Klamath Marsh alone contained 15 square miles of solid growth of water lily—the food was a high grade and industrially costly one. A woman averaged perhaps 4 to 6 bushels of pods in a day of gathering. These would yield 20 to 30 pounds of seeds in the *lolensh* stage. The separation of the seeds, parching, shell cracking, and winnowing of such a quantity may be assumed to have required at least two additional days. The *lolensh* is often roasted and ground before consumption or even cooking. The *lowak* and *stontablaks* can not have been gotten ready to eat very much quicker. It is a fair estimate, therefore, that a day's labor did not yield above 6 or 7 pounds of edible *wokas*.

It is likely that the two-horned mulling stone, which seems to be restricted to the Modoc and Klamath, is to be traced directly to the *wokas* industry. Its primary use is to crack the seed shells without pulverizing the kernels, necessitating a delicate, even stroke. The horns or nibs, against which the thumbs rest, make the requisite control possible. An ordinary muller, which the whole hand clasps from above, is designed to be borne down on heavily, and lends itself awkwardly to a motion that must be at once light and firm.

The salmon are said not to run into the Klamath Lakes or above, and streams are much smaller and standing bodies of water infinitely more important than in the northwest. Fishing methods consequently have little in common with the practice of the Yurok, Karok, and Shasta. The principal net is a large, sagging, triangular piece on two poles held apart by a crossbar, somewhat like the surf fishing net of the Yurok, but operated from the prow of a fast-moving canoe in lake waters. In streams a small dip net on a circular or semicircular hoop and handle is employed. Long, narrow gill-net seines of very fine string with tule floats were set in the rivers and

sometimes in the lakes. The stone sinkers were grooved, not perforated, in which they follow the custom of most of California. The harpoon was of the usual Californian double-pointed form, but without barbs, the socket-ended toggles being set directly on the shafts. With small fish, the toggle could be thrust clear through and a barb was unnecessary. For lake bottom fish a pole with a dozen hardwood points somewhat spread by a ring was thrust through the muddy water wherever bubbles rose. The prongs held the fish against the bottom, and it was then retrieved with a barbed lance. Fish hooks were of more use than in most parts of California. The simplest form was a double-pointed bone suspended in the middle and entirely covered with bait, swallowed lengthwise by the fish and turning crosswise in its gullet when pulled. A double-pointed hook on a single shank was also employed: two sharp bones were wrapped and pitched to the end of a stick at an acute angle (Fig. 28).

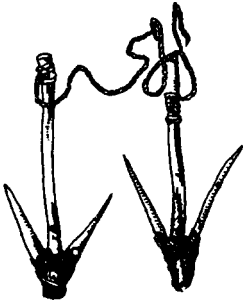


FIG. 28.—Klamath-Modoc fishhooks.

Ducks were taken in long nets stretched over the water and let down over the birds by watchers holding ropes from the ends. The entangled birds were secured by hunters in canoes.

At night a fire was lit in a canoe and birds enmeshed in a net held out from the prow by two poles.

#### BODILY CARE.

Modoc heads are considerably shortened by deformation. Bandages around the infant's skull compress the forehead and occiput and increase the altitude of the head. This custom undoubtedly came to the Modoc from the north and east. The Columbia River region is a focus of head-flattening customs, and they extend up the Pacific coast for some distance beyond. No interior Californian tribe deforms the skull. Individuals with shortened occiput can be found as the result of cradle-board nurture; but there is no conscious custom of deliberate treatment.

Modoc dress seems also to have been of northern and eastern type: deerskin shirt and leggings. Most of the pieces preserved appear to be new and intended for ceremonial wear, but to represent the prevalent type of aboriginal dress. This conclusion is borne out by the fact that tribes to the south and west of the Modoc, comparatively good Californians like the Shasta and Achomawi, knew the fitted costume of buckskin; as well as by the fact that the fringed petticoat apron of California is not mentioned for the Modoc, whose women seem to have put on full gowns.

The accessories of dress were of tule and of local type. Such are the twined shoe of tule strands lined with grass, a form known also to the Achomawi. With this went a small mat of tule tied on as a knee-high legging. A cape or blanket of shredded tule or sagebrush bark was worn by women, presumably only when needed outdoors. A crownless cap of tule for men recalls the eye shades of rawhide sometimes donned by the Plains Indians.

The tule moccasin is for winter wear, in the house or snow or marsh. The summer moccasin, evidently designed for protection in travel and not for warmth, is of deerskin. It is interesting as of eastern rather than Californian type: a U-shaped tongue, although a short one, is inserted at the instep, where the Californian moccasin has merely a seam running all the way up the front; and the ankle portion is a separate flap normally worn turned down.

The snowshoe is a simple hoop with a few lines of fur or hide lashed across—the universal rude Californian type (Fig. 68). A smaller shoe of the same form is worn in marsh wading.

The hairbrush is a porcupine tail, as among the Achomawi and mountain Maidu.

The Modoc-Klamath cradle is of the sitting type that obtains from the Pomo north. The special base added by the northwestern tribes is wanting. A central Californian touch is given by the hood, which is a mat or fan-like piece loosely attached to a large hoop. Modern specimens are roughly made; old pieces have not been preserved. The first cradle, used only for the first few weeks, is of soft tules. Its precise form is not known, but presumably it was little more than a sort of wrapping.

The board cradle is also employed. This is a type widely spread to the north, in the Plateau, and in the Plains. It may be ancient among the Modoc, or a modern introduction from the Northern Paiute settled on the reservation by the Government.

#### HOUSES AND SWEAT HOUSES.

The dead were cremated. All adjacent Californians buried.

The Modoc winter house was the earth-covered lodge, dug out 3 or 4 feet and entered through the roof by a ladder. This ladder is described as consisting of a pole with toe holds cut through it. Posts supported the roof beams. Over these were laid poles, then brush of some sort and mats, and a heavy coating of earth. The houses are said to have reached a diameter of 50 feet, with a height of nearly 20 from the roof entrance to the floor.

This is the semisubterranean house which extends with little modification from the center of California to British Columbia and beyond. As used among the Modoc, it has northern rather than

Californian affiliation. First, it is distinctly and only a winter residence. The Californians, such as the Maidu, did not draw so sharp a seasonal distinction.

Secondly, the earth lodge has distinct ceremonial associations in California, particularly as its southern limit of distribution is approached. It was the place in which indoor dances were held, and it, or a small structure of the same type, was used for sweating. Its current English name is "sweat house." Among the southerly Maidu and Wintun and among the Miwok it could appropriately be called "dance house." While used as a dwelling, its larger examples were intimately associated with the Kuksu religion, and the type of structure ceases as soon as the line is reached at which this religion stops.

South central California appears to have no earth-covered houses, but they occur again in southern California. Here, however, they would seem to be of another type. They are low; the entrance is on the ground instead of from the roof; and they are not used ceremonially, rituals being held outdoors or in specially constructed inclosures without roofs. This southern earth-covered house varies between two forms. The simpler is a conical lean-to of logs or poles with earth heaped over them. This is essentially identical with the Navaho hogan. The more elaborate form, and apparently the standard one of southern California, had posts and beams. This approached rather closely to the central California type in its construction.

During the greater part of the year the Modoc lived in brush houses. These sometimes reached a length of 25 feet, but frequently were only half that size. The width was about half the length. The corners were rounded. There was a level ridge and the walls sloped rather steeply. The frame was of willow poles supporting the ridgepole and tied to it. The roof or sides were of three layers of matting of tule. The outer layer of mats was not twined but sewn through, so as to shed the water better. Little time was spent even in this house when the weather was warm, a shade or sun shelter being the customary lounging and working place.

The modern sweat house of the Modoc and Klamath is distinctly un-Californian, and of northern and eastern type. It is a very small structure, is usually more or less temporary, and above all the heat in it is produced by steam instead of a direct fire. Light poles are stuck into the ground and bent over to form a dome-shaped frame just large and high enough to accommodate a few persons seated on the ground. Over this frame are thrown mats. Stones heated in a fire outside are put into a small pit near the back of the sweat house, the entrance is closed, and water is poured on the rocks. This de-

scription, with buffalo skins substituted for tule mats, would apply exactly to the Plains sweat house. Nothing of the kind is known from any part of California except among the Shasta and Achomawi, who seem to have taken the type over from the Modoc and Klamath. The Californian builds a structure that will receive a considerable company, covers it with earth, and then starts a wood fire within. He would probably be as much disturbed by the unaccustomed steam that the northerners and easterners breathe as the latter would be distressed at having to inhale the dense smoke which the Californian has learned to tolerate while enjoying its welcome warmth.

There were earth-covered sweat houses among the Klamath and Modoc, but knowledge of them is unsatisfactory. According to one account these were limited in number, maintained only at certain localities, and entered only for purification after a death. The implication is that the structures may have been of some size, but another statement makes them no larger than the mat-covered kind. In any event, both types were steam heated and called by the name *spuklish*.

There is also some mention of a third kind of *spuklish*, a communal dance house or *kshuulgish*, literally, "for dancing"—"a spacious structure erected on the style of earth lodges." This may or may not have been something more than a house of dwelling type used for ritual assemblage.

These three types can hardly have coexisted. It is possible that the old Lutuamian sweat house was Californian and earth covered, heated by fire; and that the smaller temporary structure in which steam was produced came in from the Columbia River with the horse, or even later.

Finally, there was a menstrual lodge, on which, however, information is also lacking.

#### BOATS.

The Modoc and Klamath used the canoe and the rush balsa. The canoe was dug out of a fir log, and whether 12, 20, or 30 feet long, remained of nearly uniform beam of about 2 feet. The north-western canoe was of standardized length, but varied greatly in breadth. The Modoc boat was hollowed out to a remarkably thin and light shell. It was high enough for a little of the inclosing curvature of the upper half of the log to form the gunwales, which were finished to a simple edge. There was no stem—no canoe with sharp prow is known from California, except perhaps the Chumash area. Both prow and stern sloped gently upward, the prow being cut away more. The boat was loaded chiefly aft, so that the prow rose clear, which of course made for easier driving in still water. A single paddler sat at the stern; a second would occupy

the middle. The cedar paddles are broad and thin bladed, and 4 to 5 feet in length. In *wokas* gathering, or hunting in shallow water, the paddle was discarded for a pole, whose split end was wedged apart with a block or bone. The fork found resistance in the soft mud or caught a lily root.

The Modoc type of canoe seems to have been used, although sparingly, by the Achomawi, Atsugewi, and northeastern Maidu. It differs from the northwestern redwood canoe in several respects, although basically of one form with it. It is longer, narrower, thinner walled, without strengthening gunwale, neither prow nor stern is appreciably elevated, ornaments are never added, no foot rests or seat are carved, there is less flare from the middle of the bottom upward to the ends, the propelling implement is either a true paddle or a true pole, not a hybrid intermediate. The finish is smooth, but often follows the irregularities of the grain of the wood, and the thin shell soon warps, whereas the thick but light walls and even texture of the redwood of the northwestern boat permit of a tooled evenness, and no lack of finish is tolerated. Both vessels are obvious inland water types, but the Yurok canoe would be needlessly heavy and deep drafted in the quiet lakes and marshes of the Modoc plateau, whereas the long narrow boat of the Modoc would be quite unmanageable in the rapids of the lower Klamath area, would split from end to end on striking the first rock, and would soon have its bottom worn through on the gravelly bottoms where the streams riffle wide. The modifications are of interest because they are in use on the drainage of the same not very long river. But apart from adaptation to physical requirements, there is no doubt that the Yurok canoe represents the more elaborate and better wrought type—as is always the case when any northwestern implement is set against one from elsewhere in California.

The employment of the tule raft by the side of the canoe is obscure. It is said to have been used by war parties; perhaps because its dependability made up for inferior motility. It certainly could not well be overturned, broken, or sunk. It may also be conjectured that it was serviceable in duck hunting among the tules, where an inconspicuous and stealthy approach was important, and speed of travel of no consequence. The length was 10 to 15 feet; the component bundles of tule, of which several were lashed together, might each be of a diameter up to 2 feet. Such a mass must have been very unwieldy; but the innumerable air cells of the rush stems, which float lighter than cork, were able to sustain a tremendous burden, until waterlogged by continued use. The propulsion is said to have been by paddling with the hand, the occupants lying along the edge. This statement may refer to the practice of companies intent on an

attack, when temporary rafts were hastily constructed and paddles had not been brought along.

The use of the rush raft in war indicates internecine feuds between Modoc villages, or at least between the Modoc and the Klamath; alien groups being accessible only at the end of land journeys of some distance. This point is of interest as indicating that the tribal solidarity of the Modoc was not so much greater than that of other Californian Indians as the usual references in literature indicate.

#### BASKETS.

Modoc basketry on first being seen suggests very strongly that of the northwestern tribes except for being softer. Actually the two arts, while connected, constitute two distinct variants of the basic type of basket industry that prevails over northernmost California and western Oregon.

The materials of the northwest, to which most of the northeastern tribes also adhere, are replaced among the Modoc almost entirely by a single one, tule rush. The warp in finer baskets is the surface fiber of the circular tule, *Scirpus lacustris*, twisted either on itself or more usually into a 2-ply string. The weft of the undecorated portions of baskets appears to be the same material. Ornamented baskets have a white surface—that is, weft. This is the skin of the leaves of the cat-tail rush, *Typha*. This is sometimes treated to assume a yellow color, or dyed black in mud. Patterns are usually in this black, or in a color that varies from red to brown and is obtained by using tule roots. Coarse baskets are made outright of tule. Vessels intended to be specially decorated have the center of the pattern overlaid in lustrous porcupine quills dyed bright yellow with *Evernia vulpina* moss. *Xerophyllum* is used chiefly on caps and seems sometimes to be overlay. The weft proper, however, is tule, and is reduced to fine strands. *Phragmites* reed is also used for white. Maidenhair fern, black, is rare.

On the whole, accordingly, Modoc basketry is set apart in its use of tule material and its prevailing adherence to plain twining.

Textile ware in woody materials is confined to openwork trays, carrying baskets, fish traps, and the like. The most common material is willow stems; split juniper roots are also employed. The carrying basket is bluntly conical, with braided edge and of Yurok type. The trays are roughly triangular or scoop-shaped, often with a handle at one end, and coarsely made. The form is not northwestern, but approaches a type found throughout the Sierra Nevada.

There is no trace of coiled basketry.

Colors being in the wefts themselves, the patterns show on the inside of Modoc baskets much as on the outside except for some raggedness of the weft ends. In northwestern baskets the overlay is carried throughout on one side, so that the interior of a basket is free from decoration, except as slender glimpses of design may show through interstices of the twining. Northeastern

baskets—that is, those of the Achomawi, Yana, and Northern Wintun—resemble Modoc ware in duplicating the pattern on the inner face of the vessels; but the process is the same as that followed in the northwest, except that each faced weft strand is given a half twist with each twining.

Modoc caps average larger than those of the northwestern tribes and sometimes are of a size making it difficult to see how they could fit a head unless a mass of hair were tucked in. The northwestern caps are as trim as possible.

The seed beater has been reported but not described.

#### VARIOUS.

The bow was of the usual northern California type, broad, flat, rather short, sinew backed, and with recurved ends. The material is not known. Modern hunting bows are clumsier and unbacked. The arrow was often of reed, but light wood was also used, and was fore-shafted and obsidian tipped. Water birds were shot with an unbarbed arrow bearing a small ring near the wooden point, this addition causing the missile to skip along the surface instead of burying itself in the water. The arrow straightener was a perforated board, the polisher a longitudinally grooved stone, as in all northern California. The transversely grooved arrow straightener of steatite, which elsewhere in California accompanies the cane arrow, has not been reported from the Modoc or any northern tribe. The quiver was of tule mat.

The Modoc, like many Californians, occasionally used a war spear, but it does not appear to have been a common weapon. It was a rather short stick with an obsidian head, and, although designated a javelin, seems to have been used in close encounters rather than for throwing.

Armor was a body covering of doubled elk skins.

The lumber-working wedge and maul were those of the Yurok, with two reductions. Mountain mahogany was often substituted for elk horn in the wedge; and the maul, while of stone, lacked the concavity of handle and expanding top of the northwestern implement. The Modoc must have had some form of adze for canoe making, but it is wholly unknown.

The fire drill was of willow in cedar, the canoe paddle handle usually serving as hearth. The drill point was of willow root, bound to the drill handle. The method of joining the two pieces is not clear. A socket or mortise is not mentioned, and a mere lashing of the willow along the end of the handle would cause the latter to rotate about a center outside of its own diameter and tend to interfere seriously with steady manipulation. Torches of tightly bound bark of sagebrush are mentioned. Similar devices may have been in use on occasion in most of California but appear not to have been reported.



Neither the iris of the northwestern tribes nor the *Apocynum* of the other tribes of California seems to have served the Modoc for string. Milkweed was occasionally employed, but the standard material was nettle bark. This reappears again among the Luiseño in the extreme south of the State. It is likely to have been known to intervening groups but appears to have been little used by them.

Of games, the ring and pin toy is of tule; and for guessing, the four-stick variety largely or wholly replaces the many-stick form of northern California and the hand bones or grass game of central California. There are two thick and two thin sticks, placeable in six orders under a basket tray. The arrangement rather than a given stick is guessed at. The trays, although twined of soft tule, resemble in size and showiness the coiled trays which Yokuts and southern Californian women use to cast dice on. This similarity may be a case of what is known as cultural convergence; but it is also likely to be the result of secondary variations in an ancient association of the basket plaque and gaming.

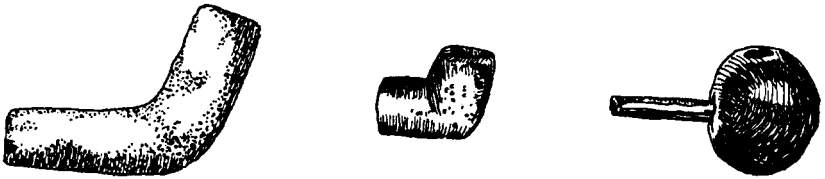


FIG. 29.—Klamath-Modoc pipe bowls.

The four-stick game is confined in California to the northeastern corner of the State.

The Modoc and Klamath pipe makes an un-Californian impression. It is a stone bowl smoked with a wooden stem; and it is L-form, not tubular. Some specimens are nearly straight, but even these show a slight upward bend toward the opening. Most common is an obtuse-angled bowl, but right-angled ones occur (Fig. 29). A special variety is a stone disk, with two holes bored to meet at right angles, one for the stem, the other for the tobacco. This form appears to have gained in vogue of late years, but inasmuch as it is quite unlike anything European, and is not known from neighboring tribes, it must be reckoned a native product. California pipes are normally of one material, whether that be stone, wood, cane, or clay; and if composite, they are structurally of one piece. Thus the wood and stone pipe of the Northwest is a wooden implement with a steatite lining to its bowl, the Chumash shell and bone pipe is of stone with a small piece of bird bone inserted for convenience of sucking. True two-piece or stemmed pipes are eastern.

## CULTURAL POSITION.

It is evident that the inclusion of the Modoc in this volume is of somewhat dubious ethnological justification. If their civilization is essentially Californian, the same is true of the Klamath, and aboriginal California would have to be extended to take in an area of which at least three-fourths lies in what is now Oregon. The situation is complicated by the elements of northern and eastern origin in Lutuami culture and the fact that no one seems to be in a position to judge whether these are mostly ancient or came to the Klamath and the Modoc only after the horse became common in the middle Columbia Valley. That this factor was of some consequence during the nineteenth century is shown by the occasional finding of parfleche envelope bags of typical Plains Indian form in use among the Klamath. The mat sweat house and perhaps its heating by steam, and possibly any number of other features, may have been introduced along with the horse. It is therefore well conceivable that in 1770 the Lutuamians did not present the eastern affinities which mark them now, but were scarcely distinguishable from the true Californians except in so far as they had worked out proper specializations of culture in their rather unusual and comparatively shut-in habitat. The route of these northeastern influences would have been down the Columbia, up the Deschutes, and over the divide into the drainage of Klamath Marsh; and it is altogether likely that what the Shasta and Achomawi have of these foreign institutions and devices came to them via the Modoc.

Yet this view can not be pressed until further researches have been made. The world possesses depictions of the physical manufactures and of the mythology of the Lutuami, but beyond tantalizing hints scarcely anything else. We have no conception of the basic constitution of their society, and are profoundly ignorant of the true organization of their religious ideas. No one has yet taken the pains to inquire of the people themselves what part of their usages they attribute to recent importation from the Columbia. They may always have had considerable affiliations in that direction.

Apart from this northeastern strain their civilization is likely to have been chiefly Californian, and probably north central rather than northwest Californian. With the Great Basin Paiute on their east they certainly had little in common. Somewhat west of their north, across the Cascade mountains, were the Kalapuya of the Willamette, whose little-known culture was apparently too indistinctive for them to have exerted serious influence on the Lutuami. In fact, Kalapuya culture is likely to have been a blind alley local simplification of the civilization of the Chinookan lower Columbia,

which it adjoined. Due west of the Lutuami were the Athabascans and Takelmans and Shasta of southwestern Oregon, whose culture, by all indications, was a reflex of that of the Yurok. Unless, therefore, the Lutuami are to be accredited with a largely peculiar civilization, which neither their numbers nor anything fundamental that is known about them warrant, they must be regarded as essentially Californian with an overlay developed in their isolation, and another, or an admixture, from the middle Columbia. Whether the Californian basis of their culture is mainly of the northwestern type that flourished best on the lower courses of the stream of which the Lutuami inhabited the headwaters, or of the central variety which centers on the Sacramento, is difficult to decide positively. The latter view is probably the sounder. Certainly the flavor of their civilization is markedly different from that of the Yurok, although the two nations possess in common a number of individual traits. The decision is difficult because northeastern California, which most directly adjoins the Klamath and Modoc land, is in the main central Californian but suffused with northwestern elements.

Cultural features of the Lutuami, typical of the middle and upper Columbia River region, and ultimately of the Plains east of the Rocky Mountains, include the sweat house (size, construction, steaming); the employment of the semisubterranean dwelling; dress; perhaps the type of skin moccasin; head deformation; the board cradle; the nontubular pipe; the eye shield; and possibly a superior sense of tribal solidarity.

Northern Californian traits are the bow, arrow straightener, and arrow polisher; the seed beater; the rude snowshoe; the tule balsa; the short spear; the grooved sinker; the mat-covered summer dwelling; the type (not the utilization) of the semisubterranean house. The last five of these are north central Californian only, and not northwestern. Specific northwestern resemblances are found in the wooden canoe, the wedge maul, the sitting type of basket cradle, and the trickster culture hero in myth; but in each of these instances there is a perceptible loss of much of the characteristic quality or refinement that the trait possesses in the northwest.

Local traits of culture connected directly with the physical environment and its products are the tule basis of basketry; the tule moccasin, legging, cape, quiver, and the like; the spreading fish spear; the unbarbed toggle of the harpoon; the extensive employment of fishhooks; the split pole for canoe propulsion; the ring-pointed arrow; and nettle string. Peculiarities not directly referable to environment include the two-horned muller and the discoidal pipe bowl, both quite distinctive forms; the four-stick guessing game; and perhaps the perforated ladder.